



**COUNTY OF HENRICO
DEPARTMENT OF FINANCE
PURCHASING DIVISION
CONTRACT EXTRACT
NOTICE OF RENEWAL**

| | |
|---|---|
| DATE: | June 30, 2025 |
| CONTRACT COMMODITY/SERVICE: <i>(include contracting entity if cooperative)</i> | Digital Math (Prek-12) Curriculum for Tier I,II and III |
| CONTRACT NUMBER: | 2142D |
| COMMODITY CODE: | 924.16 |
| CONTRACT PERIOD: | July 1, 2025 through June 30, 2026 |
| RENEWAL OPTIONS: | None |
| USER DEPARTMENT: | Schools |
| Contact Name: | Kennedy Venaglia |
| Phone Number: | 804-652-3640 |
| Email Address: | kwvenaglia@henrico.k12.va.us |
| HENRICO COOPERATIVE TERMS INCLUDED: | Yes |
| SUPPLIER: Name: | Imagine Learning, LLC |
| Address: | 100 S. Mill Ave. #1700 |
| City, State: | Tempe, AZ 85281 |
| Contact Name: | Morgan Reese |
| Phone Number: | 210-428-5853 |
| Email address: | morgan.reese@imaginelearning.com |
| ORACLE SUPPLIER NUMBER: | 565499 |
| BUSINESS CATEGORY: | Non-Swam |
| PAYMENT TERMS: | Net 45 |
| DELIVERY: | As needed and requested |
| FOB: | Destination |
| BUYER: Name: | Eileen M. Falcone CPPB |
| Title: | Purchasing Manager |
| Phone: | 804-501-5637 |
| Email: | Fal51@henrico.gov |

This contract is the result of a competitive solicitation issued by the Department of Finance, Purchasing Division. A requisition must be generated for all purchases made against this contract and the requisition must reference the contract number.

PRICE SCHEDULE – CONTRACT NO. 2142D
See Exhibit E



COMMONWEALTH OF VIRGINIA
COUNTY OF HENRICO

DEPARTMENT OF FINANCE
OSCAR KNOTT, CPP, CPPO, VCO
PURCHASING DIRECTOR

Contract 2142D

First Amendment

June ~~April~~ 22, 2022, **First Amendment to Contract 2142D** (this "First Amendment") dated between the County School Board of Henrico County, Virginia ("HCPS") and Imagine Learning LLC, amends the Agreement between HCPS and Imagine Learning, Inc. ("Original Vendor"), dated August 26, 2021 (the "Agreement").

Background

Pursuant to the Agreement, Original Vendor agrees to supply the County with Digital Mathematics (PreK-12) Curriculum for Tier I, II, and III for Henrico County Public Schools.

Effective January 1, 2022, Original Vendor joined with Edgenuity Inc. under the new name Imagine Learning LLC.

Imagine Learning LLC represents and warrants to HCPS that it alone has assumed all the Original Vendor's rights, obligations, and liabilities originally belonging to the Original Vendor under the Agreement and is willing and able to perform the Agreement.

HCPS and Imagine Learning LLC wish to amend the Agreement to reflect that Imagine Learning LLC will now perform the Agreement.

Accordingly, the parties agree to amend the Agreement as follows:

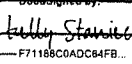
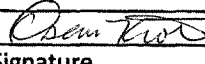
Agreement

1. The Agreement is between Imagine Learning LLC, a Delaware limited liability company, and the County School Board of Henrico County, Virginia.
2. Original Vendor's rights, obligations, and liabilities under the Agreement belong to Imagine Learning LLC, and Imagine Learning LLC shall replace Original Vendor throughout the Agreement.

All other provisions of the Agreement remain in full force and effect, and the attached Virginia School Data Privacy Agreement will be substituted as Exhibit B in place of the HCPS Data Security Agreement.

This First Amendment shall be effective upon its execution by the parties.

To evidence the parties' agreement to this First Amendment, each party has signed it on the date stated under that party's name.

| | |
|---|---|
| Imagine Learning LLC | County School Board of Henrico County, Virginia |
| 8860 East Chaparral Road, Suite 100 | 406 Dabbs House Road |
| Scottsdale, AZ 85250 | Henrico, VA 23223 |
| | |
| Signature  |  Signature |
| | |
| Printed Name and Title Kelly Staniec | Oscar Knott, CPP, CPPO, VCO Purchasing Director |
| Vice President, Controller | |
| | |
| Date 6/21/2022 | Date 6/22/22 |

Approved as to form:



Rachel Hart Jewell

Assistant County Attorney

5/7/22

Date

I. SCOPE OF SERVICES

A. General Requirements:

Students and their teachers who are enrolled at New Bridge Learning center should have access to any Division Wide purchases made at the K-12 (72 Schools) or Elementary (46 Schools) level at no additional cost. The Pre-K students at New Bridge Learning Center (150 each year) are housed at this location to accommodate overflow or lack of school space. The teachers and students exist as their own entity in PowerSchool and Clever but would need access to division level purchases and resources provisioned by their homeschool.

Students who are attending Virginia Randolph Education Center (VREC) and PACE should be included in any purchases made by the Academy of Virginia Randolph (AVR). This is our alternative school and all 3 schools reside in the same building, but are denoted as separate entities in PowerSchool and Clever.

1. The proposed solution shall have the capability of content scaffolding to include a tiered approach and acceleration for students who need additional help with mathematics skills and those who need to demonstrate mathematics gains of one or more than one year.
2. The Successful Offeror(s) shall provide a solution where the digital content can be created with an Internet consumer in mind rather than a traditional textbook consumer. Therefore, the content must be rich in multimedia, interactive in nature and sufficiently compelling to lead the student in a self-directed manner.
3. Intervention materials shall be systematic and simple in design, addressing one or more of the selected areas of mathematics (number and number sense, computational fluency, problem solving) and support a variety of instructional settings.
4. Instructional materials for students receiving intervention shall include lessons and activities covering an appropriate range of mathematics skills, are age appropriate, include engaging tasks of high interest, build upon conceptual understanding, and support/remediate basic skills in an adaptive manner. The materials provided shall be digital or blended format.
5. Materials shall align to the Virginia Standards of Learning (Virginia SOLs) and for Pre K Virginia's Foundation Blocks for Early Learning, a comprehensive set of standards for 4-year-olds. Tier II Intervention should target improvement of basic skill deficits in the selected areas of mathematics (number and number sense, computational fluency, problem solving) while supporting and enhancing Tier I (Virginia SOLs) instructional objectives in a different instructional design rather than replace or duplicate it. Tier II is not an SOL Remediation Program.
6. Materials used need not be grade level specific in order to provide intervention that meets the instructional level of each student.
7. Materials shall provide opportunities for differentiation to include intensive, explicit, and systematic instruction. These materials should be targeted specifically to selected areas of mathematics (number and number sense, computational fluency, problem solving).
8. The proposed solution shall allow teachers to monitor student progress in the resource. This will allow teachers to group students and/or assign additional topics as needed for remediation.

III. TECHNICAL SPECIFICATIONS

A. User Interface

1. Browser Support – the proposed solution shall:
 - a. Have compatibility with the current versions of multiple browsers- at minimum, current versions of Edge, Safari, and Chrome browsers.
 - b. Maintain compatibility with listed browsers and future versions/updates/releases of the listed browsers for the duration of the contract.
 - c. Only require standard browser plugins.
2. The proposed solution will be compliant with the Americans with Disabilities Act requirements for accessibility.
3. The proposed solution shall be cloud-based and delivered via the Internet over wireless LANs to the client's browser.
4. The proposed solution shall provide an intuitive user interface that allows for ease of use by teachers and students.
5. The proposed solution shall support mobile technology including but not limited to the specific mobile devices currently used in HCPS (iOS, Chromebooks, Windows, and Android Platforms)

B. Integration

1. The proposed solution shall provide methods for user account administration that are easy to use and maintain.
2. The proposed solution shall support a single sign-on solution that does not require staff or students to have a separate account or password for accessing the vendor's application.
3. The proposed solution shall allow for LTI, Azure Active Directory or LDAP as a method of authentication and authorization.
4. The proposed solution shall provide a means to identify the individual or client using the application, authenticate the individual and determine the authorities and rights granted to that individual as well as a reporting engine for tracking usage and progress.
5. Any requirements for student, staff, course, roster or school information must be supported through a common specification. The exchange of data must be through a common protocol and not require the installation of vendor-specific software in the HCPS internal infrastructure. HCPS currently supports the following means of exchanging student information in order of preference but will accept other non-vendor specific protocols:
 - a. LTI integration as a Tool Provider(TP) with our LMS Solution (Schoology)
 - b. SIF - Student Information framework
 - c. Exchange of information through Clever - a third party vendor for exchanging common data for school systems; The Successful Offeror is responsible for any costs incurred with Clever implementation.
 - d. API integration with our SIS, PowerSchool
 - e. File exchange to a vendor-supported sFTP server

6. No additional fees may be charge to HCPS for data integration.
7. Solutions that allow for seamless integration of their product through the IMS Global interoperability standards are preferred.

C. Infrastructure and System Administration

1. HCPS's preference is a SaaS system and hosting the solution on a 3rd party, such as AWS or Azure, is acceptable.
2. The proposed solution will provide a secure, web-based system for data in transit and at rest.
3. Successful Offeror(s) will document compliance with all local, state, and federal laws related to student data privacy.
4. The proposed solution shall contain neither commercial content nor serve as a vehicle to market goods and services.
5. Web Accessibility
The digital math resource must comply with the [Information Technology Accessibility Act](#) (Code of Virginia - 2-2-3500) which requires that information technology developed, purchased, or provided is accessible to individuals with disabilities.
 - a. The solution shall be accessible to persons with disabilities, including:
 - i. Blindness, color blindness, visual impairment
 - ii. Deafness, hearing impairment
 - iii. Speech impairment
 - iv. Mobility, strength, dexterity or reach impairment
 - b. The solution shall support the use of commonly available screen readers.
 - c. The solution shall comply with Federal Web Accessibility Standards (part of Section 508 of the Rehabilitation Act).
 - d. The solution shall meet Level A and Level AA guidelines as specified by the W3C's WCAG 2.0 guidelines.
6. The proposed solution shall be able to handle at least 60,000+ concurrent HCPS users with less than 30 ms latency. Offeror(s) must provide comprehensive documentation to evidence the ability to accommodate concurrent users based on data collected from a similar environment.
7. If the solution is reliant on LDAP authentication, HCPS will only accept a defined external IP address to allow Firewall transactions and will not accept the allowance of entire network segments.
8. HCPS shall have the ability to submit requests for alteration of the digital content (including additional supporting data, modification of current data, or removal of data deemed inappropriate by HCPS) via email or web-based forms embedded in the digital content.
9. Provide all documentation for each piece of software equipment, or software, including copyright information, all operator and user manual, training materials necessary for the proper and successful use of the software where an installation or configuration on HCPS network or devices are required.

D. Computer, Software and Network Specifications

The proposed solution shall meet all performance requirements defined in this document and shall be currently compatible with the following minimum computer specifications as well as maintaining compatibility with updates/patches/versions of listed software for the duration of the contract (at a minimum beginning with the versions listed below)

1. Staff District-wide; All High, Middle Students and limited numbers for Elementary Students
 - a. Software
 - i. OS – Windows 10, 1903 or higher: 64-bit
 - ii. Browsers – Google Chrome 86.x or above; Microsoft Edge 89.x or above
 - iii. Java – 1.8.0_251 or above
 - iv. PDF Reader - embedded within Chrome and Edge
 - v. Adobe Reader - standalone application
 - vi. Adobe Shockwave – 12.2 or above
 - vii. O365 Pro Plus
 - b. Hardware:
 - i. Latitude 3380s model:
 1. Specifications
 - a. Display - 13.3-inch HD Anti-Glare LED with integrate webcam and noise reducing array microphone
 - b. Hard drive - 128GB SSD
 - c. Processor - 2.50 GHz Intel® i5 -Dual Core
 - d. Memory - 8GB DDR3 SDRAM
 - e. Graphics Card – 128MB Dedicated VRAM; 1366X768 - Native Resolution
 - f. Network Connections - Built-in Wireless Card (802.11ac) and 10/100/1000 Gigabit Ethernet
 - g. Other:
 - i. Stereo headphone/Microphone combo jack
 - ii. Latitude 5420 model:
 1. Specifications
 - a. Display - 14" FHD (1920x1080) Non-Touch, Anti-Glare, IPS, 250nits, WLAN/WWAN, HD Camera
 - b. Hard drive – 128GB PCIe NVMe Class 35 SSD
 - c. Processor – 11th Generation Intel® Core™ i3-1125G4 (4 Core, 8M cache, base 2.0GHz, up to 3.7GHz)
 - d. Memory – 8GB DDR4 Non-ECC
 - e. Network connections - Intel® Wi-Fi 6 AX201 2x2 .11ax 160MHz + Bluetooth 5.1
 - f. Graphic cards - i3-1125G4 Trans, Intel UHD Graphics, Thunderbolt
 - iii. Latitude 3310 model
 1. Specifications:
 - a. Display – 13.3" HD (1366 x 768) Anti-Glare Non-Touch, Camera & Microphone, WLAN Capable
 - b. Hard drive – 128GB PCIe NVMe Class 35 SSD
 - c. Processor – 8th Generation Intel® Core™ i5-8265U Processor (4 Core, 6MB Cache,1.6GHz,15W)
 - d. Memory – 8GB DDR4 Non-ECC

- e. Network Connections - Intel Dual Band Wireless Driver 9560 (802.11ac) 2x2 + Bluetooth 5.0; Intel® Dual Band Wireless AC 9560 (802.11ac) 2x2 + Bluetooth 5.0
 - f. Graphics card - Intel® Core™ i3-8145U Processor w/Intel® HD Graphics 620
 - iv. Latitude 3180 Education model – Elementary Carts:
 - 1. Specifications:
 - a. Display - 11-inch HD with integrated webcam
 - b. Hard drive - 64GB eMMC Storage - Hard drive
 - c. Processor - Intel® Pentium® N4200
 - d. Memory - 4GB 1600MHz LPDDR3
 - e. Video Card – Intel integrated HD graphics 4600
 - f. Network Connections – Intel Dual Band Wireless-AC 7265 802.11AC Wi-Fi + BT 4.0 LE Wireless Card (2x2)
 - g. Other:
 - i. 2 speakers
 - ii. 1 Combo headphone/microphone jack
 - iii. USB card reader
- 2. Dell Chromebooks (primary device for all elementary students)
 - a. Software
 - i. Chromium OS 86.x+ or above
 - b. Hardware:
 - i. Dell Chromebook 3180 (touch & non-touch):
 - 1. Specifications:
 - a. Display - 11.6-inch HDF
 - b. Hard drive - 16GB eMMC
 - c. Processor - Celeron N3060
 - d. Memory - 4GB
 - e. Video Card - Intel integrated HD graphics 4600
 - f. Network - Built-in Wireless Card (802.11a/g/n)
 - g. Other:
 - i. 2 speakers
 - ii. Headphone/Microphone jack
 - iii. Integrated webcam
 - ii. Dell Chromebook 3100 (touch & non-touch):
 - 1. Specifications:
 - a. Display - 11.6" HD (1366 x 768) Anti-Glare Non-Touch, Camera & Microphone, WLAN Capable - Display
 - b. Hard drive - 16GB eMMC
 - c. Processor - Intel Celeron N4020 (Dual Core, up to 2.8GHz, 4M Cache, 6W) 1 USB Type-C, 1 USB 3.1
 - d. Memory - 4GB 2400MHz LPDDR4 Non-ECC
- 3. iOS Devices - Elementary and Secondary
 - a. Software
 - i. iOS version - 14.x
 - ii. Safari browser
 - b. Hardware (Based on iPad MR7F2LL/A)
 - i. Specifications:
 - 1. Display - 9.7-inch (diagonal) LED-backlit, multi-touch with IPS technology
 - 2. Storage – 32GB

3. Wireless-A, Wireless-AC, Wireless-B, Wireless-G, Wireless-N
4. Bluetooth 4.2 Technology
5. Camera, Photos and Video Recording

E. Networking Environment

1. Location WAN Circuit Bandwidth
 - a. 400 Mbps or greater Comcast ENS Data WAN Circuit to High Schools.
 - b. 300 Mbps or greater Comcast ENS Data WAN Circuit to Middle Schools.
 - c. 200 Mbps or greater Comcast ENS Data WAN Circuit to Elementary Schools.
 - d. 100 Mbps or greater Comcast ENS Data WAN Circuit to remote Administrative sites.
2. Data Center WAN Circuit Bandwidth
 - a. 10 Gbps Comcast ENS Backbone WAN connectivity between; Comcast and the Data Center facility.
3. District Internet Bandwidth
 - a. 2x 4 Gbps Comcast ENI circuits to provide a total district bandwidth of 8 Gbps of Internet Service to the Data Center which is then distributed to the entire district via the size and type of WAN circuits listed above.
4. Firewall Protection
 - a. Cisco Firepower 9300 series Firewalls.
5. Local Area Network and Wireless Infrastructure
 - a. All Schools/Sites utilize either 1 Gbps or 10 Gbps fiber backbone connections between their MDF & IDF network closets.
 - b. All Schools/Sites utilize a combination of LightWeight or Cloud-Controlled wireless access points capable of supporting the IEEE 802.11 ac wireless standard and are connected at 1 Gbps, or greater, to Cisco Catalyst 9200 & 9300 series POE switches.

F. Training and Support

1. The Successful Offeror(s) shall provide a toll -free number for help desk support to HCPS at a minimum from 8 am to 5 pm EST, Monday- Friday.
2. The Successful Offeror(s) shall provide any required training for implementation of the proposed solution to include options for continued training including on-site, webinar and printed materials.



COMMONWEALTH OF VIRGINIA
County of Henrico

**Non-Professional Services Contract
Contract No. 2142D**

This Non-Professional Services Contract (this "Contract") entered into this 26th day of August 2021, by Imagine Learning, Inc. (the "Contractor") and the County School Board of Henrico County, Virginia ("HCPS").

WHEREAS HCPS has awarded the Contractor this Contract pursuant to Request for Proposals No. 21-2142-3EMF as modified by Addenda 1, dated April 1, 2021, and Addenda 2, dated April 16, 2021 (the "Request for Proposals"), for "Digital Mathematics (PreK-12) Curriculum for Tier I, Tier II and Tier III".

WITNESSETH that the Contractor and HCPS, in consideration of the mutual covenants, promises and agreements herein contained, agree as follows:

SCOPE OF CONTRACT: The Contractor shall provide the services to the HCPS as set forth in the Contract Documents.

COMPENSATION: The compensation HCPS will pay to the Contractor under this Contract shall be in accordance with Exhibit E.

CONTRACT TERM: The Contract term shall be for a period beginning August 26, 2021 and ending June 30, 2022. HCPS may renew the Contract for up to four (4) one-year terms giving 30 days' written notice before the end of the term unless Contractor has given HCPS written notice that it does not wish to renew at least 90 days before the end of the term.

CONTRACT DOCUMENTS: This Contract hereby incorporates by reference the documents listed below (the "Contract Documents") which shall control in the following descending order:

1. This Non-Professional Services Contract between HCPS and Contractor;
2. License Agreement Addendum (Exhibit A)
3. Data Security Agreement (Exhibit B)
4. Imagine Learning End User Terms of Service Ver.1.0 (Exhibit C)
5. The Negotiated Modifications (Exhibit D);
6. The General Contract Terms and Conditions included in the Request for Proposals;
7. Contractor's Best and Final Offer dated June 29, 2021 (Exhibit E);
8. Contractor's Original Proposal dated April 05, 2021 (Exhibit F; and
9. The Scope of Services included in the Request for Proposals.

IN WITNESS WHEREOF, the parties have caused this Contract to be duly executed intending to be bound hereby.

Imagine Learning, Inc.
382 W. Park Cir., Ste 100
Provo, UT 84604


DocuSigned by:

Signature 2021.09.02 12:16:54 -0500

David Alderslade, Executive Vice President, CFO
Printed Name and Title

8/26/2021
Date

County School Board of Henrico County, Virginia
406 Dabbs House Road
Henrico, VA 23223

Digitally signed by: Oscar Knott
DN: CN = Oscar Knott email = kno008@henrico.us C = US
O = County of Henrico, VA OU = Department of Finance -
Purchasing Division

Signature Date: 2021.09.02 12:16:54 -0500

Oscar Knott, CPP, CPPO, VCO
Purchasing Director

9/2/21
Date

APPROVED AS TO FORM

 9-1-21

ASSISTANT COUNTY ATTORNEY

EXHIBIT A
ATTACHMENT F
LICENSE AGREEMENT ADDENDUM

The County School Board of Henrico County, Virginia (the "**County**"), and Imagine Learning, Inc. ("**Supplier**"), a Utah corporation, are this day entering into an agreement for Digital Mathematics (PreK-12) Curriculum for Tier I, Tier II and Tier III (the "**Agreement**") and, for their mutual convenience, the parties are using the standard form contract ("Imagine Learning End User Terms of Service, Version 1.0 last updated April 20, 2021") provided by Supplier ("**Contract**"). This License Agreement Addendum ("**LAA**"), duly signed by the County and Supplier (each a "**Party**"), is attached to and made a part of the Agreement and the Contract by incorporation, and with the Agreement governs the use of any and all software licensed by the County under the Agreement (the "**Software**") and this LAA.

As used in this LAA, the term "**Contract**" means the Supplier's standard form contract and any and all exhibits and attachments thereto. The term(s) "**Customer**", "**You**" or "**you**" as used in the Contract and this LAA, means, as applicable, the County, or any of their officers, directors, agents or employees.

Supplier represents and warrants that it is a Utah corporation authorized to do in business in Virginia. If Supplier is not a U.S.-based entity, Supplier maintains a registered agent and a certification of authority to do business in Virginia.

Supplier's Contract is generally acceptable to the County, with the exceptions noted in this LAA below. Despite the general acceptability of the Contract, certain standard clauses may appear in, or be incorporated by reference into, the Contract that cannot be accepted by the County. In consideration of the convenience of using Supplier's standard form contract without the necessity of specifically negotiating a separate contract document, the Parties specifically agree that any of the following provisions contained in the Contract are deemed void and will not have any effect and will not be enforceable against any Customer, with the exception of any agreed upon modifications in Exhibit D:

1. Requiring the application of the law of any state other than the Commonwealth of Virginia in interpreting or enforcing the Contract or requiring or permitting that any dispute under the Contract be resolved in any court other than the state courts located in Henrico County, Virginia;
2. Requiring any total or partial compensation or payment for lost profit or liquidated damages by any Customer if the Contract is terminated before the end of its ordinary term;
3. Imposing any interest charge(s) contrary to that specified by § 2.2-4347 *et seq.* of the Code of Virginia;
4. Requiring the County to maintain any type of insurance for Supplier's benefit;
5. Granting Supplier a security interest in any property of the County;
6. Requiring the County to indemnify, defend, or to hold harmless Supplier for any act or omission;
7. Limiting or adding to the time period within which claims can be made or actions can be brought (Reference Tit. 8.01 of the Code of Virginia);
8. Limiting selection and approval of counsel and approval of any settlement in any claim arising under the Contract and in which the County is a named party;
9. Binding the County to any arbitration or to the decision of any arbitration board, commission, panel or other entity;
10. Obligating the County to pay costs of collection or attorney's fees;
11. Requiring any dispute resolution procedure(s) other than those in accordance with § 2.2-4363 *et seq.* of the Code of Virginia;

12. Permitting Supplier to access any of the County's records or data, except pursuant to court order;
13. Permitting Supplier to use any information provided by the County except for Supplier's own internal administrative purposes;
14. Requiring the County to limit its rights or waive its remedies at law or in equity;
15. Bestowing any right, or incurring any obligation, that is beyond the duly granted authority of the undersigned representative of the County to bestow, or incur, on behalf of the County;
16. Establishing a presumption of severe or irreparable harm to Supplier by the actions or inactions of the County;
17. Limiting the liability of Supplier for property damage, death, or personal injury;
18. Permitting Supplier to assign, subcontract, delegate or otherwise convey the Contract, or any of its rights and obligations under the Contract, to any entity without the prior written consent of the County, except as set forth in paragraph 39 below;
19. Not complying with the contractual claims provision § 2.2-4363 of the Code of Virginia, which is also incorporated into this LAA and the Contract by reference;
20. Enforcing the United Nations Convention on Contracts for the International Sale of Goods and all other laws and international treaties or conventions relating to the sale of goods. They are expressly disclaimed. UCITA shall apply to the Contract only to the extent required by § 59.1-501.15 of the Code of Virginia;
21. Not complying with all applicable federal, state, and local laws, regulations, and ordinances;
22. Requiring that the County waive its sovereign immunity or its immunity;
23. Requiring that the County, which is tax exempt, be responsible for payment of any taxes, duties, or penalties;
24. Requiring or construing that any provision in this Contract conveys any rights or interest in the County's data to Supplier;
25. Requiring the use of foreign currency. The currency used for the Contract will be United States Dollars;
26. Obligating the County beyond approved and appropriated funding. All payment obligations from the County under the Contract are subject to receipt of necessary appropriations from the County's Board of Supervisors. In the event of non-appropriation of funds for the items under the Contract, the County may terminate, in whole or in part, the Contract or any order, for those goods or services for which funds have not been appropriated. This may extend to the renewal of maintenance services for only some of the licenses granted by Supplier. The County shall provide written notice to the Supplier as soon as possible after legislative action is completed. There will be no time limit for termination due to termination for lack of appropriations;
27. Permitting unilateral modification of the Contract by Supplier;
28. Permitting termination by Supplier of the Contract or the licenses granted pursuant to the Contract, or permitting suspension of services by Supplier, except pursuant to an order from a court of competent jurisdiction;
29. Requiring or stating that the terms of the Supplier's standard form contract will prevail over the terms of this LAA in the event of conflict;
30. Renewing or extending the Contract beyond the term set forth in the Agreement or automatically continuing the Contract period from term to term;
31. Requiring that the Contract be "accepted" or endorsed by the home office or by any other officer subsequent to signing by an official of the County before the Contract is considered in effect;
32. Delaying the acceptance of the Contract or its effective date beyond the date of signing;

33. Defining "perpetual" license rights to have any meaning other than license rights that exist in perpetuity unless otherwise terminated in accordance with the applicable provisions of the Contract;
34. Permitting modification or replacement of the Contract pursuant to any new release, update or upgrade of Software, or subsequent renewal of maintenance. If Supplier provides any update or upgrade subject to additional payment, the County will have the right to reject such update or upgrade;
35. Requiring the purchase of a new release, update, or upgrade of Software, or subsequent renewal of maintenance, in order for the County to receive or maintain the benefits of Supplier's indemnification of the County against any claims of infringement on any third-party intellectual property rights;
36. Prohibiting the County from transferring or assigning to any entity the Contract or any license to Software granted pursuant to the Contract;
37. Granting Supplier or an agent of Supplier the right to audit or examine the books, records, or accounts of the County; or

In addition to the provisions set forth above in this LAA, the Parties further agree as follows:

38. Supplier warrants that it is the owner of the Software or otherwise has the right to grant to the County the license to use the Software granted under the Contract without violating or infringing any law, rule, regulation, copyright, patent, trade secret, or other proprietary right of any third party.
39. Supplier may assign all or any of its rights and obligations to a third party as a result of a merger or acquisition or sale of all or substantially all of its assets to the third party so long as Supplier's assignee agrees in writing to be bound by the terms and conditions set forth in the Contract, and provided the third party is a U.S.-based entity or maintains a registered agent and a certification of authority to do business in Virginia. Supplier may assign all or any of its rights and obligations to an affiliate of Supplier, provided Supplier remains liable for the affiliate's compliance with the terms and conditions set forth in this Contract
40. Supplier agrees to indemnify, defend and hold harmless the County of Henrico (including Henrico County Public Schools), the County's officers, agents and employees, from any claims, damages, suits, actions, liabilities and costs of any kind or nature, including attorneys' fees, to the extent the claim in any way relates to, arise out of or result from: (i) any negligent act, negligent omission, or intentional or willful conduct of any employee or subcontractor of Supplier, (ii) any breach of any representation, warranty or covenant of Supplier contained in the Contract and LAA, (iii) any defect in the Software, or (iv) any actual or alleged infringement or misappropriation of any third party's intellectual property rights by any of the Software.
41. The County will only be liable to pay for Supplier's travel-related expenses, including transportation, meals, lodging and incidental expenses that have been authorized by the County in advance. The travel-related expenses will be reimbursable at the County's then-current per diem rates.
42. The County may require that Supplier personnel submit to a criminal background check prior to performance of any services under the Contract.
43. Payments for license fees, including subscription fees, and support services are only authorized to be made to the Supplier pursuant to the Contract.

Together with the Agreement, the Contract and this LAA constitute the entire agreement between the Parties and may not be waived or modified except by written agreement between the Parties.

[SIGNATURE PAGE(S) TO FOLLOW]

IN WITNESS WHEREOF, the Parties have caused this License Agreement Addendum to be duly executed as of the last date set forth below by the undersigned authorized representatives of the parties, intending thereby to be legally bound.

Imagine Learning, Inc.

DocuSigned by:
By: David Alderslade
(Signature)

Name: David Alderslade
(Print)

Title: Executive Vice President, CFO

Date: 8/26/2021

School Board
County of Henrico, Virginia
County

By: Oscar Knott
(Signature)
Digitally signed by: Oscar Knott
DN: CN = Oscar Knott email = kno008@henrico.us
C = US O = County of Henrico, VA OU =
Department of Finance - Purchasing Division
Date: 2021.09.02 12:16:28 -05'00'

Name: Oscar Knott
(Print)

Title: Purchasing Director

Date: 9/2/21

APPROVED AS TO FORM

Alyssa Brown 9-1-21
ASSISTANT COUNTY ATTORNEY

EXHIBIT B

HENRICO COUNTY PUBLIC SCHOOLS DATA SECURITY AGREEMENT

This Data Security Agreement ("Agreement") is agreed upon effective September
1, 2021, by and between Imagine Learning, Inc. ("Vendor") and the County School Board of
Henrico County, Virginia ("HCPS").

I. DEFINITIONS

- A. **HCPS Data:** HCPS Data is any and all data that HCPS has disclosed to Vendor. For the purposes of this Agreement, HCPS Data does not cease to be HCPS Data solely because it is transferred or transmitted beyond HCPS's immediate possession, custody, or control.
- B. **Data Breach:** The unauthorized access and acquisition of computerized data that materially compromises the security or confidentiality of confidential or sensitive personal information maintained by HCPS as part of a database of personal information regarding multiple individuals and that causes or HCPS reasonably believes has caused or will cause loss or injury to any HCPS constituent.
- C. **System:** An assembly of components that supports an operational role or accomplishes a specific objective. This may include a discrete set of information resources (network, server, computer, software, application, operating system or storage devices) organized for the collection, processing, maintenance, use, sharing, dissemination, or disposition of information.
- D. **Contract.** Shall mean the contract between Vendor and HCPS outlining the services to be provided.

II. DISCLOSURE OF HCPS DATA

- A. The Vendor shall not disclose HCPS Data in any manner that would constitute a violation of state or federal law or the terms of this agreement including, without limitation, by means of outsourcing, sharing, retransfer, or access, to any person or entity, except:
- B. Employees or agents who actually and legitimately need to access or use HCPS Data in the performance of Vendor's duties to HCPS;
- C. Such third parties, such as but not limited to, vendors, suppliers or subcontractors, but only after such third party has agreed in writing and in advance of any disclosure, to be bound by confidentiality terms at least as stringent as the terms of this Agreement; or
- D. Any other third party approved by HCPS in writing and in advance of any disclosure, but only to the extent of such approval.

- E. The Vendor may also store HCPS Data on servers housed in datacenters owned and operated by third parties, provided the third parties take reasonable precautions to protect the security and confidentiality of HCPS data.

III. USE OF, STORAGE OF, OR ACCESS TO HCPS DATA

- A. Vendor shall only use, store, or access HCPS data:
1. In accordance with, and only to the extent permissible under the contract for services; and
 2. In full compliance with any and all applicable laws and regulations, only to the extent applicable to Vendor, including the Family Educational Rights and Privacy Act (FERPA); and
- B. Vendor agrees that the use, storage, and access to HCPS Data shall be performed with that degree of skill, care, and judgment customarily accepted as sound, quality, and professional practices. Vendor shall implement and maintain safeguards necessary to ensure the confidentiality, availability, and integrity of HCPS Data. Vendor shall also implement and maintain any safeguards required to be implemented by applicable state and federal laws and regulations.
- C. HCPS reserves the right to request security information reasonably necessary to ascertain HCPS's own compliance with state and federal data privacy laws.
- D. If Vendor becomes aware that HCPS Data may have been accessed, disclosed, or acquired without proper authorization and contrary to the terms of this Agreement or the Contract, Vendor shall use reasonable efforts to alert HCPS of any Data Breach within two business days, and shall immediately take such actions as may be necessary to preserve forensic evidence and eliminate the cause of the Data Breach. Vendor shall give highest priority to immediately correcting any Data Breach and shall devote such resources as may be required to accomplish that goal. Vendor shall provide HCPS information necessary to enable HCPS to fully understand the nature and scope of the Data Breach. Upon request, Vendor shall provide HCPS information about what Vendor has done or plans to do to mitigate any deleterious effect of the unauthorized use or disclosure of, or access to, HCPS Data. In the event that a Data Breach requires Vendor's assistance for mitigation, such assistance shall be provided at no cost to HCPS. HCPS may discontinue any services or products provided by Vendor and any payments to Vendor until HCPS, in its sole discretion, determines that the cause of the Data Breach has been sufficiently mitigated.
- E. If Vendor is served with any subpoena, discovery request, court order, or other legal request or command that calls for disclosure of any HCPS Data, Vendor shall promptly notify HCPS in writing and provide HCPS sufficient time to obtain a court order or take any other action HCPS deems necessary to prevent disclosure or otherwise protect HCPS Data. In such event, Vendor shall provide HCPS prompt and full assistance in HCPS's efforts to protect HCPS Data. Where

Vendor is prohibited by law from notifying HCPS of a legal request for HCPS Data, Vendor will comply with all applicable laws and regulations with respect to the requested HCPS Data.

- F. Upon expiration or termination of the Contract, Vendor shall ensure that no Data Breach occurs and shall follow HCPS's instructions as to the preservation, transfer, or destruction of HCPS Data. The method of destruction shall be accomplished by "purging" or "physical destruction", in accordance with National Institute of Standards and Technology (NIST) Special Publication 800-88. Upon request by HCPS, Vendor shall certify in writing to HCPS that return or destruction of data has been completed. Prior to such return or destruction, Vendor shall continue to protect HCPS Data in accordance with this Agreement.
- G. This Agreement shall survive the expiration or earlier termination of the Contract. However, upon expiration or termination of the Contract, either party may terminate this Agreement.

FOR HCPS:

FOR VENDOR: Imagine Learning, Inc.

John B. Wack

Name

John B. Wack

Signature

Chief Financial Officer

Title

09/02/2021

Date

David Alderslade

Name

DocuSigned by:
David Alderslade

CC16A2998458413

Signature

Executive Vice President, CFO

Title

8/26/2021

Date

APPROVED AS TO FORM

Alyssa Brown 9-1-21

ASSISTANT COUNTY ATTORNEY

EXHIBIT C

IMAGINE LEARNING END USER TERMS OF SERVICE

VERSION 1.0

LAST REVISED ON: APRIL 20, 2021

Welcome to Imagine Learning! Before using Imagine Learning's website, software, products, mobile application(s), and services (together, the "**Services**", "**our Services**", or "**Company's Services**"), it is important that you carefully read the following agreement. The website located at www.imaginelearning.com (the "**Site**") is a copyrighted work belonging to Imagine Learning, Inc. ("**Company**", "**us**", "**our**", and "**we**"). Certain features of the Services may be subject to additional guidelines, terms, or rules, which will be posted as appropriate in connection with such features. All such additional terms, guidelines, and rules are incorporated by reference into these Terms of Service.

THESE TERMS OF SERVICE (THE "**TERMS**"), ALONG WITH COMPANY'S PRIVACY POLICY, SET FORTH THE LEGALLY BINDING TERMS AND CONDITIONS THAT GOVERN YOUR USE OF COMPANY'S SERVICES. BY USING THE SERVICES, YOU ARE ACCEPTING THESE TERMS. YOU MAY NOT USE THE SERVICES OR ACCEPT THE TERMS IF YOU ARE NOT AT LEAST 13 YEARS OLD. IF YOU DO NOT AGREE WITH ALL OF THE PROVISIONS OF THESE TERMS, DO NOT USE THE SERVICES.

THESE TERMS REQUIRE THE USE OF ARBITRATION (SECTION 10.3) ON AN INDIVIDUAL BASIS TO RESOLVE DISPUTES, RATHER THAN JURY TRIALS OR CLASS ACTIONS, AND ALSO LIMIT THE REMEDIES AVAILABLE TO YOU IN THE EVENT OF A DISPUTE.

1. ACCOUNTS

1.1 Account Creation. Before you use certain features of Company's Services, an account will be created for you ("**Account**") at the direction of the "**Account Holder**" (typically teachers or school administrators representing schools and/or school districts who subscribe to our Services). You represent and warrant that: (a) any registration information you provide to Account Holder will be truthful and accurate; and (b) you will maintain the accuracy of such information. You may request deletion of your Account by contacting the Account Holder. Company may suspend or terminate your Account in accordance with Section 8.

1.2 Account Responsibilities. You are responsible for maintaining the confidentiality of your Account login information and are fully responsible for all activities that occur under your Account. You agree to immediately notify Account Holder of any unauthorized use, or suspected unauthorized use of your Account or any other breach of security. Company cannot and will not be liable for any loss or damage arising from your failure to comply with the above requirements.

2. ACCESS TO THE SITE

2.1 License. Subject to these Terms, Company grants you a non-transferable, non-exclusive, revocable, limited license to use and access the Services solely for your own personal, noncommercial use.

2.2 Certain Restrictions. The rights granted to you in these Terms are subject to the following restrictions: (a) you shall not license, sell, rent, lease, transfer, assign, distribute, host, or otherwise commercially exploit the Services, whether in whole or in part, or any content displayed on the Services; (b) you shall not modify, make derivative works of, disassemble, reverse compile or reverse engineer any part of the Site or Services; (c) you shall not access the Services in order to build a similar or competitive website, product, or service; and (d) except as expressly stated herein, no part of the Services may be copied, reproduced, distributed, republished, downloaded, displayed, posted or transmitted in any form or by any means. Unless otherwise indicated, any future release, update, or other addition to functionality of the Services shall be subject to these Terms. All copyright and other proprietary notices on the Services (or on any content displayed on any Service) must be retained on all copies thereof.

2.3 Modification. We reserve the right, at any time, to modify, suspend, or discontinue the Services (in whole or in part) with or without notice to you. You agree that Company will not be liable to you or to any third party for any modification, suspension, or discontinuation of the Services or any part thereof.

2.4 No Support or Maintenance. You acknowledge and agree that Company will have no obligation to provide you with any support or maintenance in connection with the Services.

2.5 Ownership. Excluding any User Content that you may provide (defined below), you acknowledge that all the intellectual property rights, including copyrights, patents, trademarks, and trade secrets, in the Services and their content

are owned by Company or our suppliers. Neither these Terms (nor your use of the Services) transfers to you or any third party any rights, title or interest in or to such intellectual property rights, except for the limited access rights expressly set forth in Section 2.1. Company and its suppliers reserve all rights not granted in these Terms. There are no implied licenses granted under these Terms.

2.6 Compliance with Law. You are responsible for using the Services in compliance with all applicable federal and state laws and regulations. You shall not use the Services in violation of any applicable law.

2.7 Use by Children Under 13. The Children's Online Privacy Protection Act ("COPPA") requires that all online service providers, including Company, obtain parental consent before knowingly collecting personally identifiable information from children under the age of 13. Company does not knowingly collect or solicit any personally identifiable information from children under the age of 13, and instead relies upon information provided to Company by Account Holder. Children under the age of 13 are prohibited from using the Services or creating an Account unless they are doing so with parental consent or with the consent of an Account Holder who is providing such consent in compliance with COPPA. If we learn that we have collected personal information from a person under the age of 13 that does not comply with COPPA, we will delete that information in a reasonably prudent amount of time. If you believe that a child under the age of 13 has provided personally identifiable information to us, please contact us at privacy@weldnorthed.com.

2.8 Accessibility. Company is committed to ensuring that the Services remain accessible to all individuals, regardless of disability. Company will take reasonable steps to ensure that the Services meet common industry standards for accessibility and materially comply with the requirements of the Americans with Disabilities Act ("ADA"), as applicable. If you have any suggestions about improvements Company can make to enhance the accessibility of the Services, please contact us at accessibility@weldnorthed.com.

3. USER CONTENT

3.1 User Content. "User Content" means any and all information and content that a user submits to, or uses with, the Services (e.g., content in the user's profile or postings). You are solely responsible for your User Content. You assume all risks associated with use of your User Content, including any reliance on its accuracy, completeness or usefulness by others, or any disclosure of your User Content that personally identifies you or any third party. You hereby represent and warrant that your User Content does not violate our Acceptable Use Policy (defined in Section 3.3). You may not represent or imply to others that your User Content is in any way provided, sponsored, or endorsed by Company. Because you alone are responsible for your User Content, you may expose yourself to liability if, for example, your User Content violates the Acceptable Use Policy. We are not obligated to backup any User Content, and your User Content may be deleted at any time without prior notice. You are solely responsible for creating and maintaining your own backup copies of your User Content if you desire.

3.2 License. You hereby grant (and you represent and warrant that you have the right to grant) to Company an irrevocable, nonexclusive, royalty-free and fully paid, worldwide license to reproduce, distribute, publicly display and perform, prepare derivative works of, incorporate into other works, and otherwise use and exploit your User Content, and to grant sublicenses of the foregoing rights, solely for the purposes of including your User Content in the Services. You hereby irrevocably waive (and agree to cause to be waived) any claims and assertions of moral rights or attribution with respect to your User Content.

3.3 Acceptable Use Policy. The following terms constitute our "Acceptable Use Policy":

(a) You agree not to use the Services to collect, upload, transmit, display, or distribute any User Content (i) that violates any third-party right, including any copyright, trademark, patent, trade secret, moral right, privacy right, right of publicity, or any other intellectual property or proprietary right; (ii) that is unlawful, harassing, abusive, tortious, threatening, harmful, invasive of another's privacy, vulgar, defamatory, false, intentionally misleading, trade libelous, pornographic, obscene, patently offensive, promotes racism, bigotry, hatred, or physical harm of any kind against any group or individual or is otherwise objectionable; (iii) that is harmful to minors in any way; or (iv) that is in violation of any law, regulation, or obligations or restrictions imposed by any third party.

(b) In addition, you agree not to: (i) upload, transmit, or distribute to or through the Services any computer viruses, worms, or any software intended to damage or alter a computer system or data; (ii) send through the Services unsolicited or unauthorized advertising, promotional materials, junk mail, spam, chain letters, pyramid schemes, or any other form of duplicative or unsolicited messages, whether commercial or otherwise; (iii) use the Services to harvest, collect, gather or assemble information or data regarding other users, including e-mail addresses, without their consent; (iv) interfere with, disrupt, or create an undue burden on servers or networks connected to the Services, or violate the regulations, policies or

procedures of such networks; (v) attempt to gain unauthorized access to our Services (or to other computer systems or networks connected to or used together with the Services), whether through password mining or any other means; (vi) harass or interfere with any other user's use and enjoyment of the Services; or (vi) use software or automated agents or scripts to produce multiple accounts on the Services, or to generate automated searches, requests, or queries to (or to strip, scrape, or mine data from) our Services (provided, however, that we conditionally grant to the operators of public search engines revocable permission to use spiders to copy materials from the Services for the sole purpose of and solely to the extent necessary for creating publicly available searchable indices of the materials, but not caches or archives of such materials, subject to the parameters set forth in our robots.txt file).

(c) You further agree that you will not: (i) publish or post screenshots, video, text or other reproductions of content from any course provided through the Services or (ii) use any technology, code, or other method to automatically skip content or answer questions provided through the Services. The building, use, or sharing of any such technology, code, or other methodology is strictly prohibited.

3.4 Enforcement. We reserve the right (but have no obligation) to review any User Content, and to investigate and/or take appropriate action against you in our sole discretion if you violate the Acceptable Use Policy or any other provision of these Terms or otherwise create liability for us or any other person. Such action may include removing or modifying your User Content, terminating your Account in accordance with Section 8, and/or reporting you to law enforcement authorities.

3.5 Feedback. If you provide us with any feedback or suggestions regarding the Services ("**Feedback**"), you hereby assign to Company all rights in such Feedback and agree that we shall have the right to use and fully exploit such Feedback and related information in any manner it deems appropriate. Company will treat any Feedback you provide to us as non-confidential and non-proprietary. You agree that you will not submit to Company any information or ideas that you consider to be confidential or proprietary.

3.6 Your Data. As an education technology company that may collect data about K-12 and postsecondary students, Company is subject to certain laws and regulations, some of which are described below. Please visit our Privacy Policy for more information on how we collect, use, and safeguard data.

(a) Company will materially comply with all applicable federal and state student privacy laws and regulations. We will provide access to Personal Information pertaining to K-12 students only to our employees and subcontractors who need to access the data.

(b) "**Personal Information**" means, collectively personally identifiable information as defined in applicable law including the Family Educational Rights and Privacy ("**FERPA**"), the California Consumer Privacy Act ("**CCPA**"), and the European Union's General Data Protection Regulation ("**GDPR**").

4. INDEMNIFICATION. You agree to indemnify and hold Company (and its officers, employees, and agents) harmless, including costs and attorneys' fees, from any claim or demand made by any third party due to or arising out of (a) your use of the Services, (b) your violation of these Terms, (c) your violation of applicable laws or regulations or (d) your User Content. Company reserves the right, at your expense, to assume the exclusive defense and control of any matter for which you are required to indemnify us, and you agree to cooperate with our defense of these claims. You agree not to settle any matter without the prior written consent of Company. Company will use reasonable efforts to notify you of any such claim, action or proceeding upon becoming aware of it.

5. THIRD-PARTY LINKS; OTHER USERS

5.1 Third-Party Links. The Services may contain links to third-party websites and services (collectively, "**Third-Party Links**"). Such Third-Party Links are not under the control of Company, and we are not responsible for any Third-Party Links. Company provides access to these Third-Party Links only as a convenience to you, and does not review, approve, monitor, endorse, warrant, or make any representations with respect to Third-Party Links. You use all Third-Party Links at your own risk and should apply a suitable level of caution and discretion in doing so. When you click on any of the Third-Party Links, the applicable third party's terms and policies apply, including the third party's privacy and data gathering practices. You should make whatever investigation you feel necessary or appropriate before proceeding with any transaction in connection with such Third-Party Links.

5.2 Other Users. Each Service user is solely responsible for any and all of its own User Content. Because we do not control User Content, you acknowledge and agree that we are not responsible for any User Content, whether provided by you or by others. We make no guarantees regarding the accuracy, currency, suitability, or quality of any User Content. Your interactions with other Service users are solely between you and such users. You agree that Company will not be

responsible for any loss or damage incurred as the result of any such interactions. If there is a dispute between you and any Service user, we are under no obligation to become involved.

5.3 Release. You hereby release and forever discharge Company (and our officers, employees, agents, successors, and assigns) from, and hereby waive and relinquish, each and every past, present and future dispute, claim, controversy, demand, right, obligation, liability, action and cause of action of every kind and nature (including personal injuries, death, and property damage), that has arisen or arises directly or indirectly out of, or that relates directly or indirectly to, the Services (including any interactions with, or act or omission of, other Service users or any Third-Party Links & Ads). IF YOU ARE A CALIFORNIA RESIDENT, YOU HEREBY WAIVE CALIFORNIA CIVIL CODE SECTION 1542 IN CONNECTION WITH THE FOREGOING, WHICH STATES: “A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.”

6. DISCLAIMERS

THE SITE IS PROVIDED ON AN “AS-IS” AND “AS AVAILABLE” BASIS, AND COMPANY (AND OUR SUPPLIERS) EXPRESSLY DISCLAIM ANY AND ALL WARRANTIES AND CONDITIONS OF ANY KIND, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING ALL WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, QUIET ENJOYMENT, ACCURACY, OR NON-INFRINGEMENT. WE (AND OUR SUPPLIERS) MAKE NO WARRANTY THAT THE SITE WILL MEET YOUR REQUIREMENTS, WILL BE AVAILABLE ON AN UNINTERRUPTED, TIMELY, SECURE, OR ERROR-FREE BASIS, OR WILL BE ACCURATE, RELIABLE, FREE OF VIRUSES OR OTHER HARMFUL CODE, COMPLETE, LEGAL, OR SAFE. IF APPLICABLE LAW REQUIRES ANY WARRANTIES WITH RESPECT TO THE SERVICES, ALL SUCH WARRANTIES ARE LIMITED IN DURATION TO NINETY (90) DAYS FROM THE DATE OF FIRST USE.

SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU. SOME JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

7. LIMITATION ON LIABILITY

TO THE MAXIMUM EXTENT PERMITTED BY LAW, IN NO EVENT SHALL COMPANY (OR OUR SUPPLIERS) BE LIABLE TO YOU OR ANY THIRD PARTY FOR ANY LOST PROFITS, LOST DATA, COSTS OF PROCUREMENT OF SUBSTITUTE PRODUCTS, OR ANY INDIRECT, CONSEQUENTIAL, EXEMPLARY, INCIDENTAL, SPECIAL OR PUNITIVE DAMAGES ARISING FROM OR RELATING TO THESE TERMS OR YOUR USE OF, OR INABILITY TO USE, THE SERVICES, EVEN IF COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. ACCESS TO, AND USE OF, THE SERVICES IS AT YOUR OWN DISCRETION AND RISK, AND YOU WILL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO YOUR DEVICE OR COMPUTER SYSTEM, OR LOSS OF DATA RESULTING THEREFROM.

TO THE MAXIMUM EXTENT PERMITTED BY LAW, NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED HEREIN, OUR LIABILITY TO YOU FOR ANY DAMAGES ARISING FROM OR RELATED TO THIS AGREEMENT (FOR ANY CAUSE WHATSOEVER AND REGARDLESS OF THE FORM OF THE ACTION), WILL AT ALL TIMES BE LIMITED TO A MAXIMUM OF FIFTY US DOLLARS (U.S. \$50). THE EXISTENCE OF MORE THAN ONE CLAIM WILL NOT ENLARGE THIS LIMIT. YOU AGREE THAT OUR SUPPLIERS WILL HAVE NO LIABILITY OF ANY KIND ARISING FROM OR RELATING TO THIS AGREEMENT.

SOME JURISDICTIONS DO NOT ALLOW THE LIMITATION OR EXCLUSION OF LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

8. TERM AND TERMINATION.

8.1 Termination; Effect of Termination. Subject to this Section, these Terms will remain in full force and effect while you use the Services. We may suspend or terminate your rights to use the Services (including your Account) at any time for any reason at our sole discretion, including for any use of the Services in violation of these Terms. Upon termination of your rights under these Terms, your Account and right to access and use the Services will terminate immediately. You understand that any termination of your Account may involve deletion of your User Content associated with your Account from our live databases. Company will not have any liability whatsoever to you for any termination of your rights under these Terms, including for termination of your Account or deletion of your User Content. Even after your rights under these Terms

are terminated, the following provisions of these Terms will remain in effect: Sections 2.2 through 2.5, Section 3, and Sections 4 through 10.

8.2 Deletion of Personal Information. Upon termination of your Account, you may request that Account Holder direct Company to delete any Personal Information from its live databases. Company agrees to take commercially reasonable steps to honor any deletion requests received from Account Holder in a reasonable amount of time (not to exceed ninety (90) days). You understand and agree that Company may continue to have Personal Information in archive files or similar databases. You further agree that Company has no obligation to delete aggregated or de-identified information. Company may retain and use aggregated and de-identified information for any purpose that is consistent with applicable federal and state laws and regulations.

9. COPYRIGHT POLICY.

Company respects the intellectual property of others and asks that users of our Services do the same. In connection with our Services, we have adopted and implemented a policy respecting copyright law that provides for the removal of any infringing materials and for the termination, in appropriate circumstances, of users of our Services who are repeat infringers of intellectual property rights, including copyrights. If you believe that one of our users is, through the use of our Services, unlawfully infringing the copyright(s) in a work, and wish to have the allegedly infringing material removed, the following information in the form of a written notification (pursuant to 17 U.S.C. § 512(c)) must be provided to our designated Copyright Agent:

1. your physical or electronic signature;
2. identification of the copyrighted work(s) that you claim to have been infringed;
3. identification of the material on our services that you claim is infringing and that you request us to remove;
4. sufficient information to permit us to locate such material;
5. your address, telephone number, and e-mail address;
6. a statement that you have a good faith belief that use of the objectionable material is not authorized by the copyright owner, its agent, or under the law; and
7. a statement that the information in the notification is accurate, and under penalty of perjury, that you are either the owner of the copyright that has allegedly been infringed or that you are authorized to act on behalf of the copyright owner.

Please note that, pursuant to 17 U.S.C. § 512(f), any misrepresentation of material fact (falsities) in a written notification automatically subjects the complaining party to liability for any damages, costs and attorney's fees incurred by us in connection with the written notification and allegation of copyright infringement.

The designated Copyright Agent for Company is:

Designated Agent: Legal Department

Address of Agent: 8860 E Chaparral Road, Suite 100, Scottsdale, AZ 85250

Telephone: 480-675-7284

E-mail: legal@weldnorthed.com

10. GENERAL

10.1 Fees. At this time, all fee agreements are made with Account Holder. Any change to this policy would be effective upon thirty (30) calendar days' notice.

10.2 Changes. These Terms are subject to occasional revision, and if we make any substantial changes, we may notify you by sending you an e-mail to the last e-mail address you provided to us (if any), and/or by prominently posting notice of the changes on our Site. Any changes to these Terms will be effective upon the earlier of thirty (30) calendar days following our dispatch of an e-mail notice to you (if applicable) or thirty (30) calendar days following our posting of notice of the changes on our Site. These changes will be effective immediately for new users of our Services. Continued use of our Services following notice of such changes shall indicate your acknowledgement of such changes and agreement to be bound by the terms and conditions of such changes.

10.3 Dispute Resolution; Mandatory Arbitration. *Please read this Arbitration Agreement carefully. It is part of your contract with Company and affects your rights. It contains procedures for MANDATORY BINDING ARBITRATION AND A CLASS ACTION WAIVER.*

(a) *Applicability of Arbitration Agreement.* All claims and disputes (excluding claims for injunctive or other equitable relief as set forth below) in connection with the Terms or the use of any product or service provided by Company that cannot be resolved informally or in small claims court shall be resolved by binding arbitration on an individual basis under

the terms of this Arbitration Agreement. Unless otherwise agreed to, all arbitration proceedings shall be held in English. This Arbitration Agreement applies to you and Company, and to any subsidiaries, affiliates, agents, employees, predecessors in interest, successors, and assigns, as well as all authorized or unauthorized users or beneficiaries of services or goods provided under the Terms.

(b) *Notice Requirement and Informal Dispute Resolution.* Before either party may seek arbitration, the party must first send to the other party a written Notice of Dispute (“**Notice**”) describing the nature and basis of the claim or dispute, and the requested relief. A Notice to Company should be sent to: Attn: Legal Department, 8860 E Chaparral Road, Suite 100, Scottsdale AZ 85250. After the Notice is received, you and Company may attempt to resolve the claim or dispute informally. If you and Company do not resolve the claim or dispute within thirty (30) days after the Notice is received, either party may begin an arbitration proceeding. The amount of any settlement offer made by any party may not be disclosed to the arbitrator until after the arbitrator has determined the amount of the award, if any, to which either party is entitled.

(c) *Arbitration Rules.* Arbitration shall be initiated through the American Arbitration Association (“**AAA**”), an established alternative dispute resolution provider (“**ADR Provider**”) that offers arbitration as set forth in this section. If AAA is not available to arbitrate, the parties shall agree to select an alternative ADR Provider. The rules of the ADR Provider shall govern all aspects of the arbitration, including but not limited to the method of initiating and/or demanding arbitration, except to the extent such rules are in conflict with the Terms. The AAA Consumer Arbitration Rules (“**Arbitration Rules**”) governing the arbitration are available online at www.adr.org or by calling the AAA at 1-800-778-7879. The arbitration shall be conducted by a single, neutral arbitrator. Any claims or disputes where the total amount of the award sought is less than Ten Thousand U.S. Dollars (US \$10,000.00) may be resolved through binding non-appearance-based arbitration, at the option of the party seeking relief. For claims or disputes where the total amount of the award sought is Ten Thousand U.S. Dollars (US \$10,000.00) or more, the right to a hearing will be determined by the Arbitration Rules. Any hearing will be held in a location within 100 miles of your residence, unless you reside outside of the United States, and unless the parties agree otherwise. If you reside outside of the U.S., the arbitrator shall give the parties reasonable notice of the date, time and place of any oral hearings. Any judgment on the award rendered by the arbitrator may be entered in any court of competent jurisdiction. If the arbitrator grants you an award that is greater than the last settlement offer that Company made to you prior to the initiation of arbitration, Company will pay you the greater of the award or \$2,500.00. Each party shall bear its own costs (including attorney’s fees) and disbursements arising out of the arbitration and shall pay an equal share of the fees and costs of the ADR Provider.

(d) *Additional Rules for Non-Appearance Based Arbitration.* If non-appearance based arbitration is elected, the arbitration shall be conducted by telephone, online and/or based solely on written submissions; the specific manner shall be chosen by the party initiating the arbitration. The arbitration shall not involve any personal appearance by the parties or witnesses unless otherwise agreed by the parties.

(e) *Time Limits.* If you or Company pursue arbitration, the arbitration action must be initiated and/or demanded within the statute of limitations (i.e., the legal deadline for filing a claim) and within any deadline imposed under the AAA Rules for the pertinent claim.

(f) *Authority of Arbitrator.* If arbitration is initiated, the arbitrator will decide the rights and liabilities, if any, of you and Company, and the dispute will not be consolidated with any other matters or joined with any other cases or parties. The arbitrator shall have the authority to grant motions dispositive of all or part of any claim. The arbitrator shall have the authority to award monetary damages, and to grant any non-monetary remedy or relief available to an individual under applicable law, the AAA Rules, and the Terms. The arbitrator shall issue a written award and statement of decision describing the essential findings and conclusions on which the award is based, including the calculation of any damages awarded. The arbitrator has the same authority to award relief on an individual basis that a judge in a court of law would have. The award of the arbitrator is final and binding upon you and Company.

(g) *Waiver of Jury Trial.* THE PARTIES HEREBY WAIVE THEIR CONSTITUTIONAL AND STATUTORY RIGHTS TO GO TO COURT AND HAVE A TRIAL IN FRONT OF A JUDGE OR A JURY, instead electing that all claims and disputes shall be resolved by arbitration under this Arbitration Agreement. Arbitration procedures are typically more limited, more efficient and less costly than rules applicable in a court and are subject to very limited review by a court. In the event any litigation should arise between you and Company in any state or federal court in a suit to vacate or enforce an arbitration award or otherwise, YOU AND COMPANY WAIVE ALL RIGHTS TO A JURY TRIAL, instead electing that the dispute be resolved by a judge.

(h) *Waiver of Class or Consolidated Actions.* ALL CLAIMS AND DISPUTES WITHIN THE SCOPE OF THIS ARBITRATION AGREEMENT MUST BE ARBITRATED OR LITIGATED ON AN INDIVIDUAL BASIS AND

NOT ON A CLASS BASIS, AND CLAIMS OF MORE THAN ONE CUSTOMER OR USER CANNOT BE ARBITRATED OR LITIGATED JOINTLY OR CONSOLIDATED WITH THOSE OF ANY OTHER CUSTOMER OR USER.

(i) *Confidentiality.* All aspects of the arbitration proceeding, including but not limited to the award of the arbitrator and compliance therewith, shall be strictly confidential. The parties agree to maintain confidentiality unless otherwise required by law. This paragraph shall not prevent a party from submitting to a court of law any information necessary to enforce this Agreement, to enforce an arbitration award, or to seek injunctive or equitable relief.

(j) *Severability.* If any part or parts of this Arbitration Agreement are found under the law to be invalid or unenforceable by a court of competent jurisdiction, then such specific part or parts shall be of no force and effect and shall be severed and the remainder of the Agreement shall continue in full force and effect.

(k) *Right to Waive.* Any or all of the rights and limitations set forth in this Arbitration Agreement may be waived by the party against whom the claim is asserted. Such waiver shall not waive or affect any other portion of this Arbitration Agreement.

(l) *Survival of Agreement.* This Arbitration Agreement will survive the termination of your relationship with Company.

(m) *Small Claims Court.* Notwithstanding the foregoing, either you or Company may bring an individual action in small claims court.

(n) *Emergency Equitable Relief.* Notwithstanding the foregoing, either party may seek emergency equitable relief before a state or federal court in order to maintain the status quo pending arbitration. A request for interim measures shall not be deemed a waiver of any other rights or obligations under this Arbitration Agreement.

(o) *Claims Not Subject to Arbitration.* Notwithstanding the foregoing, claims of defamation, violation of the Computer Fraud and Abuse Act, and infringement or misappropriation of the other party's patent, copyright, trademark or trade secrets shall not be subject to this Arbitration Agreement.

(p) *Courts.* In any circumstances where the foregoing Arbitration Agreement permits the parties to litigate in court, the parties hereby agree to submit to the personal jurisdiction of the courts located within Maricopa County, Arizona, for such purpose.

10.4 Export. The Services may be subject to U.S. export control laws and may be subject to export or import regulations in other countries. You agree not to export, reexport, or transfer, directly or indirectly, any U.S. technical data acquired from Company, or any products utilizing such data, in violation of the United States export laws or regulations.

10.5 Disclosures. Company is located at the address in Section 10.11. If you are a California resident, you may report complaints to the Complaint Assistance Unit of the Division of Consumer Product of the California Department of Consumer Affairs by contacting them in writing at 400 R Street, Sacramento, CA 95814, or by telephone at (800) 952-5210.

10.6 Electronic Communications. The communications between you and Company use electronic means, whether you use the Site or send us emails, or whether Company posts notices on the Services or communicates with you via email. For contractual purposes, you (a) consent to receive communications from us in an electronic form; and (b) agree that all terms and conditions, agreements, notices, disclosures, and other communications that we provide to you electronically satisfy any legal requirement that such communications would satisfy if it were be in a hardcopy writing. The foregoing does not affect your non-waivable rights.

10.7 Entire Terms. These Terms constitute the entire agreement between you and us regarding the use of the Services. Our failure to exercise or enforce any right or provision of these Terms shall not operate as a waiver of such right or provision. The section titles in these Terms are for convenience only and have no legal or contractual effect. The word "including" means "including without limitation". Your relationship to Company is that of an independent contractor, and neither party is an agent or partner of the other.

10.8 Severability. If any provision of these Terms is, for any reason, held to be invalid or unenforceable, the other provisions of these Terms will be unimpaired and the invalid or unenforceable provision will be deemed modified so that it is valid and enforceable to the maximum extent permitted by law.

10.9 Assignment. These Terms, and your rights and obligations herein, may not be assigned, subcontracted, delegated, or otherwise transferred by you without Company's prior written consent, and any attempted assignment, subcontract, delegation, or transfer in violation of the foregoing will be null and void. Company may freely assign these Terms. The terms and conditions set forth in these Terms shall be binding upon assignees.

10.10 Copyright/Trademark Information. Copyright © 2021 IMAGINE LEARNING, INC. All rights reserved. All trademarks, logos and service marks (“**Marks**”) displayed on the Site are our property or the property of other third parties. You are not permitted to use these Marks without our prior written consent or the consent of such third party which may own the Marks.

10.11 Contact Information:

Legal Department
8860 E Chaparral Road, Suite 100, Scottsdale, AZ 85250
Telephone: 480-675-7284
E-mail: legal@weldnorthed.com

EXHIBIT D
NEGOTIATED MODIFICATIONS TO
CONTRACT No. 2142C

These Negotiated Modifications are hereby incorporated into Contract 2142C (the “Contract”) for Digital Mathematics (PreK-12) Curriculum for Tier I, Tier II and Tier III for Henrico County Public Schools as of the effective date of the Contract.

WHEREAS, HCPS and Imagine Learning, Inc. desire to agree in writing to modify the final terms and conditions of the Contract.

THEREFORE, in consideration of the Recital set forth above and good in valuable consideration as set forth in the Contract, the parties agree that the General Contract Terms and Conditions included in the Request for Proposals are modified as follows as of the effective date of the Contract.

1. The following is added to the end of Sec. VI.A - Annual Appropriations (page 10):
In the event of such termination, HCPS or the County shall pay contractor for all services performed through the date of termination.
2. The following replaces the text in Sec. VI.N – Indemnification (page 13):
The Successful Offeror agrees to indemnify defend and hold harmless the County (including Henrico County Public Schools), and the County’s officers, agents and employees from any third-party claims, damages, suits, actions, liabilities and direct costs of any kind or nature, including reasonable attorneys’ fees, arising from or caused by the provision of any services or materials furnished (or made available) by the Successful Offeror under the Contract, provided that such liability is not attributable to the County’s sole negligence.
3. The following replaces the text in Sec. VI.R – Ownership of Deliverable and Related Products (page 14):
Reserved.
4. The following replaces the text in Sec. VI. X2 – Termination of Contract (Page 16):
Failure of the Successful Offeror to comply with any material section or part of the Contract will be considered grounds for immediate termination of the Contract by the County.
5. Contractor submits the added terms:
Notwithstanding anything to the contrary in the Request for Proposal, the parties agree to add the following terms from the Contractor’s End-User License Agreement:
 - Section 1 – Grant of License
 - Section 3 – Limitations; Transfers
 - Section 4 – Ownership
 - Section 6 – Limited Warranty and Remedy
 - Section 7 – Limitation of LiabilityAlthough the entire End-User License Agreement is attached hereto, only the provisions cited above are incorporated into the parties’ agreement. All remaining provisions shall be ignored.



DEPARTMENT OF FINANCE
Purchasing Division

COMMONWEALTH OF VIRGINIA
County of Henrico

June 29, 2021

Ms. Whitney Aldrich
Imagine Learning
382 W Park Circle
Provo, UT 84604

RE: RFP 21-2142-3EMF – Digital Mathematics (PreK-12) Curriculum for Tier I,II and III

Dear Ms. Aldrich:

This letter is to inform you that your firm has been selected to enter into negotiations for the above referenced solicitation.

To begin this process, please submit the following items:

1. Answers to the attached list of questions. (Attachment A)
2. Provide all cost for proposed solution on Attachment B.
3. For evaluation purposes, provide pricing for the attached scenarios (Attachment C). This form has been modified and is not the same as in the RFP. Pricing for the scenarios shall be based on the pricing listed on Attachment B

Please provide the above items by 3:00 p.m. on July 9, 2021. A response via email attachment is sufficient.

If you have any questions, please contact me at 804-501-5637 or fal51@henrico.us.

Sincerely,

Eileen M. Falcone
Assistant Division Director

Attachment A
RFP #21-2142-3EMF
Digital Mathematics (PreK-12) Curriculum for Tier I,II and III

OFFEROR: Imagine Learning

1. If HCPS chooses not to syn with PowerSchool directly, what other options are there for rostering and data sync beyond CSV file through SFTP? (i.e. Clever or other)

HCPS can choose from several rostering methods, including the following:

- SIS integrations with Clever and Classlink
- CSV rostering through IMSGlobal OneRoster formats and SFTP
- Self-service via educator portal (tutorials and templates are available)
- Assisted one-time rostering with Imagine Learning's team
- Automated nightly rostering syncs
- SSO integrations:
 - Clever
 - Classlink
 - Canvas
 - Other Identity Providers that support any of the following:
 - OpenID Connect
 - OAuth 2
 - Active Directory Federation Services (ADFS)
 - LDAP
 - SAML

2. What version of the proposed solution is being offered for this contract? If awarded the contract how are new versions or updated version handled?

Imagine Math's current version is v2021.07.02.1628-fb0651d760. Imagine Math Facts current version is Version 9.174. Imagine Learning's products are continually updated with enhancements, bug fixes, and performance upgrades, and HCPS will automatically receive these updates at no additional cost for the duration of the contract. Since Imagine Learning's programs are Cloud-based, updates happen automatically without the need for any manual downloads or updates by the district.

3. Is the proposed solution proven to be compatible with the following devices used by HCPS?

Yes, Imagine Learning's math programs are proven to be compatible with and support the devices listed below. For the latest up-to-date minimum system requirements, please visit <https://help.imaginelearning.com/hc/en-us>.

| Device | Grade Level | Explanation |
|---|-------------|---|
| iPad | PreK – K | Programs support iPad 4 or new; iPad mini 2 or newer |
| Chromebook | 1-5 | <p>Imagine Math: requires min. screen resolution of 1024 x 768 and a min. of 4 GB of RAM</p> <p>Imagine Math Facts: recommends min. 2.5 GHz 64-bit processor (does not support NVIDIA Tegra K1 or Intel Atom) and a min. of 4 GB of RAM</p> |
| Laptop | 6-12 | <p>Imagine Math: Windows PC requires Windows 7 or newer; min. screen resolution of 1024 x 768; min. 4 GB of RAM; microphone (recommended wired headphones, wired microphone); keyboard and mouse or trackpad.</p> <p>Mac requires OS X 10 or newer, min. screen resolution of 1024 x 768; min. 4 GB of RAM; microphone (recommended wired headphones, wired microphone); keyboard and mouse or trackpad.</p> <p>Imagine Math Facts: Windows PC requires Windows 8.1 or newer; min. 2.5 GHz 64-bit processor; min. 4 GB of RAM; wired headphones recommended; keyboard and mouse or trackpad.</p> <p>Mac requires OS X 10.9 or newer; 64-bit processor (recommended 2.5 GHz 64-bit processor); GPU AMD/ATI, NVIDIA, or Intel GPU with current drivers installed (min. 2010); min. 4 GB of RAM; min. 258 MB of storage; wired headphones recommended; keyboard and mouse or trackpad.</p> |
| Students using non-grade specific device(i.e. iPad by any grade level SPED student) | | Programs support PC, Mac, and Chromebook desktops/laptops, iPads, and various other tablets in addition to the devices specified above. Please see https://help.imaginelearning.com/hc/en-us for more information. |

4. During the presentation there was mention of “live teacher” instruction. Is this part of the proposed solution and is it optional? How are teachers vetted/screened and are they certified?

Attached are documents that outline the live teacher component, its benefits, and the rigorous screening, training, and performance standards that the teachers must meet. The live

teaching component is an optional layer of intervention and is student initiated. Student privacy is always maintained, and their faces and bodies are never visible to the live teachers, who interact with students via a digital chat program and interactive white board.



Imagine Math with On-Demand, **Live, Certified Math Teachers**

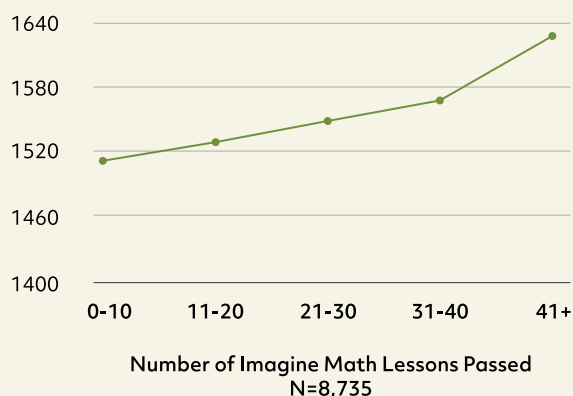
To help students become confident mathematicians, Imagine Math features just-in-time, individualized instructional support at the exact moment learners need it most.

Proven to Work

Imagine Math users in Midland ISD, TX, particularly those who used the program with fidelity, were more likely than non-users to achieve STAAR Math proficiency. As part of the committed three-year implementation plan, Midland ISD received focused support on utilizing Imagine Math Live Teachers to expand teacher capacity.

81% of students who passed 31-40 Imagine Math lessons and 93% of students who passed 41+ lessons met passing standards for their grade.

Grades 3-8 STAAR Math



Learn more at imaginelearning.com/math



Three Progressive Levels of Support

Level 1: Math Help

As students proceed through their personalized lesson pathways, they receive automated corrective feedback at each step.

- Immediate feedback customized for each answer choice
- “Mini-lessons” that include models, animations, and illustrations
- Additional supports, such as a calculator, a formula reference guide, and a multilingual glossary, are available at the click of a button

If learners could benefit from additional scaffolds, they proceed to Level 2 support.

Level 2: Live Teacher

Students are empowered to work 1:1 with live, certified, bilingual math teachers in real time.

- On-demand, certified Live Teachers can view students' work to pinpoint areas of challenge
- Students explain their thought process and ask questions using chat
- Bilingual Live Teachers available for Spanish-speaking learners

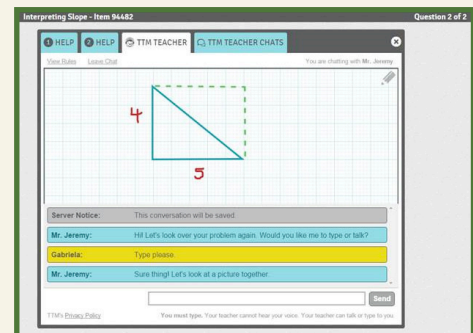
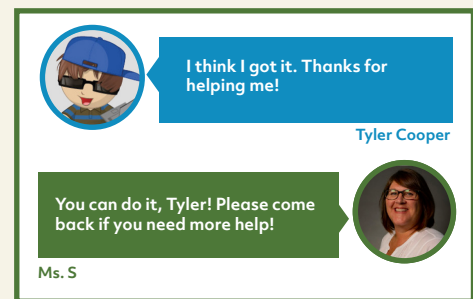
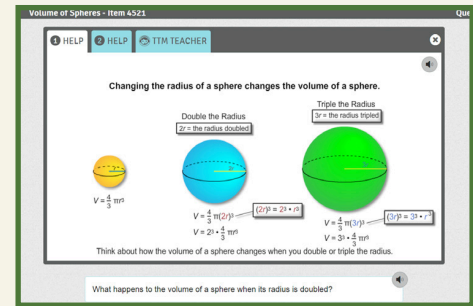
If deeper support or foundational skill review is needed, Live Teachers can activate Level 3 support.

Level 3: Interactive Whiteboard

Live Teachers clarify complex concepts and provide visual models using voice, chat, and a two-way interactive whiteboard.

- The interactive whiteboard simulates a classroom environment and allows for more intensive Live Teacher instruction
- Live Teachers demonstrate and develop multiple representations to solve problems
- Learners view concepts from a variety of perspectives and clarify their understanding

Before students return to independent work, Live Teachers confirm understanding and share a session summary with the classroom teacher.





Imagine Math Live Teachers: Requirements & Hours

Imagine Math Live Teachers offer rigorous bilingual instruction and strategic scaffolding to all students, in real time and at point of use. Classroom teachers receive informative personalized feedback following each Live Teacher-student interaction.

Live Teacher Requirements

Every Imagine Math Live Teacher is a highly qualified math educator, required to meet strict training and performance standards to ensure student success:

1. **Bachelor's degree** in education or related field
2. **Active state teaching certifications**
3. **Background checks** and clearances in each teacher's home state
4. **Ongoing continuing education** and/or professional development to meet teacher certification requirements
5. Daily participation in **Imagine Math Professional Development** sessions on various topics, such as:
 - CGCS framework for supporting ELs
 - NCTM's *Principles to Actions* best practices
 - Talk Moves
 - Explicit vocabulary instruction
 - Mathematical modeling strategies
6. **Teacher Performance Appraisals** successfully completed twice per year

Live Teacher Hours

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | 7:30am – 9:30pm | 7:30am – 9:30pm | 7:30am – 9:30pm | 7:30am – 9:30pm | 7:30am – 6:30pm | 9:00am – 1:00pm |
| 5:30pm – 9:30pm | | | | | | |

All times local. Reduced hours available during school vacations.

ATTACHMENT B
PRICING OPTIONS AFTER ORALS

| Provide pricing as it relates to the proposed solution | Price |
|---|--------------|
| Price per Student | \$40 |
| Price per Teacher | NA |
| Price per Classroom | NA |
| Price per Site | \$8,000 |
| Price for District License PreK-5 | \$299,000 |
| Price for District License PreK-8 | \$377,000 |
| Price for District License PreK-12 | \$442,000 |
| Price for District License 6-8 | \$96,000 |
| Price for District License 6-12 | \$143,000 |

| | |
|---|----------|
| Price for District License 9-12 | \$80,000 |
| 1 day of Professional Development- train the trainer model (20 Elementary or Secondary ILCs/ITRTs, 3 Educational Specialist, + 1 additional personnel- total of 20 <u>±</u>) | \$5,000 |
| 1 day of Professional Development - price per teacher | NA |
| 1 day of Professional Development for Elementary or Secondary School Staff- approximately 35 - 100 | \$5,000 |
| Additional Professional Development models | NA |
| Printed materials – provide list of pricing for each product offered | NA |
| Consumables – provide list of pricing for each product offered | NA |
| Provide information on price breaks for volume purchases. 20+ sites purchased, price = \$6,500 per site | |
| Implementation or Startup Cost if any: Included | |
| Recurring Cost for renewal year 2-5 | |
| Year 1: TBD – Varies based on choices selected | |
| Year 2: TBD – Varies based on choices selected | |
| Year 3: TBD – Varies based on choices selected | |
| Year 4: TBD – Varies based on choices selected | |

Attachment C

Pricing Scenario – After Orals

Provide pricing for the scenarios below based off pricing being offered for the proposed solution. Offers must put a Price for each scenario they are submitting for based on the information provided below. All cost must be included. This scenario is for Year One.

| A | B | C |
|--|---|---|
| Scenario | Methodology: (i.e. What is included and how the price in Column C was determined. | Price |
| Provide pricing for an annual subscription for one site license for an elementary school with 415 students . | Access for all students enrolled in building. Price is standard for site license. | \$8,000 |
| Provide pricing for an annual subscription for one site license for a middle school with 900 students . | Access for all students enrolled in building. Price is standard for site license. | \$8,000 |
| Provide pricing for an annual subscription for one site license for a high school with 1,700 students . | Access for all students enrolled in building. Price is standard for site license. | \$8,000 |
| Printed Materials (Offerors must provide the number of copies needed and price, if applicable, based on scenario information) | Imagine Math does not include printed materials | NA |
| Consumables (Offerors must provide the number of copies needed and price, if applicable, based on scenario information) | Imagine Math does not include consumables | NA |
| Provide pricing for 1 day (6 hours) of on-site professional development training for staff of 25 | | \$5,000 |
| Total Cost | | \$29,000 |
| Take the Total Cost from above and divide by the number of students offeror has submitted for, based on the number of students in each scenario. (i.e. if submitting only for 415 students then divide the total cost by 415. If submitting for 900 and 1,700 then divided the total cost by 2,600) | | Per Student price \$9.62 per student |



Response to:
Henrico County Public Schools

REDACTED

Solicitation for:
Digital Mathematics (PreK-12) Curriculum for Tier I, Tier II and Tier III

RFP No.: 21-2142-3EMF

Due: Thursday, April 29, 2021, at 2:00 PM

Key Staff:

Whitney Aldrich
Area Partnership Manager
210.428.5853
whitney.aldrich@imaginelearning.com

Office Address: 382 W Park Circle
Suite 100
Provo, Utah 84604

Office Phone: 801.377.5071

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Tab 1: Introduction and Signed Forms

The cover letter and all required forms, including addenda acknowledgements, are signed and included on the following pages.



April 29, 2021

Henrico County Public Schools
8600 Staples Mill Road
Henrico, VA 23273

Re: RFP No. 21-2142-3EMF, Digital Mathematics (PreK-12) Curriculum for Tier I, Tier II and Tier III

Dear Ms. Eileen M. Falcone:

Imagine Learning respectfully submits the following proposal in response to RFP No. 21-2142-3EMF for a Digital Mathematics (PreK-12) Curriculum for Tier I, Tier II and Tier III. To meet the needs of Henrico County Public Schools (HCPS), Imagine Learning proposes our digital math programs—**Imagine Math** and **Imagine Math Facts**—which are designed to help students master grade-level math content in grades PreK-8, Algebra I, Geometry, and SAT/ACT Prep. By mastering these essential mathematics skills, students can accelerate their rate of learning across all subjects to become critical thinkers, confident communicators, resilient learners, and ready for college and career.

The programs deliver explicit, targeted, rigorous, and engaging math instruction to each student through personalized learning paths that continually adapt based on performance. After an initial placement test, ongoing predictive and evaluative checkpoints ensure students are working in their zone of proximal development. Strategic scaffolding and support—such as access to certified live teachers—further personalize the learning experience for students.

Our Understanding of Math Instruction

Imagine Learning uses an asset-based lens in its approach to math instruction and maintains high expectations of all students. We believe that all students come to us with unique linguistic, cultural, and experiential strengths that can help them master grade-level content. Imagine Learning's math programs employ a gradual-release model that meets students in their zone of proximal development. Imagine Learning understands language plays a central role in all learning; therefore, we focus on the contextualized development of basic, academic, and math-specific language that accelerates powerful math and interdisciplinary achievements.

With this in mind, Imagine Math and Imagine Math Facts contextualize math learning and math language development within a wide array of engaging, connected learning activities—giving all students an opportunity to emerge as confident, competent, and enthusiastic mathematicians.



Educator Resources

The programs feature robust dashboards and data reports that allow educators to monitor student usage and performance, identify unfinished learning, and drive interventions. In Imagine Math, teachers can also create and assign optional customized learning pathways to individual students or to groups, giving teachers even greater control over their students' learning experience. Finally, teachers can supplement online instruction with optional printable materials, including STEM-related application tasks, that offer additional practice.

Imagine Learning's math programs also fit flexibly into whole-class, small-group, and one-on-one instruction. The district can use the program for pull-in or push-out instructional time, before- or after-school programs, and summer school. The program also supports a range of learning environments, including in-person, online, or hybrid.

Imagine Learning's professional development plan will ensure educators feel confident using the program in any learning environment. As part of Imagine Learning's commitment to customer success, the education success manager and teacher trainer team go beyond basic training to cover topics such as implementation best practices and modeling, data review, student achievement, and implementation success planning.

Research

When used with fidelity, Imagine Math and Imagine Math Facts are proven to accelerate math proficiency and math facts fluency. Efficacy research demonstrates student gains on a range of outside measures of math achievement, including the SOL Exam, NWEA™ MAP® Math assessments, STAAR-Mathematics test, STEM action centers, Quantile assessment, PARCC assessment, and the SBAC Math assessment.

History with HCPS

Imagine Learning has partnered with HCPS for over three years, implementing Imagine Math in several schools with great success. Currently, Imagine Math is implemented district wide. We look forward to expanding this partnership.

Thank you for your time and consideration. **For any questions regarding this proposal, please contact Whitney Aldrich by phone 210.428.5853 or via email at whitney.aldrich@imaginelearning.com.**

Sincerely,

DocuSigned by:
A handwritten signature in black ink that reads 'David Alderslade'.
2F1B3A6BDB4F458
David Alderslade, CFO

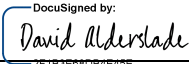
ATTACHMENT A

PROPOSAL SIGNATURE SHEET

My signature certifies that the proposal as submitted complies with all requirements specified in this Request for Proposal ("RFP") No. 21-2142—3EMF Mathematics (PreK-12) Curriculum Tier I, Tier II and Tier III.

My signature also certifies that by submitting a proposal in response to this RFP, the Offeror represents that in the preparation and submission of this proposal, the Offeror did not, either directly or indirectly, enter into any combination or arrangement with any person or business entity, or enter into any agreement, participate in any collusion, or otherwise take any action in the restraining of free, competitive bidding in violation of the Sherman Act (15 U.S.C. Section 1) or Sections 59.1-9.1 through 59.1-9.17 or Sections 59.1-68.6 through 59.1-68.8 of the Code of Virginia.

I hereby certify that I am authorized to sign as a legal representative for the business entity submitting this proposal.

| |
|--|
| LEGAL NAME OF OFFEROR (DO <u>NOT</u> USE TRADE NAME): |
| Imagine Learning, Inc. |
| ADDRESS: |
| 382 W. Park Cir., Ste. 100, Provo, UT 84604 |
| FEDERAL ID NO: 01-0814204 (EIN) and 14-832-9191 (DUNS) |
| SIGNATURE:  |
| NAME OF PERSON SIGNING (PRINT): David Alderslade |
| TITLE: Executive Vice President, Chief Financial Officer and Treasurer |
| TELEPHONE: 1-866-377-5071 |
| FAX: 801-377-5072 |
| EMAIL ADDRESS: proposals@imaginelearning.com |
| DATE: 4/27/2021 |

ATTACHMENT B BUSINESS CATEGORY CLASSIFICATION FORM

Company Legal Name: Imagine Learning, Inc.

This form completed by: Signature: _____

DocuSigned by:
David Alderlade
2F1B3E68DB4E45E...

Executive Vice President, Chief Financial
Officer and Treasurer

4/27/2021

Date: _____

PLEASE SPECIFY YOUR **BUSINESS CATEGORY** BY CHECKING THE APPROPRIATE BOX(ES) BELOW.

(Check all that apply.)

- ☐ SMALL BUSINESS
- ☐ WOMEN-OWNED BUSINESS
- ☐ MINORITY-OWNED BUSINESS
- ☐ SERVICE-DISABLED VETERAN
- ☐ EMPLOYMENT SERVICES ORGANIZATION
- ☒ NON-SWaM (Not Small, Women-owned or Minority-owned)

SUPPLIER REGISTRATION – The County of Henrico encourages all suppliers interested in doing business with the County to register with eVA, the Commonwealth of Virginia's electronic procurement portal, <http://eva.virginia.gov>.

eVA Registered? ☒ Yes ☐ No

If certified by the Virginia Minority Business Enterprises (DMBE), provide DMBE certification number and expiration date.

_____ NUMBER

_____ DATE

DEFINITIONS

For the purpose of determining the appropriate business category, the following definitions apply:

"Small business" means a business, independently owned and controlled by one or more individuals who are U.S. citizens or legal resident aliens, and together with affiliates, has 250 or fewer employees, or annual gross receipts of \$10 million or less averaged over the previous three years. One or more of the individual owners shall control both the management and daily business operations of the small business.

"Women-owned business" means a business that is at least 51 percent owned by one or more women who are U.S. citizens or legal resident aliens, or in the case of a corporation, partnership, or limited liability company or other entity, at least 51 percent of the equity ownership interest is owned by one or more women who are U.S. citizens or legal resident aliens, and both the management and daily business operations are controlled by one or more women.

"Minority-owned business" means a business that is at least 51 percent owned by one or more minority individuals who are U.S. citizens or legal resident aliens, or in the case of a corporation, partnership, or limited liability company or other entity, at least 51 percent of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more minority individuals who are U.S. citizens or legal resident aliens, and both the management and daily business operations are controlled by one or more minority individuals.

"Minority individual" means an individual who is a citizen of the United States or a legal resident alien and who satisfies one or more of the following definitions:

1. "African American" means a person having origins in any of the original peoples of Africa and who is regarded as such by the community of which this person claims to be a part.
2. "Asian American" means a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands, including but not limited to Japan, China, Vietnam, Samoa, Laos, Cambodia, Taiwan, Northern Mariana Islands, the Philippines, a U.S. territory of the Pacific, India, Pakistan, Bangladesh, or Sri Lanka and who is regarded as such by the community of which this person claims to be a part.
3. "Hispanic American" means a person having origins in any of the Spanish-speaking peoples of Mexico, South or Central America, or the Caribbean Islands or other Spanish or Portuguese cultures and who is regarded as such by the community of which this person claims to be a part.
4. "Native American" means a person having origins in any of the original peoples of North America and who is regarded as such by the community of which this person claims to be a part or who is recognized by a tribal organization.

"Service disabled veteran business" means a business that is at least 51 percent owned by one or more service disabled veterans or, in the case of a corporation, partnership, or limited liability company or other entity, at least 51 percent of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more individuals who are service disabled veterans and both the management and daily business operations are controlled by one or more individuals who are service disabled veterans.

"Service disabled veteran" means a veteran who (i) served on active duty in the United States military ground, naval, or air service, (ii) was discharged or released under conditions other than dishonorable, and (iii) has a service-connected disability rating fixed by the United States Department of Veterans Affairs.

"Employment services organization" means an organization that provides community-based employment services to individuals with disabilities that is an approved Commission on Accreditation of Rehabilitation Facilities (CARF) accredited vendor of the Department of Aging and Rehabilitative Services.

ATTACHMENT C
Virginia State Corporation Commission (SCC)
Registration Information

The Offeror:

☒ is a corporation or other business entity with the following SCC identification number:
F2013060 **-OR-**

☐ is not a corporation, limited liability company, limited partnership, registered limited liability partnership, or business trust **-OR-**

☐ is an out-of-state business entity that does not regularly and continuously maintain as part of its ordinary and customary business any employees, agents, offices, facilities, or inventories in Virginia (not counting any employees or agents in Virginia who merely solicit orders that require acceptance outside Virginia before they become contracts, and not counting any incidental presence of the Bidder in Virginia that is needed in order to assemble, maintain, and repair goods in accordance with the contracts by which such goods were sold and shipped into Virginia from Bidder's out-of-state location) **-OR-**

☐ is an out-of-state business entity that is including with this bid/proposal an opinion of legal counsel which accurately and completely discloses the undersigned Bidder's current contracts with Virginia and describes why those contracts do not constitute the transaction of business in Virginia within the meaning of §13.1-757 or other similar provisions in Titles 13.1 or 50 of the Code of Virginia.

Please check the following box if you have not checked any of the foregoing options but currently have pending before the SCC an application for authority to transact business in the Commonwealth of Virginia and wish to be considered for a waiver to allow you to submit the SCC identification number after the due date for bids: ☐

ATTACHMENT D

PROPRIETARY/CONFIDENTIAL INFORMATION IDENTIFICATION

NAME OF OFFEROR: Imagine Learning, Inc.

Trade secrets or proprietary information submitted by an Offeror shall not be subject to public disclosure under the Virginia Freedom of Information Act; however, the Offeror must invoke the protections of Va. Code § 2.2-4342(F) in writing, either before or at the time the data or other materials are submitted. The Offeror must specifically identify the data or materials to be protected including the section(s) of the proposal in which it is contained and the pages numbers, and state the reasons why protection is necessary. A summary of trade secrets and proprietary information submitted shall be submitted on this form. The proprietary or trade secret material submitted must be identified by some distinct method such as highlighting or underlining and must indicate only the specific words, figures, or paragraphs that constitute trade secret or proprietary information. Va. Code § 2.2-4342(F) prohibits an Offeror from classifying an entire proposal, any portion of a proposal that does not contain trade secrets or proprietary information, line item prices, or total proposal prices as proprietary or trade secrets. If, after being given reasonable time, the Offeror refuses to withdraw such classification(s), the proposal will be rejected.

| SECTION/TITLE | PAGE NUMBER(S) | REASON(S) FOR WITHHOLDING FROM DISCLOSURE |
|---|----------------|--|
| Tab 3: Offeror Qualifications, Exceptions, Resumes and Financial Capacity | 47-53 | Resumes contain personal information and Imagine Learning wishes to maintain our employees' privacy. |
| Tab 4: Service Approach and Implementation - Demo Accounts | 54-61 | Access to demo accounts and sandbox environment is for evaluation purposes only. Our programs are proprietary and outside access is not permitted. |
| Tab 10: References | 136 | The references may be contacted for evaluation purposes only. We do not wish to publicly disclose the relationships. |
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ATTACHMENT F

DIRECT CONTACT WITH STUDENTS

Name of Bidder: Imagine Learning, Inc.

Pursuant to Va. Code § 22.1-296.1, as a condition of awarding a contract for the provision of services that require the contractor or employees of the contractor to have direct contact with students on school property during regular school hours or during school-sponsored activities, the contractor shall provide certification of whether any individual who will provide such services has been convicted of any violent felony set forth in the definition of barrier crime in subsection A of Va. Code § 19.2-392.02; any offense involving the sexual molestation, physical or sexual abuse, or rape of a child; or any crime of moral turpitude.

Any individual making a materially false statement regarding any such offense is guilty of a Class 1 misdemeanor and, upon conviction, the fact of such conviction is grounds for the revocation of the contract to provide such services and, when relevant, the revocation of any license required to provide such services.

As part of this submission, I certify the following:

- ☒ **None of the individuals who will be providing services that require direct contact with students on school property during regular school hours or during school-sponsored activities have been convicted of a violent felony set forth in the definition of “barrier crime” in Va. Code § 19.2-392.02(A); an offense involving the sexual molestation, physical or sexual abuse, or rape of a child;**

And (select one of the following)

- ☒ **None of the individuals who will be providing services that require direct contact with students on school property during regular school hours or during school-sponsored activities have been convicted of any felony or any crime of moral turpitude.**

or

- ☐ **One or more individuals who will be providing services that require direct contact with students on school property during regular school hours or during school-sponsored activities has been convicted of a felony or crime of moral turpitude that is not set forth in the definition of “barrier crime” in Va. Code § 19.2-392.02(A) and does not involve the sexual molestation, physical or sexual abuse, or rape of a child. (In the case of a felony conviction meeting these criteria, the contractor must submit evidence that the Governor has restored the individual’s civil rights.).**

DocuSigned by:

David Alderslade

Signature of Authorized Representative

David Alderslade, CFO

Printed Name of Authorized Representative

Imagine Learning, Inc.

Printed Name of Vendor



COMMONWEALTH OF VIRGINIA

County of Henrico

DEPARTMENT OF FINANCE
Oscar Knott, CPP, CPPO, VCO
Purchasing Director

Addendum No. 1

Date: April 1, 2021
Request for Proposal: #21-2142-3EMF Digital Mathematics (PreK-12) Curriculum for Tier I, II and III
Receipt Date/Time: April 29, 2021; 2:00 p.m.
Subject: Numbered Tabs

Ladies/Gentlemen,
Please make the following corrections, deletions and/or additions to the above referenced RFP:

Sec.VIII.B. Items 6-14 Tabs are misnumbered. Corrected Tab numbers are as follows:

Item 6. Tab 5
Item 7. Tab 6
Item 8. Tab 7
Item 9. Tab 8
Item 10. Tab 9
Item 11. Tab 10
Item 12. Tab 11
Item 13. Tab 12
Item 14. Tab 13

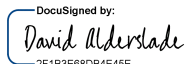
All other specifications and General Terms and Conditions shall remain the same.

Offerors must take due notice and be governed accordingly. Acknowledgement of the receipt of this addendum shall be made in your proposal.

Failure to acknowledge this addendum may result in your proposal being declared non-responsive.

Sincerely,
Eileen M. Falcone
Assistant Division Director
Fal51@henrico.us

ACKNOWLEDGEMENT:

Signature: 
Print Name: David Alderslade, CFO
Company: Imagine Learning, Inc.
Date: 4/27/2021



COMMONWEALTH OF VIRGINIA

County of Henrico

DEPARTMENT OF FINANCE
Oscar Knott, CPP, CPPO, VCO
Purchasing Director

Addendum No. 2

Date: April 16, 2021
Request for Proposal: #21-2142-3EMF Digital Mathematics (PreK-12) Curriculum for Tier I, II and III
Receipt Date/Time: April 29, 2021; 2:00 p.m.
Subject: Numbered Tabs

Ladies/Gentlemen,
Please make the following corrections, deletions and/or additions to the above referenced RFP:

Sec.VIII.B. Item 4 - Tab 3 Offeror Qualifications, Exception, Resumes and Financial Capacity.

Change to read. Offeror Qualifications, Experience, Resumes and Financial Capacity


All other specifications and General Terms and Conditions shall remain the same.

Offerors must take due notice and be governed accordingly. Acknowledgement of the receipt of this addendum shall be made in your proposal.

Failure to acknowledge this addendum may result in your proposal being declared non-responsive.

Sincerely,
Eileen M. Falcone
Assistant Division Director
Fal51@henrico.us

ACKNOWLEDGEMENT:

Signature: 
Print Name: David Alderslade, CFO
Company: Imagine Learning, Inc.
Date: 4/27/2021

Tab 2: Statement of the Scope

In this tab, Offerors, in concise terms, shall state their understanding of the Scope of Services requested by this RFP in Section II and III.

Narrative responses to the requirements of the Scope of Services are provided on the following pages.

Scope of Services

A. General Requirements

Students and their teachers who are enrolled at New Bridge Learning center should have access to any Division Wide purchases made at the K-12 (72 Schools) or Elementary (46 Schools) level at no additional cost. The Pre-K students at New Bridge Learning Center (150 each year) are housed at this location to accommodate overflow or lack of school space. The teachers and students exist as their own entity in PowerSchool and Clever but would need access to division level purchases and resources provisioned by their homeschool.

Students who are attending Virginia Randolph Education Center (VREC) and PACE should be included in any purchases made by the Academy of Virginia Randolph (AVR). This is our alternative school and all 3 schools reside in the same building, but are denoted as separate entities in PowerSchool and Clever.

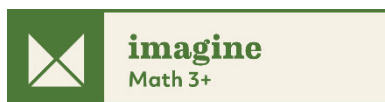
Imagine Learning agrees to these stipulations.

- 1. The proposed solution shall have the capability of content scaffolding to include a tiered approach and acceleration for students who need additional help with mathematics skills and those who need to demonstrate mathematics gains of one or more than one year.***

Imagine Learning's digital mathematical suite helps students establish deep understanding and unwavering confidence in their ability to communicate in the language of mathematics, making connections, building the aptitude to solve problems, and justifying reasoning both inside the classroom and in day-to-day life—which moves students beyond computation to real comprehension. These supplemental programs provide adaptive, age-appropriate learning environments for students in PreK–8.



Offers engaging, effective math instruction designed to help early learners learn and love math.



Builds conceptual understanding and problem-solving skills with the support of a live teacher.



Delivers math fact fluency within a fun, exciting game-based environment for elementary and middle school students.

Overview of Imagine Math

Imagine Math is an adaptive, web-based program that provides rigorous, personalized, and supplemental math curricula for students in grades PreK–8, algebra, geometry, and ACT/SAT preparation. Developed by educators, game designers, and technology developers, Imagine Math

delivers appropriately challenging content with the right combination of academic rigor and gamification to motivate and engage students.

The program focuses on helping emerging learners acquire the language of math and embrace problem solving. Imagine Math offers students of all levels a rigorous learning experience coupled with the following features, functionalities, and supports the following:

- Fun activities and games
- Adaptive algorithms that personalize content
- Ongoing assessments powered by the Quantile Framework
- A robust motivation system with extrinsic and intrinsic motivators
- Numerous supports that scaffold up to grade level content
- Live, bilingual, and certified math teachers who provide one-on-one intervention during and outside of school hours
- Imagine Math's content is closely aligned to national and state standards, including Virginia's SOLs, and has a proven record of success with state level programs in Texas, Idaho, Hawaii, Oklahoma, and the Utah STEM Action Center.

Age-Appropriate Learning Environments

Imagine Math contains two distinct, age-appropriate learning environments that cater to the unique needs of early and older learners respectively: Imagine Math PreK–2 and Imagine Math 3+.

- **Imagine Math PreK–2** provides content for grades PreK to 2 and is designed to build a lifelong love of math for early learners by linking problem solving to real-world context. With compelling graphics, lovable characters, and captivating storylines, the program is fun for young students. Imagine Math PreK–2 also develops understanding of key math topics through a combination of educational animations, math exercises, and detailed explanations.



Figure 1. Imagine Math PK-2—The program delivers age-appropriate math instruction on concepts with fun games and activities.

- **Imagine Math 3+** delivers content for grades 3 and up, including up to algebra, geometry, and ACT/SAT prep. The rigorous, standards-rich curriculum provides all students the essential foundations and conceptual understanding they need to confidently master grade-level standards, preparing for college and career. Lessons use a variety of models to enhance flexibility in understanding. Guided-learning tools, virtual manipulatives, and access to live, certified math teachers helps students gain independence in their learning.

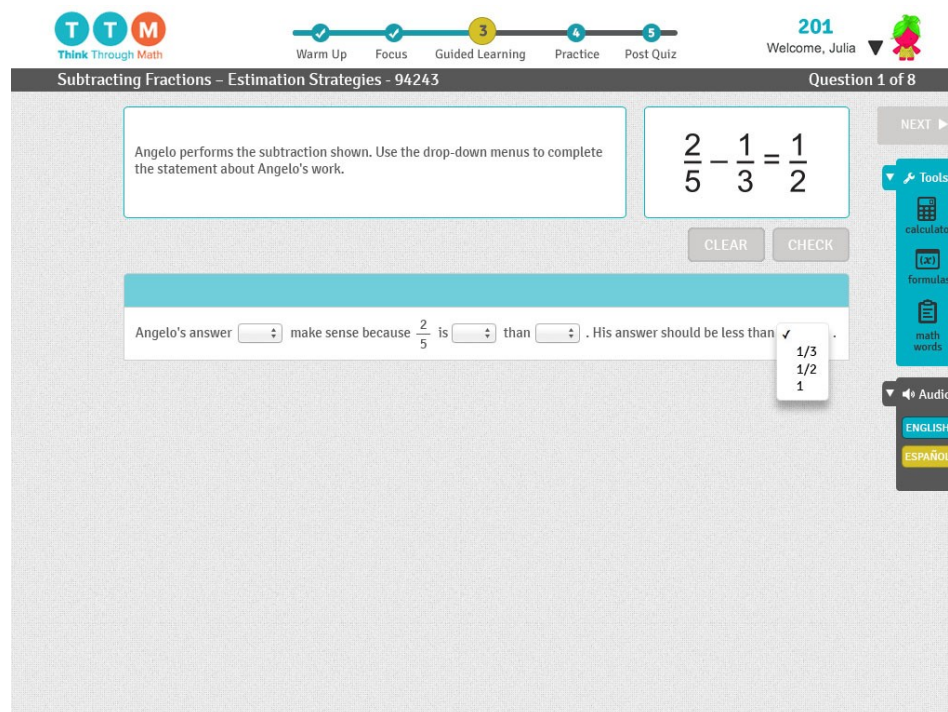


Figure 2. Imagine Math 3+—An example of a problem during the Guided Learning portion of a lesson.

Multi-Tiered Approach

Imagine Math supports a multi-tiered instructional approach as follows:

- **Tier 1:** Provides high-quality, personalized, adaptable, standards-aligned math instruction to all students, including English learners, striving readers, special education students and students with disabilities, and gifted students. Appropriate scaffolding, including remedial lessons to shore up incomplete learning, is provided to get students to work on grade-level content.
- **Tier 2:** Embedded assessments continually test a student's current level of understanding and adjust the learning pathway with additional instruction, scaffolding, practice, different modeling and examples, or review as needed to help get the student to pass grade-level lessons. First-language support is available in English and in Spanish. Additional resources are available, such as the optional built-in calculator (teachers can turn this off) and the online

glossary. Teachers can print and assign optional offline resources to provide additional practice or enrichment. Students who fail a lesson will show that in the reports so that the teacher is aware and can provide intervention if necessary. The program will also supply remedial lessons as needed.

- **Tier 3:** Students who continue to struggle can request assistance from a live, bilingual certified math teacher who provides intensive, one-on-one intervention in English and in Spanish. The live teacher employs problem-solving strategies to help the student gain a conceptual understanding, think through the problem, and discuss his or her thinking to identify misunderstandings. The program also predicts which students might need additional support from a live teacher, enabling proactive intervention.

Dashboards and reports also deliver actionable data to educators that can drive classroom teacher interventions. For example, reports summarize a student's or class's overall lesson pass rate and can help pinpoint the exact content or topics a student is struggling with and can recommend intervention activities. An on-demand library of printable resources, activities, and lesson plans can help the teacher provide additional personalized practice and support. Teachers can also create and assign optional customized learning pathways to individual students or to groups to provide even more curated instruction.

Imagine Math Serves All Student Populations

Imagine Math's personalized, adaptive learning paths continually adjust to provide instruction in the student's zone of proximal development. The program employs various scaffolds as need to help get students to grade-level content as quickly as possible. Details of some of these scaffolds and how they can help various student populations are provided below.

English Learners

Imagine Math provides unparalleled support for non-native English speakers. Students who are learning English do best when provided with scaffolds that support their learning. The program incorporates multiple means of support including visual, auditory, simple language, meaningful practice, and impeccable translations. The program supports ELs as well as every striving reader by providing consistently structured and carefully executed lessons.

Imagine Math PreK-2

- Full bilingual support—both text and audio—is available in English and in Spanish.
- The program introduces math vocabulary—which is spiraled into the lesson—in context.
- Text highlighting helps students follow along, develop reading skills, and focus on critical vocabulary.
- Repetition of words, instructions, and demonstrations helps keep students on task.
- Diverse representations of race are featured in characters.

Imagine Math 3+

- Audio support—which models fluent speaking and reading skills—is available in English and in Spanish. However, all text is in English.
- Glossary of math terms—available in English, Spanish, Tagalog, Haitian-Creole, Arabic, and Vietnamese—supports language acquisition by ensuring definitions, models, and problems are defined accurately and consistently. The glossary also includes visual supports and examples to build deeper levels of vocabulary knowledge.
- Correct and precise math vocabulary is introduced and reiterated.
- Journaling and offline application tasks provide additional practice with all four domains of language.
- Multicultural instructional content provides relevant content to students from diverse backgrounds.
- Student avatars feature diverse cultural and ethnic representations.
- Students can redeem their points to earn donations to multiple charities, which encourages students and classrooms to serve underprivileged communities.
- Live, certified teachers fluent in English and in Spanish provide critical one-on-one intervention.

Students with Disabilities

Appropriately paced, adaptive, and individualized, Imagine Math provides instruction at an appropriate level for all students without outwardly identifying students who require additional supports. Because the program allows students to move at their own pace and receive individualized instruction, Imagine Math is a great option for students with disabilities. Imagine Math maintains high expectations for all students and provides the support they need to succeed.

Imagine Math PreK–2 Supports for Cognitive Disabilities and Struggling Students

- Bilingual text and audio support, available in both English and Spanish.
- Math vocabulary is introduced in context and spiraled into the lesson.
- Text highlighting helps students follow along, develop reading skills, and focus on critical vocabulary.
- An intuitive drag-and-drop function helps students interact with the activities and tasks.
- Students can repeat lessons to help achieve mastery.
- Fun characters, songs, activities, and games keep students engaged.

Imagine Math 3+ Supports for Physical Disabilities

- Alternate descriptions exist for image-based assets.
- ALT tags are available for all application imagery.

- Semantic HTML ensures students can navigate content without a stylesheet or with text-only browsers, such as screen readers. Elements also include functional text descriptions to identify themselves.
- Compatibility with computer zoom/magnification and text-to-speech functions.
- Synchronized text and audio fallback for any animation elements.
- Program does not override browser specifications for stylesheets, nor does it rely on color alone to make any selections in the application.
- Browser plugins are not required.
- Supports accessibility features native to web browsers and devices.

Imagine Math 3+ Supports for Cognitive Disabilities and Struggling Learners

- Live, certified teachers fluent in English and Spanish provide critical one-on-one intervention.
- Students work at their own pace in their own personalized, adaptive learning pathway.
- Audio support is available in English and Spanish.
- Strong visuals and multiple models are used.
- Questions can be repeated.
- Custom pathways using the student's IEP with teacher and parent input can provide specialized instruction in specific areas and at the specific levels of rigor appropriate for the student.

Gifted/Talented Students

Because Imagine Math delivers curriculum in a personalized, adaptive learning pathway, the program meets students in their zone of proximal development to ensure they are appropriately challenged. The program accelerates students who are working above grade level. Students who already have demonstrated mastery over a concept can test out of lessons and move on to the next. The Imagine Math PreK–2 curriculum is rigorous, with a myriad of lessons per grade level to ensure plenty of challenging content for advanced students. In Imagine Math 3–8, teachers can assign advanced students to more rigorous learning paths at any time to ensure they are challenged and excited about math. Imagine Math 3–8's motivation system also keeps students excited. Students who excel can earn more points to redeem and can earn a higher score on the leaderboards.

Overview of Imagine Math Facts

As a value-add to this contract, Imagine Learning also proposes Imagine Math Facts, which is a standards-aligned digital core math facts fluency program that caters to elementary and early middle school grades. Imagine Math Facts helps students achieve the following milestones.

- Automatic recall of single-digit addition and subtraction facts by the end of second grade
- Automatic recall of multiplication and division facts by the end of third grade

This automaticity frees up working memory, allowing students to focus on learning higher order math concepts.



Figure 3. Imagine Math Facts. The program provides elementary students with dynamic games, ensuring students can automatically recall addition, subtraction, multiplication, and division facts.

Imagine Math Facts takes place in an engaging, rich, 3-D environment that simulates a video game. The program begins with an assessment of addition and subtraction within 20 as well as multiplication and division within 10. The program asks students each single-digit operation question and evaluates their responses for both speed and accuracy. Once students complete the initial assessment, the program automatically creates and constantly updates a curriculum for each student to improve their math skills in the targeted area. The program also initially assesses and regularly updates typing speed in order to separate recall speed from total response time.

Imagine Math Facts monitors student performance and adapts to the immediate, evolving needs of each student. The program is engaging and presents facts students must learn for mathematical success, beginning with the initial assessment and continuing through ongoing assessments as students play the game. These adaptations include the following actions:

- Continually calculating which facts a student needs to master
- Slowing down or speeding up to match student capabilities
- Regularly determining which facts need further review for long-term retention

The program will single-handedly carry students towards complete mastery of each fact in a highly motivating environment. Zero teacher involvement is required.

Imagine Math Facts provides the exact level of intervention each student needs, regardless of grade level or whether the student requires more instruction or less. Additionally, the program does not limit students to learning only facts necessary for grade-level proficiency, but also provides advanced students with above grade-level material—ensuring all students remain engaged and challenged.

Imagine Math Facts assesses and reports student effort and achievement throughout the program, updating which facts a student has learned, how well they have learned it, and how thoroughly they have developed long-term retention of each fact. The program regularly provides this feedback to students, both instantly as they are working on individual problems and comprehensively as they progress through various levels of mastery.

Multi-Tiered Approach

Imagine Math Facts supports a multi-tiered instructional approach as follows:

- **Tier 1:** Provides high-quality, personalized, adaptable, core math facts fluency instruction and practice to help students gain automatic recall of single-digit addition and subtraction facts by the end of second grade and automatic recall of multiplication and division facts by the end of third grade. This automaticity frees up working memory, allowing students to focus on learning higher order math concepts. Mastery of math facts is essential for success in more advanced math classes, so all math students should use this program.
- **Tier 2:** Initial and continual embedded assessments provide a personalized learning path that adapts to the needs of the student. The program continually calculates which facts a student needs to master, adjusts the time the student has to answer a question, speeding up or slowing down to match student capabilities, and regularly determines which facts need further review for long-term retention. Students are assessed on speed and accuracy. Students who continue to struggle will receive a slower cadence and as much practice and review as needed to truly master the operations. The program will single-handedly carry students towards complete mastery of each fact in a highly motivating environment. Zero teacher involvement is required. Tier II and Tier III math students who are using Imagine Math or otherwise should spend time in Imagine Math Facts to gain mastery of the math operations. Automatic recall of basic math facts frees up working memory and is crucial for success in higher-level math work.
- **Tier 3:** Most students, even those with physical or cognitive disabilities, successfully complete Imagine Math Facts when using the program with fidelity. Still, for students who continue to struggle, the program will continue to provide a personalized learning path according to the needs and capabilities of the student. Students must master groups of math facts in order to move on, so if they continue to struggle, the program will continue to present unmastered math facts for review. Since the program simulates a video game, students stay engaged and motivated to endure and keep trying. Teachers can also provide additional support to Tier 3 students by observing the student working in the program and offering guidance and support, or by providing additional resources as needed.

Imagine Math Facts Serves All Students

Imagine Math Facts can serve all students because it is a very simple program that focuses exclusively on mastery and automatic recall of basic math facts. Students simply use a keyboard and mouse (or appropriate equivalent on a supported device) to respond to a series of basic math problems (i.e. 2×2) in the context of a character exploring a vibrant, 3-D world. There is no other language present. Students of all populations, including English Learners, can use the program because it is intuitive and easy. Due to its simplicity and excitement, Imagine Math Facts is particularly effective for SPED and for students with disabilities. The adaptive nature of the program also keeps talented/gifted students motivated by allowing them to work at their own pace. Students who complete all four operations (addition, subtraction, multiplication, and division) with a score of at least 95% in each unlock **Ninja Mode**, which allows them to replay the game for fun at much higher difficulty levels.

2. ***The Successful Offeror(s) shall provide a solution where the digital content can be created with an Internet consumer in mind rather than a traditional textbook consumer. Therefore, the content must be rich in multimedia, interactive in nature and sufficiently compelling to lead the student in a self-directed manner.***

Imagine Learning's educational software programs are highly engaging and designed with the best very research in game theory and pedagogy in mind. Students receive explicit, targeted instruction contextualized by fun games, characters, stories, videos, animations, songs, chants, and other activities. Additionally, the programs engage students with a powerful blend of extrinsic and intrinsic motivators as described below.

Imagine Math PreK-2

In Imagine Math PreK-2, learning takes place in a fun storybook environment. Students interact with lovable characters—including girls, boys, adults, and animals—who together explore math by completing tasks that are part of lesson stories. The learning is safe, nonjudgmental, emotionally positive, and rewarding. Each lesson is about 15–20 minutes, and there are 90–120 lessons per grade level.



Figure 4. Lovable Characters. Imagine Math PreK-2 delivers instruction using lovable characters, engaging students in a safe environment.

Imagine Math PreK–2 is incredibly engaging for students and brings math to life. Lessons connect abstract concepts to the real world. Students have curated choices from the home page where they can discover math all around them, choosing which carnival games to visit, for example. Determination and resiliency are fostered as students can choose to revisit lessons to earn missing badges and songs.

Imagine Math 3+

Student engagement is critical to learning; therefore, Imagine Math 3+ motivates students with a powerful blend of intrinsic and extrinsic motivators. Interactive games integrate with lessons and prime students for learning, prompting them to recall previously learned concepts and preparing students for new material. As students complete their work, they earn points students can redeem to customize their digital avatars and workspaces, toward meeting classroom goals and prizes, and even for cash donations to charities. The digital avatars can be customized in a variety of ways to reflect the student’s identity and interests. Students earn more points by answering questions correctly on the first try and scoring well on quizzes, which encourages them to do their best. Points are never deducted for answering incorrectly or asking for help. By rewarding perseverance, Imagine Math 3+ promotes a healthy mindset toward math and builds the skills necessary for algebra and beyond.

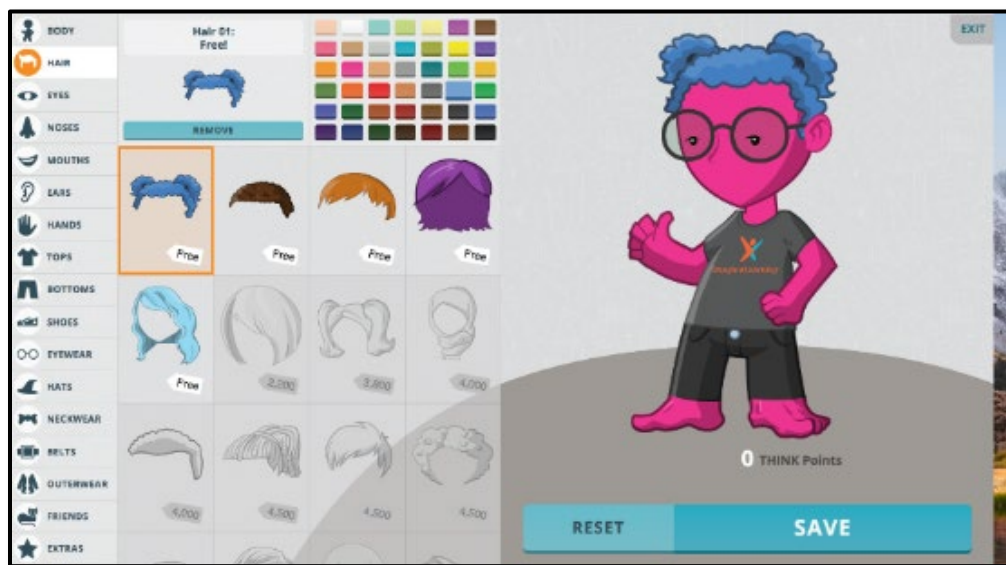


Figure 5. Avatars. Students earn points as they complete their Imagine Math 3+ lessons. Students can choose to redeem these points to customize their program avatars.

Imagine Math Facts

Imagine Math Facts helps students learn and master automatic recall of single-digit addition, subtraction, multiplication, and division operations. Students work in the context of a rich, inviting 3D world that feels and plays like a video game. When students first login, they select a character avatar and can choose the character’s gender. Through this character, the student traverses a vibrant world, overcoming obstacles and defeating “enemies” by answering basic fact fluency questions. When students are not directly answering questions, they can explore the world. The program provides a variety of interesting environments, from lush forests, to desert mountains, to industrial castles.

As students progress, they will encounter evaluative and summative checkpoints to assess their understanding in the form of boss stages. Therefore, students don't perceive themselves as doing homework or taking a test but instead feel as if they were playing a video game.



Figure 6. Imagine Math Facts. The program provides elementary students with dynamic games, ensuring students can automatically recall addition, subtraction, multiplication, and division facts.

- Intervention materials shall be systematic and simple in design, addressing one or more of the selected areas of mathematics (number and number sense, computational fluency, problem solving) and support a variety of instructional settings.***

Imagine Learning's content provides explicit, systemic, grade-level math instruction with appropriate scaffolding based on the best research. Lessons follow simple, yet effective, designs and are thoroughly tested.

Imagine Math Instruction

At Imagine Learning, we use an asset-based lens that maintains high expectations of students. We recognize that students come to us with powerful cultural and experiential assets that can help them succeed with grade-level content. The goal of our programs is to provide adaptive, rigorous, grade-level math instruction and appropriate scaffolding to get students up to grade-level content. Imagine Math uses a data-driven, gradual release model to deliver supplemental math content in a personalized, adaptive learning pathway. Upon login, students take a placement test to build an initial learning pathway. Benchmark and formative assessments continually monitor student mastery and adjust the pathways to meet students in their zone of proximal development in real-time, providing appropriately rigorous content every time they log in.

Imagine Math PreK-2

In Imagine Math PreK-2, learning takes place in a fun storybook environment. Students interact with lovable characters—including girls, boys, adults, and animals—who together explore math by completing tasks that are part of lesson stories. The learning is safe, nonjudgmental, emotionally positive, and rewarding. Each lesson is about 15–20 minutes, and there are 90–120 lessons per grade level.



Figure 7. Lovable Characters. Imagine Math PreK-2 delivers instruction using lovable characters, engaging students in a safe environment.

Lessons begin with concrete, real-world examples that include many common classroom and household items. Characters introduce new math vocabulary in context, work with students on activities to learn the concept, and then spiral the vocabulary back into the lesson. Topics covered include the following:

- Counting and cardinality
- Numbers and operations
- Geometry
- Logical reasoning
- Measurement and data
- Algebraic thinking
- Word problems, focusing on real world applications



Figure 8. Foundational Skills. Imagine Math PreK-2 teaches early learners the foundational skills they need.

Imagine Math PreK-2 provides students with immediate correct feedback. If a student answers correctly on the first try, the program will present the next exercise or problem. An incorrect answer sends a student down a different path that includes more demonstration and scaffolded support to bolster understanding. Students who answer a question incorrectly are invited to review the mistake and try again; however, there is no buzzer sound or negative feedback. The program automatically recognizes if a student continues to struggle and provides appropriate scaffolding, including text highlighting, repetition of words and instructions, and dual language support. If the student continues to struggle, Imagine Math PreK-2 notifies the teacher, who is encouraged to work with the student

individually. This research-based design leads to increased student engagement while reinforcing the skills and strategies the student is learning. This is a main differentiator of the program—all students see all activities, but some receive more support on an as-needed basis.

Imagine Math PreK–2 is incredibly engaging for students and brings math to life. Lessons connect abstract concepts to the real world. Students have curated choices from the home page where they can discover math all around them, choosing which carnival games to visit, for example. Determination and resiliency are fostered as students can choose to revisit lessons to earn missing badges and songs.

Imagine Math 3+

In Imagine Math 3+, instruction takes place in a language-rich learning environment that emphasizes the problem-solving process. The rigorous supplemental math curriculum adapts to the unique needs of each student. Lessons contain a variety of models and representations, empowering students to gain a deeper and flexible understanding of critical concepts. Each lesson lasts about 30–45 minutes. The program contains dozens of grade-level learning pathways from grade three up to algebra and geometry, and each pathway contains dozens of lessons. Imagine Math 3+ is fully or mostly aligned to multiple national and state standards, Virginia’s SOLs, and the standards of the Council of the Great City Schools (CGCS).

Each lesson builds math vocabulary, provides instruction and practice, fosters a growth mindset, and contains the following elements:

- **Pre-quiz.** Students embark on an animated or interactive lesson, which introduces the new skill and provides a "modeling" phase.
- **Warm up.** Students activate prior knowledge, practice with pre-cursor skills, and see those skills as connected to the lesson. Students also receive immediate, corrective feedback in the warm up.
- **Guided learning.** Students receive modeling and begin working towards the mastery of a concept through an interactive lesson with immediate access to help.
- **Practice.** Students practice applying their new understanding and receive immediate corrective feedback.
- **Post-quiz.** Students demonstrate their mastery of the concept and acquired knowledge to move on to their next lesson.

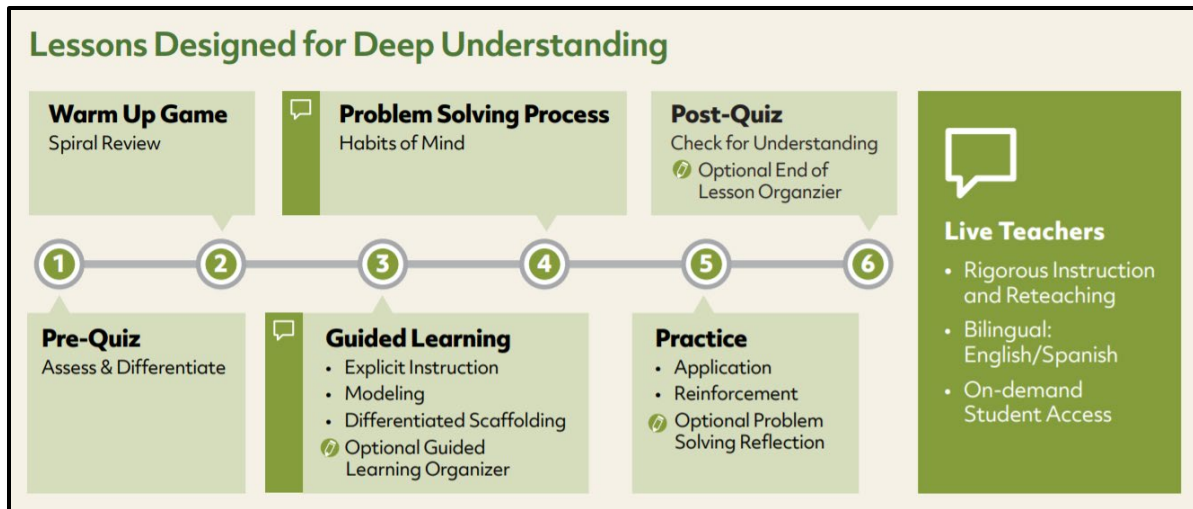


Figure 9. Imagine Math 3+. Every Imagine Math 3+ lesson is comprised of the same components, including pre-quiz, warm up, guided learning, practices, post-quiz.

Live Teachers

Imagine Math 3+ allows students to work through their adaptive learning paths independently and differentiates and personalizes feedback through a combination of mathematically focused, immediate corrective feedback, and access to a team of live, certified, classroom-experienced, and bilingual U.S. math teachers.

Imagine Math provides three levels of feedback to every student as they work through a lesson:

- **Level 1** provides visual guidance and instructional support drawn from teacher, tutor, and intervention best practices. Imagine Learning believes feedback only addressing correctness can harm students, reinforcing fixed mindset beliefs and contributing to a perception that mathematics is rigid and boring. Imagine Math promotes student engagement and fosters an interest in mathematics.

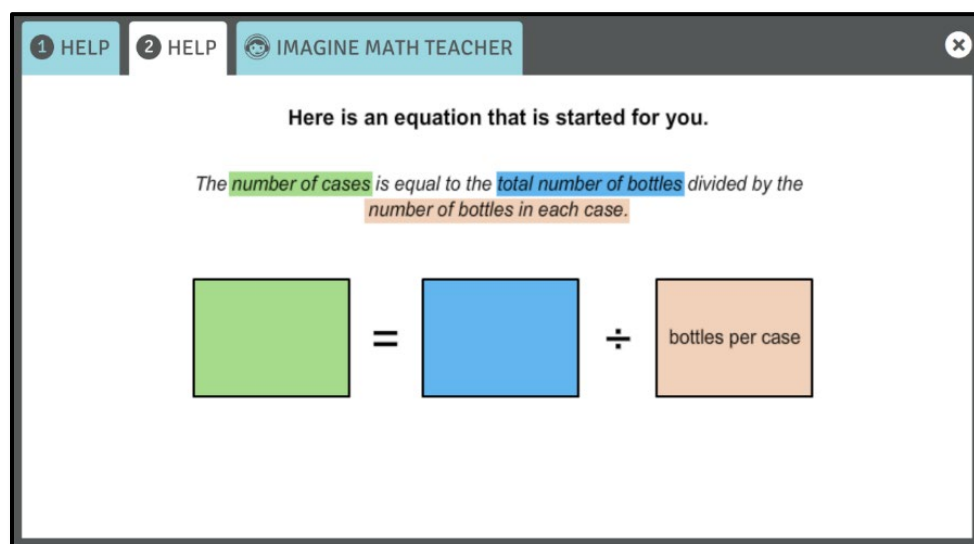


Figure 10. Visual Feedback. Imagine Math provides visual and positive feedback to students, fostering a positive learning environment and encouraging students to think through a problem differently.

- **Level 2** provides one-on-one instruction with a live, certified teacher in English or Spanish. Research shows that understanding breaks down during the acquisition phase of learning. In Imagine Math 3+, students can connect—via live chat or phone—with a teacher in just a few seconds. The live teacher can view the student's performance profile, ensuring live teachers understand the concepts with which students are struggling and the work that has led to the point of intervention.

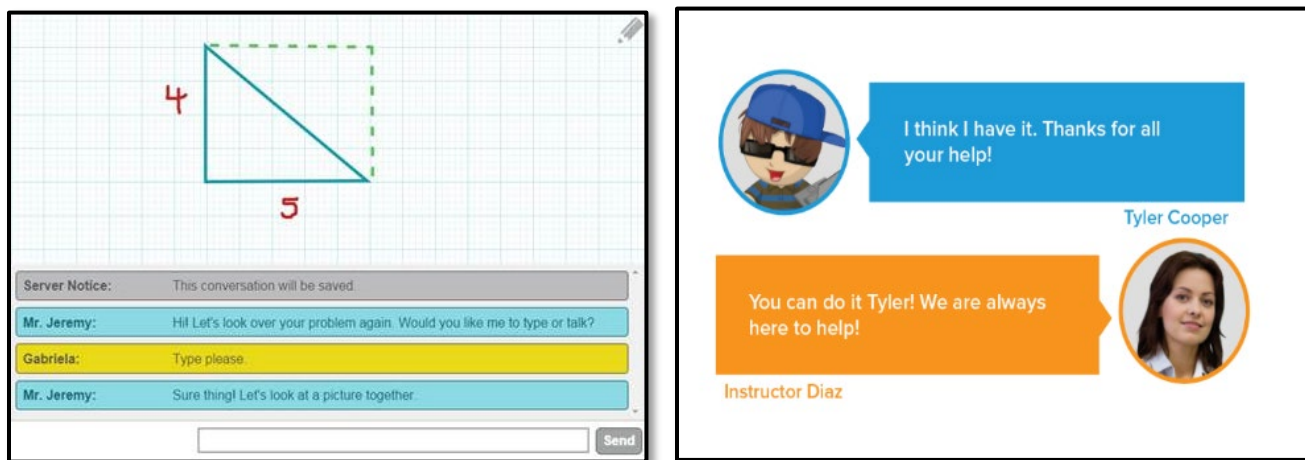


Figure 11. Live Teacher Support. Students can contact live teachers throughout Imagine Math, ensuring students receive the individualized instruction necessary for effective intervention.

- **Level 3** allows teachers to work in an interactive whiteboard environment that combines voice, text, and drawing capabilities. Here, Imagine Math 3+ teachers work one-on-one with a student, demonstrating multiple representations of the problem in an effort to build on prior student knowledge. These sessions typically last around five minutes. Once the Imagine Math 3+ teacher is comfortable that the student understands the concept, the teacher ends the session and the student returns to their Imagine Math 3+ lessons to work independently. The program documents live teacher feedback in the Activity Feed, which classroom teachers can monitor.

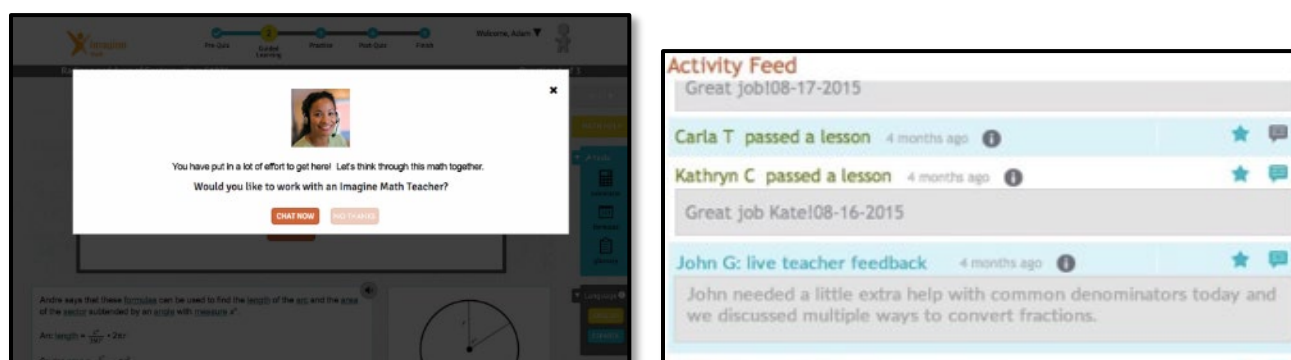


Figure 12. Teacher Whiteboards. Imagine Math features an innovative whiteboard feature in which students can interact with live teachers who demonstrate the problem solving skills with which students are struggling via a virtual whiteboard.

Live teachers are available according to the table below.

| Day | Time |
|-------------------|-----------------------|
| Monday – Thursday | 7:30 a.m. – 9:30 p.m. |
| Friday | 7:30 a.m. – 6:30 p.m. |
| Saturday | 9:00 a.m. – 1:00 p.m. |
| Sunday | 5:30 p.m. – 9:30 p.m. |

Supplemental Resources

Printable offline Application Tasks—created in consultation with the Council of the Great City Schools—provide additional practice and allow students to work individually and in groups to solve multi-step, complex, interdisciplinary problems that build confidence and preparation for high-stakes assessments and STEM work. The program provides full lesson plan instructions for teachers.

APPLICATION TASK: Create 3-D Mythology Figurines

Goal
Use ratios to reason about creating figurines with a 3-D printer.

Language Objective
Use models and mathematical language to explain possible solutions to real-world problems that involve ratio reasoning.

Why Use Ratio Reasoning to Understand 3-D Printing?
Ratio reasoning can help you determine how many items to print and how much printing filament you will need, as well as help you convert measurement units.

Essential Question How can you use ratio reasoning to solve real-world problems?

In this task, you are using a 3-D printer to create figurines based on myths from different cultures. You will develop two plans to print the silver figurine parts for between 1 and 3 figurines of each type.

Constraints:

- Each figurine part uses 1 yard of plastic printing filament.
- Use as much of the 100 feet of silver filament as possible.
- Print as many figurines as possible.

CONDOR (Incan)
Condor rules the wind, the clouds, and the sky.
For every 1 tail, there are 2 wings.

COYOTE (Native American)
Coyote is a trickster hero.
For every 1 head, there are 4 legs.

HONG (Chinese)
Hong is a rainbow dragon.
For every 2 heads, there is 1 tail.

CERBERUS (Greek)
Cerberus is the hound who guards the Underworld.
For every 3 heads, there are 4 legs.

Did You Know? Biodegradable plastic filament is being developed for 3-D printing.

100 feet

The parts shown will be printed in silver. You have 100 feet of silver filament. In each plan, try to use as much of the silver filament and print as many figurines as possible.

SAMPLE PLAN

| Figurine | # of Figurines | Total Parts | Filament Needed (yd) | Filament Needed (ft) |
|----------|----------------|-------------|----------------------|----------------------|
| Condor | 2 | 6 | 6 | $6 \times 3 = 18$ |
| Coyote | 2 | 10 | 10 | $10 \times 3 = 30$ |
| Hong | 1 | 3 | 3 | $3 \times 3 = 9$ |
| Cerberus | 2 | 14 | 14 | $14 \times 3 = 42$ |
| Totals | 7 | 33 | 33 | $= 99$ |

| Total Number of Figurines | Silver Filament Used (ft) | Silver Filament Remaining (ft) |
|---------------------------|---------------------------|--------------------------------|
| 7 | 99 | 1 |

Create 3-D Mythology Figurines

LESSON OBJECTIVE Students will use ratios to determine how many figurines can be made and how much printing filament is needed.

LANGUAGE OBJECTIVES Students will use models and mathematical language to explain possible solutions to real-world problems that involve ratio reasoning.

PREREQUISITE SKILLS Students understand ratios and use ratio language to describe relationships between two quantities.

Teachers can use the Imagine Math Standards Report and the Benchmark Performance Level Report to evaluate student readiness to complete this task.

COLLEGE AND CAREER READINESS STANDARDS FOR MATHEMATICS 6.RP.A.3.A

CCSS MATH 6.RP.A.1, 6.RP.A.3.A **TEKS MATH** 6.4.B, 6.4.C **OSC** 258, 551, 654

Teacher Preparation

LESSON OVERVIEW Students develop plans to print 3-D figurines by using ratios to analyze relationships between parts of the figurines, convert measurement units, and determine how many figurines they can create with a given length of printing filament. They use bar models to check their answers.

Understand Science Background
In just a few years, 3-D printing has evolved from an expensive novelty into an affordable industrial standard. Manufacturing processes have been revolutionized, with more than one-third of US companies projected to be using 3-D printing by 2021.
The process used in 3-D printing is known as additive manufacturing. Each object produced by a 3-D printer is created layer by layer, with the ability to produce products in the same way that different

Collaborate: Work with history, literacy, and art teachers to explore opportunities to expand cross-curricular experiences for students.

The exciting reality for 3-D printing is that the revolution is just beginning. Not only are costs decreasing for printers themselves, but innovations in printable materials are opening doors to a new range of applications that have never been explored. Printable concrete and steel are bringing big changes to the construction industry. Carbon

MATERIALS

- Color tiles
- Vocabulary Knowledge Rating Sheet

Figure 13. Application Tasks. Imagine Math 3+ provides offline activities to reinforce mathematical concepts using real-world situations. Many of these activities are also STEM-related.

Imagine Math 3+ also includes journaling prompts, empowering students to articulate and refine their own thinking, focus on real-life applications, and document their growth and progress. The program includes printable journal templates teachers can use. Lessons include journaling prompts, allowing students to engage in metacognition.

End of Lesson Organizer – Example

Lesson: Relating Factors and Multiples II Passed ☒ Not Passed ☐

Directions: Reflect on the lesson. Use linking words and phrases in your responses.

| | |
|--|--|
| <p>1. Math Words and Phrases Write at least one important math vocabulary word or phrase that was used in this lesson. For each word or phrase, write the definition in your own words and draw a visual representation.</p> <p>Factor: Pair: Two whole numbers that you can multiply together to get another number. One factor pair of 42 is 6 and 7.</p> <div style="text-align: center;"> $\begin{array}{c} 42 \\ 6 \times 7 \end{array}$ </div> <p>Composite number: A number with more than two factors. 15 is a composite number.</p> <div style="text-align: center;"> $\begin{array}{r} 15 \\ 3 \overline{) 15} \\ 15 \\ \hline 0 \end{array}$ </div> <p>Multiple: Any number you get when you skip-count by a certain number. Here are the first six multiples of 8: 8, 16, 24, 32, 40, 48</p> | <p>2. Problem-Solving Strategies Write at least one strategy that you used in this lesson and describe how you used it.</p> <p>Two problem-solving strategies I used in this lesson were Making a Chart or Organized List and Guess and Check.</p> <p>Whenever I had to find the factors of a number, I first wrote it down in a T-chart. Then I tried dividing the other numbers into it, starting with 2 and working up. The numbers that divided evenly I circled in my chart as factors.</p> <p>Whenever I had to find the multiples of a number, I skip-counted by that number and wrote them down in an organized list.</p> <p>On some problems I had to find the answer that was both a factor of one number and a multiple of another, so I checked each answer choice to see if it was in my chart and list.</p> |
| <p>3. Growth Write about something mathematical that you learned, perhaps from a mistake you made, that you could apply to future problems.</p> | <p>4. Continued Learning Write about questions you still have or something you want to learn more about.</p> |

Guided Learning Organizer – Example

Lesson: Adding and Subtracting Fractions with Like Denominators Items: 4091

Directions: Write down at least one important skill in the corresponding box from each Math Help provided in the Guided Learning Activity. You may also include the visual to help solve the problem. Use the bottom boxes to show your work and write the Imagine Math corrective feedback.




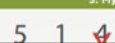

| | |
|--|--|
| <p>1. Help One</p> <div style="text-align: center;">  </div> <p>$\frac{3}{4} > \text{same}$ $= 1 \text{ whole}$</p> | <p>2. Help Two</p> <div style="text-align: center;">  </div> <p>$\frac{2}{3} = \frac{8}{8} = 1$</p> <div style="text-align: center;">  </div> <p>$\frac{n}{d} > \text{same} = 1 \text{ whole}$</p> |
| <p>3. My Work</p> <div style="text-align: center;">  </div> | <p>4. THINK</p> <div style="text-align: center;">  </div> |

Figure 14. Math Journals. Imagine Math 3+ provides journal templates that help students organize their work and reflect on their problem solving strategies, helping classroom teachers monitor student understanding beyond answering a question correctly.

Imagine Math Facts

Instructional Philosophy

Imagine Math Facts has two approaches to game-based learning:

- If a game is entertaining enough, kids will find a way to play it.
- For a game to become particularly effective, the program must include built-in assessment—ensuring children walk away with total mastery.

These two approaches require finding the best pedagogy, and then capitalizing on the limitless possibilities artificial intelligence and virtual worlds can offer. The Imagine Math Facts program is highly engaging and is therefore extremely effective. The program motivates students to answer questions correctly, overcoming obstacles and defeating monsters.

Instruction

Before Imagine Math Facts adds a new fact to the question rotation, the student goes through a comprehension stage in which the program introduces the fact. In addition and subtraction, that comprehension stage is simply dots that float above the question that either add themselves together—addition—or destroy each other—subtraction. In multiplication and division, the comprehension stage is much broader.



Figure 15. Vibrant World. Student practice math facts by exploring a rich, vibrant world in a 3-D environment with many different landscapes and characters.

Students progress to a mini-boss stage after the comprehension stage, in which the program times student responses to a grouping of three facts. If the student misses a question, the current mini-boss session—set of three questions—resets, the time they have to answer questions increases, and the question they missed becomes a comprehension question—i.e., the question is untimed. In addition and subtraction, the dot animations repeat. After the student answers the question correctly untimed, they attempt the grouping of three timed facts again.

Imagine Math Facts monitors student performance and adapts to the immediate, evolving needs of each student—beginning with the initial assessment and continuing through constant assessments as students play the game. These adaptations include calculating which facts a student needs to learn and how much they need to learn them, slowing down or speeding up to match student capabilities, and regularly determining which facts need further review for long-term retention.

Imagine Math Facts connects conceptual and procedural fact recall, reinforcing conceptual understanding of more complex mathematical topics. Students learn the concept of addition and subtraction in Imagine Math PreK–2 and multiplication and division in Imagine Math 3+. Students can then practice these concepts to reach fact fluency in Imagine Math Facts.

Flexible Implementation Scenarios

Imagine Learning’s math programs support student learning as a key piece of a blending learning environment. Its flexibility and ease-of-use enable teachers to deliver instruction in a variety of ways with minimal effort. The access of live, certified, bilingual math teachers in Imagine Math is a huge advantage to help support students working remotely. The program can be implemented in the following scenarios:

- **In-Class Rotation** uses both print and digital activities to enhance classroom instruction using multiple stations, allowing students to rotate from station to station on a fixed schedule.
- **Computer Lab Rotation** empowers teachers to schedule instruction in a school computer lab, ensuring all classes receive individualized instruction within a predetermined timeframe.

- **Whole Class Instruction** uses the program to preview or review a lesson from the core program. If several students need intervention on a skill, project, or corresponding lesson, the whole class can review the concept.
- **Before/After School Instruction** allows students to arrive at school early or stay late to receive additional math instruction on devices or computers. Because the program is web-based and accessible from common devices and browsers, students can also access the same online materials at home.
- **Device Rotation** serves schools where devices and workstations are limited or shared, moving laptops or tablets from class to class. Teachers can do one-on-one, small-group, or whole-class instruction.
- **Summer School** gives students the opportunity to access technology for learning outside traditional school hours. Students can come to school or access the program from their own devices at home.

Additionally, the programs can support in-person, hybrid, and virtual implementation models, as described on the following pages.



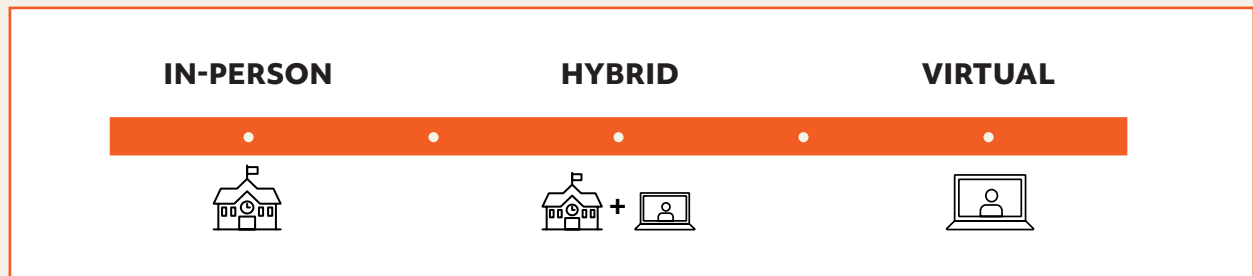
imagine
Language & Literacy

Flexible Implementation

for Your District Learning Plan

Whatever form school may take this fall, Imagine Learning is here to help. Including resources for both online and offline learning, Imagine Language & Literacy can support in-person, hybrid, and virtual implementation models.

Support for a Continuum of Learning Models



Usage Recommendations

| Grade | Minutes per Session | Sessions per Week |
|--------|---------------------|--|
| PreK-K | 15 minutes | Students performing at or above grade level: 2 sessions Students performing below grade level: 3 sessions |
| 1-2 | 20 minutes | |
| 3-5 | 25 minutes | |

Your dedicated Customer Success Manager will work with you to create a plan to meet your district goals and learning model.

In-person Learning Model: *Sample weekly schedule*

Students physically attend school for five days a week.

| Monday | Tuesday | Wednesday | Thursday | Friday |
|---|--------------------------------|---|--------------------------------|---|
| 20-minute center rotations: <ul style="list-style-type: none">• Independent learning• Small-group instruction | Whole-class instruction | 20-minute center rotations: <ul style="list-style-type: none">• Independent learning• Small-group instruction | Whole-class instruction | 20-minute center rotations: <ul style="list-style-type: none">• Independent learning• Small-group instruction |

Hybrid Learning Model: Sample weekly schedule

Students physically attend school for part of the week and do additional learning in a virtual environment.

| | Monday | Tuesday | Wednesday | Thursday | Friday |
|-----------|--|-------------------------|-------------------------------|--|--|
| In-person | 20-minute center rotations: <ul style="list-style-type: none"> • Independent learning • Small-group instruction | Whole-class instruction | | | 20-minute center rotations: <ul style="list-style-type: none"> • Independent learning • Small-group instruction |
| Virtual | | | 20 minutes in Student program | Whole-class instruction via web conference | |

Virtual Learning Model: Sample weekly schedule

Students learn in a virtual environment and communicate with their teacher through video conferencing.

| | Monday | Tuesday | Wednesday | Thursday | Friday |
|----------------|---|--|-------------------------------|---|---|
| Student-driven | 20 minutes in Student Program | | 20 minutes in Student Program | 20 minutes with offline print materials | 20 minutes in Student Program |
| Teacher-led | 20 minutes small-group instruction via web conference | Small-group or whole-class instruction | 20 minutes in Student Program | | 20 minutes small-group instruction via web conference |

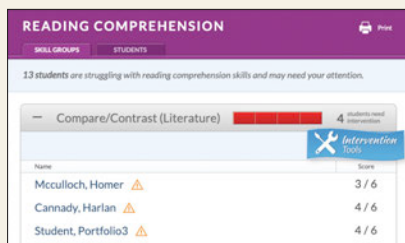
Resources for Flexible Implementation

In addition to the online student program, Imagine Language & Literacy includes a variety of resources that fit flexibly into in-person, hybrid, and virtual learning models. Teachers can leverage a blend of digital and offline instructional resources to fit student needs and district implementation scenarios.

Online Learning

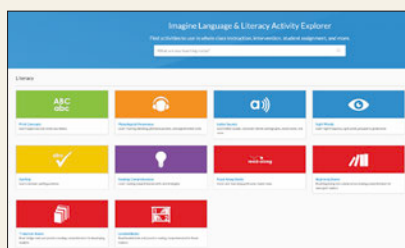
Action Areas Tool

The Action Areas Tool groups students with similar needs together and provides targeted resources for small-group or one-on-one intervention.



Activity Explorer

Teachers can use digital activities for whole-class instruction, intervention, and individual student assignments. From segmenting phonemes to citing text evidence, Activity Explorer addresses a wide variety of reading and English language arts skills and concepts.



Playlists

Teachers can create custom playlists of activities based on identified instructional needs. Combine instruction, practice, and assessment activities to help students master critical language and literacy skills.

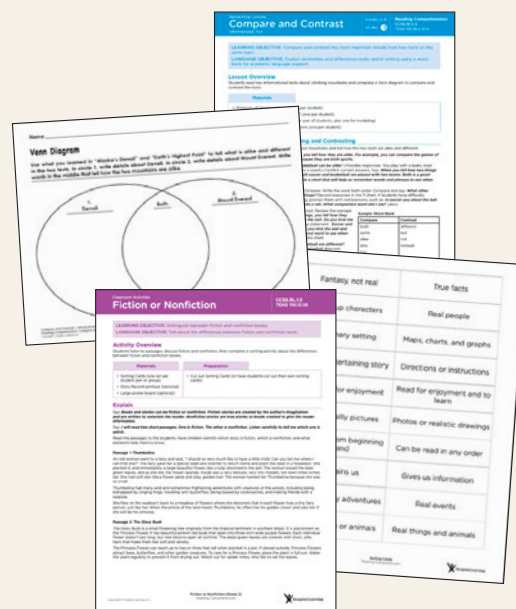
Offline Learning

Reteaching Lesson Plans

Just-right resources empower teachers to deliver differentiated instruction. These scripted lesson plans address skills ranging from phoneme segmentation to comparing and contrasting texts.

Classroom Activities

Reinforce and extend students' independent learning with creative, kinesthetic, and social activities. Appropriate for individual students or small groups, classroom activities help students build automaticity in an offline environment.



4. ***Instructional materials for students receiving intervention shall include lessons and activities covering an appropriate range of mathematics skills, are age appropriate, include engaging tasks of high interest, build upon conceptual understanding, and support/remediate basic skills in an adaptive manner. The materials provided shall be digital or blended format.***

Imagine Math and Imagine Math Facts are digital math program that provide supplemental, engaging, age-appropriate math instruction in a blended learning format. Please see the responses above for more information on the content provided. Information about the programs' assessments is provided below.

Assessments: Imagine Math

Imagine Math's system begins with a computer-based adaptive assessment that screens math learners and places them appropriately in the program. The goal of the Imagine Math placement test is to determine students' readiness for math instruction. The system also identifies the necessary precursor lessons a student should take before confronting each of the grade-level lessons of his or her assigned pathway. The assessment adapts to student's responses. Once a student begins the test, questions get easier or more difficult according to performance. Lower-achieving students experience less test-taking anxiety and fatigue because questions are closely aligned to their math ability.

In addition to the initial placement assessment, two additional benchmark assessments are embedded in Imagine Math. Testing intervals provide ample time for students to demonstrate math gains on the assessment. The Imagine Math benchmark assessments are designed to allow for a flexible test administration at any time within the school year.

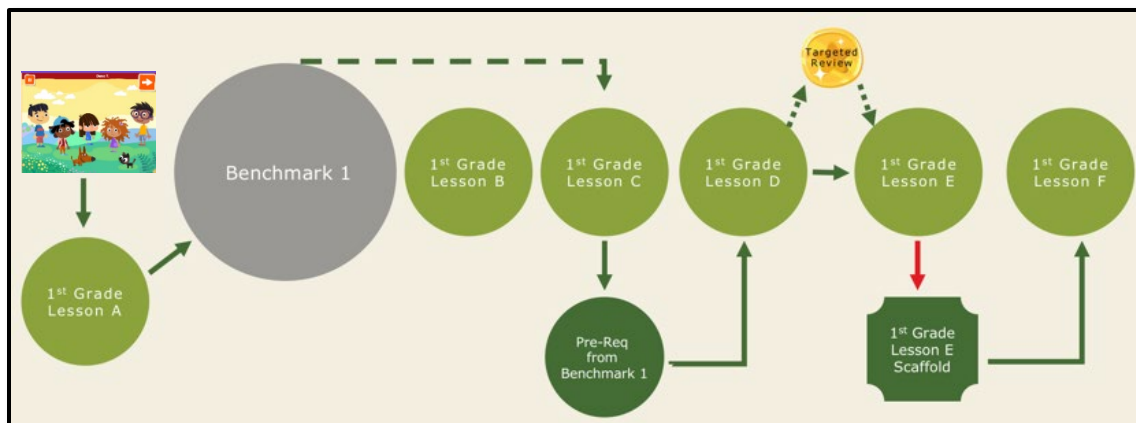


Figure 16. Imagine Math PreK-2 Personalized Pathways. Students begin the program with an introductory and interactive video lesson, connecting them to the characters of the program. Students learn to navigate lessons and then move forward to the placement assessment.

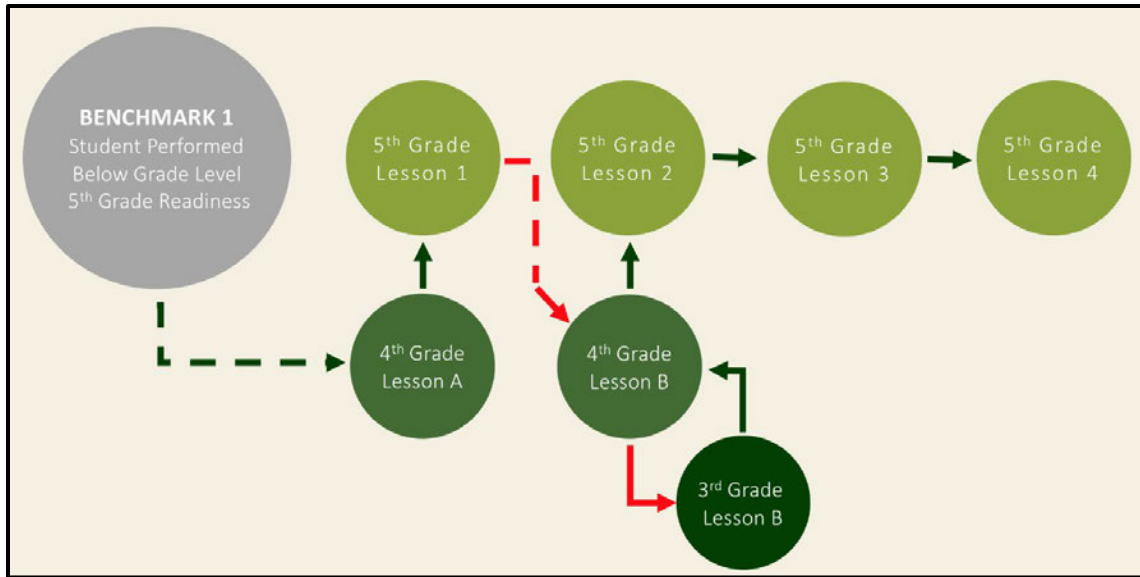


Figure 17. Imagine Math 3+ Personalized Pathways. Students complete a placement/benchmark assessment upon initial login to the program, establishing the depth of a scaffold an individual student needs.

Assessments: Imagine Math Facts

The Imagine Math Facts program begins with an assessment of addition and subtraction within 20 as well as multiplication and division within 10. The program asks students each single-digit operation question and evaluates their responses for both speed and accuracy. Once students complete the initial assessment, the program automatically creates and constantly updates a curriculum for each student to improve their math skills in the targeted area. The program also initially assesses and regularly updates typing speed in order to separate recall speed from total response time.

Imagine Math Facts monitors student performance and adapts to the immediate, evolving needs of each student. The program is engaging and presents facts students must learn for mathematical success, beginning with the initial assessment and continuing through ongoing assessments as students play the game. These adaptations include the following actions:

- Continually calculating which facts a student needs to master
- Slowing down or speeding up to match student capabilities
- Regularly determining which facts need further review for long-term retention

The program will single-handedly carry students towards complete mastery of each fact in a highly motivating environment. Zero teacher involvement is required.

Imagine Math Facts provides the exact level of intervention each student needs, regardless of grade level or whether the student requires more instruction or less. Additionally, the program does not limit students to learning only facts necessary for grade-level proficiency, but also provides advanced students with above grade-level material—ensuring all students remain engaged and challenged.

Imagine Math Facts assesses and reports student effort and achievement throughout the program, updating which facts a student has learned, how well they have learned it, and how thoroughly they

have developed long-term retention of each fact. The program regularly provides this feedback to students, both instantly as they are working on individual problems and comprehensively as they progress through various levels of mastery.

- 5. *Materials shall align to the Virginia Standards of Learning (Virginia SOLs) and for Pre K Virginia's Foundation Blocks for Early Learning, a comprehensive set of standards for 4-year-olds. Tier II Intervention should target improvement of basic skill deficits in the selected areas of mathematics (number and number sense, computational fluency, problem solving) while supporting and enhancing Tier I (Virginia SOLs) instructional objectives in a different instructional design rather than replace or duplicate it. Tier II is not an SOL Remediation Program.***

Imagine Learning's programs are aligned to SOLs. Please see Tab 13: Appendix A – SOL Alignments for detailed correlations documents.

- 6. *Materials used need not be grade level specific in order to provide intervention that meets the instructional level of each student.***

Imagine Learning maintains high expectations of all students and provides embedded supports that scaffold up to grade-level content. The programs deliver an adaptive, individualized learning path that continually adjusts to the needs and capabilities of the student but whose goal is to help students get to grade-level content. Students may receive remedial lessons that are below grade level as needed.

- 7. *Materials shall provide opportunities for differentiation to include intensive, explicit, and systematic instruction. These materials should be targeted specifically to selected areas of mathematics (number and number sense, computational fluency, problem solving).***

Imagine Math and Imagine Math Facts deliver explicit, systematic, targeted, and differentiated instruction in a personalized, adaptable learning paths. Content covers specific math topic areas according to grade-level standards, such as counting and cardinality, numbers and operations, logical reasoning, measurement and data, algebraic thinking, geometry, SAT/ACT prep, word problems, focusing on real world applications, math facts fluency and automaticity, and more.

For more information, please see the responses provided above.

- 8. *The proposed solution shall allow teachers to monitor student progress in the resource. This will allow teachers to group students and/or assign additional topics as needed for remediation.***

Imagine Math and Imagine Math Facts feature teacher dashboards and reports that enable educators to monitor student usage, progress, and performance and that allow teachers to pinpoint areas of unfinished learning to drive interventions. Teachers can group students together as needed. In Imagine Math, teachers can also create and assign optional customized learning pathways. Please see Tab 8: Reporting and Monitoring for more detailed information on reporting capabilities.

Technical Specifications

A. User Interface

1. **Browser Support – the proposed solution shall:**

- a. Have compatibility with the current versions of multiple browsers- at minimum, current versions of Edge, Safari, and Chrome browsers.**

Imagine Learning's math programs are fully compatible with Google Chrome 73.0.3679+ and Microsoft Edge 79.0.309+. Full system requirements are available online at:
<https://help.imaginelearning.com/hc/en-us/categories/360004854474-System-Requirements>.

- b. Maintain compatibility with listed browsers and future versions/updates/releases of the listed browsers for the duration of the contract.**

Imagine Learning works to maintain compatibility with future versions of our compatible browsers and will continue do so throughout any contract with HCPS.

- c. Only require standard browser plugins.**

No plugins are required to access Imagine Learning's programs.

2. **The proposed solution will be compliant with the Americans with Disabilities Act requirements for accessibility.**

Imagine Learning products do not have built-in features specifically aimed towards WCAG/ADA/508 accommodations. However, our programs do provide scaffolding and tools to support multiple student populations, including English learners, students in special education, students with disabilities, and gifted/talented students. Details of supports for students with disabilities are provided below.

How Imagine Math Supports Students with Disabilities

Appropriately paced, adaptive, and individualized, Imagine Math provides instruction at an appropriate level for all students without outwardly identifying students who require additional supports. Because the program allows students to move at their own pace and receive individualized instruction, Imagine Math is a great option for students with disabilities. Imagine Math maintains high expectations for all students and provides the support they need to succeed.

Imagine Math PreK–2 Supports for Cognitive Disabilities and Struggling Students

- Bilingual text and audio support, available in both English and Spanish.
- Math vocabulary is introduced in context and spiraled into the lesson.
- Text highlighting helps students follow along, develop reading skills, and focus on critical vocabulary.
- An intuitive drag-and-drop function helps students interact with the activities and tasks.
- Students can repeat lessons to help achieve mastery.
- Fun characters, songs, activities, and games keep students engaged.

Imagine Math 3+ Supports for Physical Disabilities

- Alternate descriptions exist for image-based assets.
- ALT tags are available for all application imagery.
- Semantic HTML ensures students can navigate content without a stylesheet or with text-only browsers, such as screen readers. Elements also include functional text descriptions to identify themselves.
- Compatibility with computer zoom/magnification and text-to-speech functions.
- Synchronized text and audio fallback for any animation elements.
- Program does not override browser specifications for stylesheets, nor does it rely on color alone to make any selections in the application.
- Browser plugins are not required.
- Supports accessibility features native to web browsers and devices.

Imagine Math 3+ Supports for Cognitive Disabilities and Struggling Learners

- Live, certified teachers fluent in English and Spanish provide critical one-on-one intervention.
- Students work at their own pace in their own personalized, adaptive learning pathway.
- Audio support is available in English and Spanish.
- Strong visuals and multiple models are used.
- Questions can be repeated.
- Custom pathways using the student's IEP with teacher and parent input can provide specialized instruction in specific areas and at the specific levels of rigor appropriate for the student.

Additionally, our products and services are compatible with many assistive tools available with most operating systems and browsers, such as screen magnifiers and color contrast plugins. Imagine Learning has and will continue to evaluate and invest in opportunities to improve the accessibility of our products and services and we stand ready to collaborate with districts on ways Imagine Learning can help educators meet specific educational needs.

3. The proposed solution shall be cloud-based and delivered via the Internet over wireless LANs to the client's browser.

Imagine Math and Imagine Math Facts are cloud-based programs delivered via the internet.

4. The proposed solution shall provide an intuitive user interface that allows for ease of use by teachers and students.

Imagine Learning's teacher and student interfaces are intuitive and easy to use. When students first log into a program, it administers the adaptive placement test—which mimics an interactive and engaging lesson—assessing the student's current math skills. The program then generates a custom instructional pathway designed to address any unfinished learning and build on individual student

strengths, accelerating all students towards grade-level proficiency. Intuitive menus and navigation tools, written and oral directions, and text highlighting help students know what to do.

Upon login, teachers are directed to their dashboard, a dynamic tool providing interactive access to reports, resources tools, and at-a-glance information—such as usage and growth trends. Educators can update student information, edit report settings, and locate remediation resources. The dashboard also provides access to key performance indicators, usage reports, progress reports, growth reports, and offline teacher resources. More information about these reports is available in Tab 8: Reporting and Monitoring. HCPS may also review the student and teacher interfaces and experience by exploring the demo accounts provided in Tab 4: Service Approach and Implementation.

5. *The proposed solution shall support mobile technology including but not limited to the specific mobile devices currently used in HCPS (iOS, Chromebooks, Windows, and Android Platforms)*

Students can access Imagine Math and Imagine Math Facts from Android, iPad, and Kindle tablets. However, the educator portal is not yet compatible with mobile technology. Full system requirements are available online at: <https://help.imaginelearning.com/hc/en-us/categories/360004854474-System-Requirements>.

B. Integration

1. *The proposed solution shall provide methods for user account administration that are easy to use and maintain.*

HCPS and Imagine Learning can manage data at the classroom, school, district, enterprise, and SSO level. Imagine Learning's implementation engineers will work with HCPS to effectively onboard the district.

2. *The proposed solution shall support a single sign-on solution that does not require staff or students to have a separate account or password for accessing the vendor's application.*

Imagine Math and Imagine Math Facts support several single sign-on integrations, including Clever, ClassLink, and other identity providers who support OpenID Connect, OAuth 2, Active Directory Federation Services (ADFS), LDAP, and SAML.

3. *The proposed solution shall allow for LTI, Azure Active Directory or LDAP as a method of authentication and authorization.*

Imagine Math and Imagine Math Facts allow for LTI, Active Directory, and LDAP as a method of authentication and authorization.

4. *The proposed solution shall provide a means to identify the individual or client using the application, authenticate the individual and determine the authorities and rights granted to that individual as well as a reporting engine for tracking usage and progress.*

Each user has a unique account with its own username and password that follows industry security best practices. Single Sign-On (SSO) users are authenticated with security tokens. Users may access only their own data or information that has been authorized to them by the school or district. For example, teachers can see student data only for students in his or her classroom but not for the entire school. Administrators can see student and teacher data for their school only, not for other schools or districts.

5. Any requirements for student, staff, course, roster or school information must be supported through a common specification. The exchange of data must be through a common protocol and not require the installation of vendor-specific software in the HCPS internal infrastructure. HCPS currently supports the following means of exchanging student information in order of preference but will accept other non-vendor specific protocols:

- a. LTI integration as a Tool Provider (TP) with our LMS Solution (Schoology)**
- b. SIF - Student Information framework**
- c. Exchange of information through Clever - a third party vendor for exchanging common data for school systems; The Successful Offeror is responsible for any costs incurred with Clever implementation.**
- d. API integration with our SIS, PowerSchool**
- e. File exchange to a vendor-supported sFTP server**

Imagine Learning supports several account rostering methods, including SIS integrations with Clever and ClassLink. Additionally, Imagine Learning supports CSV rostering via proprietary or IMS Global OneRoster formations. Self-service, assisted, one-time, and automated nightly rostering syncs are also available.

6. No additional fees may be charge to HCPS for data integration.

Imagine Learning does not charge additional fees for data integration.

7. Solutions that allow for seamless integration of their product through the IMS Global interoperability standards are preferred.

Imagine Learning supports IMS Global's OneRoster standards, as well as LTI standards.

C. Infrastructure and System Administration

1. HCPS's preference is a SaaS system and hosting the solution on a 3rd party, such as AWS or Azure, is acceptable.

Imagine Learning's products are hosted via well-established cloud service providers—primarily Microsoft Azure and Amazon Web Services—eliminating the need for HCPS to host or maintain any services. This allows Imagine Learning products to scale, meeting the needs of hundreds of thousands of students per day, with failover, high availability, and disaster recovery processes in place.

2. The proposed solution will provide a secure, web-based system for data in transit and at rest.

All sensitive data, including Personally Identifiable Information (PII), is encrypted in transit and at rest.

3. Successful Offeror(s) will document compliance with all local, state, and federal laws related to student data privacy.

Imagine Learning recognizes the preeminence of federal, state, and local laws, regulations, and policies that govern the privacy and security of HCPS' personal information. Therefore, Imagine Learning complies with FERPA, COPPA, and other laws related to student data privacy. Imagine Learning's full privacy policy is available at: <https://www.imaginelearning.com/privacy/policy>.

4. *The proposed solution shall contain neither commercial content nor serve as a vehicle to market goods and services.*

Imagine Learnings programs are educational and do not contain commercial content. Additionally, we do not sell or disclose personal information. Imagine Learning does not market to or survey students, nor is personal information used or disclosed for behavioral targeting of advertisements to students. School staff may be invited to provide feedback about their experiences, but participation is never required.

5. *Web Accessibility*

The digital math resource must comply with the Information Technology Accessibility Act (Code of Virginia - 2-2-3500) which requires that information technology developed, purchased, or provided is accessible to individuals with disabilities.

a. The solution shall be accessible to persons with disabilities, including:

- i. Blindness, color blindness, visual impairment***
- ii. Deafness, hearing impairment***
- iii. Speech impairment***
- iv. Mobility, strength, dexterity or reach impairment***

b. The solution shall support the use of commonly available screen readers.

c. The solution shall comply with Federal Web Accessibility Standards (part of Section 508 of the Rehabilitation Act).

d. The solution shall meet Level A and Level AA guidelines as specified by the W3C's WCAG 2.0 guidelines.

Imagine Learning products do not have built-in features specifically aimed towards the Information Technology Accessibility Act accommodations. However, our programs do provide scaffolding and tools to support students with disabilities. Please see the response to item #2 under "Technical Specifications, A. User Interface" above for more information.

6. *The proposed solution shall be able to handle at least 60,000+ concurrent HCPS users with less than 30 ms latency. Offeror(s) must provide comprehensive documentation to evidence the ability to accommodate concurrent users based on data collected from a similar environment.*

Because Imagine Learning leverages a cloud infrastructure for all our produces, we can auto-scale platform resources to support additional user load quickly and efficiently. Information on our cloud providers and sub-processors can be found at <https://www.imaginelearning.com/privacy/faq>. Technical documentation varies depending on the specifications of the customer's devices, network configurations, and infrastructure. Any specific documentation can be provided by our technical systems engineers during the onboarding process.

7. *If the solution is reliant on LDAP authentication, HCPS will only accept a defined external IP address to allow Firewall transactions and will not accept the allowance of entire network segments.*

Should HCPS choose LDAP authentication, Imagine Learning will provide information and recommendations for firewall configurations. This information is also available on our online Help Site <https://help.imaginelearning.com/hc/en-us/categories/360004854474-System-Requirements>.

8. HCPS shall have the ability to submit requests for alteration of the digital content (including additional supporting data, modification of current data, or removal of data deemed inappropriate by HCPS) via email or web-based forms embedded in the digital content.

HCPS can contact its assigned APM or ESM with requests for the alteration of digital content. With Imagine Math, educators also have the option to create and assign custom instructional pathways.

9. Provide all documentation for each piece of software equipment, or software, including copyright information, all operator and user manual, training materials necessary for the proper and successful use of the software where an installation or configuration on HCPS network or devices are required.

D. Computer, Software and Network Specifications

The proposed solution shall meet all performance requirements defined in this document and shall be currently compatible with the following minimum computer specifications as well as maintaining compatibility with updates/patches/versions of listed software for the duration of the contract (at a minimum beginning with the versions listed below).

Imagine Learning agrees to meet all performance requirements defined in HCPS' RFP specifications. We will continue to maintain compatibility with the minimum computer specifications throughout any contract resulting from this RFP.

E. Networking Environment

Imagine Learning agrees to meet all performance requirements defined in HCPS' RFP specifications. We will continue to maintain compatibility with the network specifications throughout any contract resulting from this RFP. Imagine Learning's programs require minimum network bandwidth of 2 Mbps per student and recommend 3.5 Mbps per student.

F. Training and Support

1. The Successful Offeror(s) shall provide a toll -free number for help desk support to HCPS at a minimum from 8 am to 5 pm EST, Monday- Friday.

Imagine Learning provides our clients with robust support, maintaining a well-staffed and experienced Customer Care team customers can contact via phone, text, chat, and email. Additional details regarding Imagine Learning's technical support is provided in the table below.

| Contact Information | Support Availability | Customer Service Levels |
|------------------------------------|--|--|
| Toll-Free Technical Support | | |
| 1-866-ILSUPPORT 1-866-457-8776 | Monday – Friday 6:00 a.m. – 6:00 p.m. MST | Phone Calls: The live-voice answer rate during business hours is approximately 99%. |

| Contact Information | Support Availability | Customer Service Levels |
|--|--|---|
| | | Voice Mail: Initial response within one hour from the time the message was received. |
| Email | | |
| support@imaginelearning.com | 24/7 | Initial response within one business day of receipt by support team. |
| Live Chat | | |
| support.imaginelearning.com help.imaginelearning.com | Monday – Friday 6:00 a.m. – 6:00 p.m. MST | Initial response within one minute, on average. |

2. The Successful Offeror(s) shall provide any required training for implementation of the proposed solution to include options for continued training including on-site, webinar and printed materials.

The purchase of any license includes standard support at no additional cost. Standard support includes access to Customer Care; virtual implementation planning, support, and monitoring; installation, onboarding, and rostering support; and access to Imagine University, which contains on-demand tutorials, training videos, and webinars. Printed materials and teacher resources are included at no additional charge.

Options for additional onsite and webinar workshops are provided in Tab 9: Pricing/Cost Proposal.

Tab 3: Offeror Qualifications, Experience, Resumes and Financial Capacity

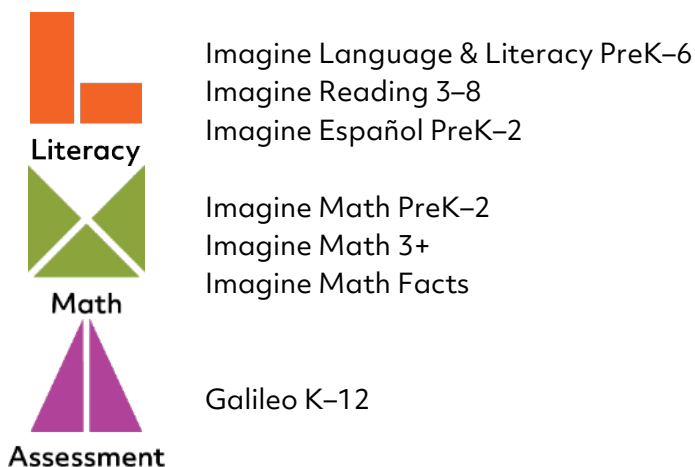
Narrative responses to the questions and requirements showcasing Imagine Learning's experience and qualifications are provided on the following pages. Descriptions and resumes of key staff who will support this contract are also provided.

In this tab, offeror should demonstrate the Offeror's and their staff's qualifications and experience in providing the services as requested in this Request for Proposal (RFP). Offeror's should provide, at a minimum, documentation demonstrating that their firm is a firm regularly engaged in providing the services solicited in this RFP. Discuss the firm's current workload. If subconsultants are to be utilized provide similar documentation to what has been requested of the offeror in this section. Provide appropriate documentation to support:

a. Years in business outlining the company history and experience providing services as requested in this RFP;

A group of education software professionals founded Imagine Learning in 2004 with the goal to use technology to teach English language and literacy to the children of the world. In its 17 years of business, the company has created an award-winning English language and literacy software to help students with the essential skills they need to succeed in school. In 2014, Weld North Education—an educational investment firm—acquired and invested in Imagine Learning, expanding our vision to provide instruction in mathematics, Spanish, and reading as well—better serving all students. Today, Imagine Learning has a team of over 500 full-time employees—including those based at the headquarters in Provo, Utah as well as field employees located across the country.

Imagine Learning provides three supplemental program suites to best serve the varying needs of diverse populations of students.



"I have twenty-two students right now, and they are all at a different level. So, being able to give them a tool (like Imagine Language & Literacy) that meets them at their level and grows with them—is huge."

Lauren Williams, Teacher
Harding Elementary

These programs cultivate a growth mindset and tap into the power of technology to engage students, accelerate achievement, and support teachers with timely data and time-saving resources.

Company Mission

Imagine Learning believes every child deserves the chance to enjoy learning and has the right to fulfill their unique potential. For more than 15 years, Imagine Learning has helped students acquire, develop, and strengthen the language skills necessary to fully participate in academic settings and prepare them for college and career success. As described below, we have reimagined learning that:

- **Ignites Engagement.** Highly engaging, interactive content and creative storytelling instill a love of learning through fun and enjoyment. Relatable characters, content, and scenarios combine with high-quality design to increase student motivation.
- **Maximizes Personal Relevance.** Customized resources, activities, and analytics create unique pathways, ultimately meeting each student in their zone of proximal development and therefore promoting educational equity.
- **Amplifies Confidence.** Our rigorous curriculum and high standards scaffold up to support each student. Opportunities for academic language development build confidence as students learn to articulate their thoughts, ideas, and knowledge.
- **Inspires Breakthroughs.** Timely, meaningful data offers a holistic overview of each student's progress and performance—enabling educators to intervene and facilitate breakthrough moments of understanding for each child.

Our programs adhere to the Imagine Learning Language Advantage™—a theory of action that promotes rigorous and equitable language development, accelerating learning across all subjects and transforming students into stronger and more confident learners. We understand that language acquisition enables students to gain deeper comprehension, engagement, and enjoyment of learning; therefore, language development is the foundation to our literacy, math, and assessment solutions.

Imagine Learning also recognizes that all students come to us with powerful cultural and linguistic strengths and have the desire to learn and succeed. Therefore, our programs provide meaningful, rigorous instruction and the necessary supports to meet the needs of all students—including students in need of intervention, English learners, and students with disabilities. Students receive web-based, personalized instruction without outward identification of ability or disability, allowing students to receive specialized instruction in the least restrictive environment possible—the general education classroom.

Awards

Imagine Learning's programs have earned several awards during our 17 years in business. Most recently, Imagine Language & Literacy won the EdTech 2020 Cool Tool Award for best literacy/reading solution. Other Imagine Learning products were also finalists in several categories.

- **Imagine Language & Literacy**
Winner: Best Literacy/Reading Solution
Finalist: Best Language Arts Solution
- **Imagine Math PreK–8**
Finalist: Best Math Solution
Finalist: Best Personalized Learning Solution
- **Galileo K–12**

Finalist: Best Testing & Assessment Solution

- **Imagine Learning**

Finalist: EdTech Company Setting A Trend

b. Experience with a project of this magnitude;

Imagine Learning has partnered with districts and schools across the United States, managing implementations of varying sizes—school-wide, district-wide, and state-wide. Additional details regarding these implementations are provided below.

Over 1,400 districts and nearly 15,000 schools have implemented Imagine Language & Literacy across the United States and internationally, including Brazil, Canada, Chile, Cost Rica, French Polynesia, India, Japan, Korea, Mexico, United Arab Emirates, and Vietnam. The 10 largest school districts in the United States have also implemented Imagine Language & Literacy—three of which are among the largest implementations in the nation. Other sizeable implementations include the Hawaii Department of Education, Houston Independent School District, New York City Department of Education, and the Utah State Office of Education. Additionally, Imagine Language & Literacy is implemented as part of state-wide deals in Idaho, New York, Pennsylvania, and Utah. Details regarding these implementations are provided below.

c. Evidence of financial stability;

Imagine Learning is in sound financial health with year-over-year revenue increases. Imagine Learning has never had to pull out of any contract. Imagine Learning's parent company, Weld North Education, continually invests in Imagine Learning's growth and development, allowing Imagine Learning to provide districts with all desired services and support. Audited financials are available upon request.

d. Experience with development of digital content aligned with Virginia SOLs;

Imagine Learning uses current scientific research and state/national standards when researching and designing instructional content. When creating a correlation, a curriculum specialist examines each standard and notes the resources, activities, or lessons demonstrating alignment either directly or by supporting students to meet the standard. Imagine Learning updates correlations as new content is released or as standards change. Detailed documents describing the math programs' correlations to the Virginia SOLs are provided in Appendix A.

e. Experience in PreK-12;

As described above, Imagine Learning has a wealth of experience working with K-12 districts. We have been in business since 2004 and serve millions of students in over 1,400 districts and in over 15,000 schools across the United States and around the world, including the 10 largest school districts in the United States.

f. Number of current customers;

40 districts in Virginia currently use Imagine Learning programs. Over 1,400 districts and over 15,000 schools use our programs.

g. Number of employees proposed for the development and ongoing processes including training; and

Imagine Learning believes in providing its partners thoughtful, deliberate, and effective support from the beginning to the end of each partnership. Education success managers (ESMs)—representatives who live locally to the schools and districts they support—provide proactive, informed support to these partners throughout the length of each contract. This ensures Imagine Learning’s partner schools and districts use the programs with fidelity and implement student information from data results, monitoring the implementation to ensure students are achieving positive results.

The area partnership manager (APM) is the main point of contact between the district and Imagine Learning. The APM works closely with districts and schools to create detailed implementation plans, remaining in close contact with the district to ensure continued success and growth. Additionally, the ESM is the dedicated onsite support for the area, providing workshop trainings, conducting regular webinars, and working with the APM to monitor the implementation and usage.

Whitney Aldrich
APM

As the APM, Whitney is the project manager for implementations in her area and for this contract. She works closely with districts and schools to create detailed implementation plans to directly target the needs of each student population, supporting each school’s goals for student learning and growth. She can also answer questions, conduct sales presentations, resolve issues, and handle escalations.

Dr. Kimberly Gray
ESM

Kimberly will provide onsite support as needed and appropriate. She will provide onsite workshop trainings, conduct regular classroom visits, and work with the APM to monitor the implementation and usage. She can also provide support for minor technical issues and escalate more complex issues.

Han Park
TSE

As the TSE, Han provides technical implementation support and Tier III issue resolution. Han will be the main contact for specific technical support in each implementation. TSEs are assigned and live regionally, ensuring the district receives onsite support for significant issues.

Bryan Lepri
RPD

As the RPD, Bryan is the APM’s manager and will support Whitney in meeting with administrators and presenting essential information on the program. He can also help escalate issues and remove obstacles as needed.

Eric Van Dorin
ESD

As the ESD, Eric is the ESM’s manager and is responsible for the health of implementations in his area. He will support Whitney and Kimberly as needed to ensure that HCPS receives the training and support it needs and to ensure that its implementation is successful. He can also help escalate issues and remove obstacles as needed.

h. Resumes of proposed staff that would be assigned to this project.

Resumes are provided on the following pages.

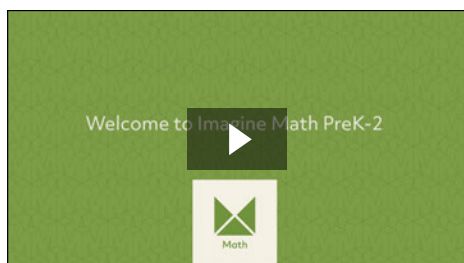


imagine
Math PreK-2

Trial Instructions

Welcome!

Imagine Math PreK-2 is designed to inspire a lifelong love of mathematics and is fully available in both English and Spanish. The program immerses early learners in an engaging storybook context that seamlessly teaches young students to see mathematics in their everyday world. Students in Imagine Math PreK-2 experience scaffolded and differentiated instruction, contextualized vocabulary to promote the use of academic language, and unique motivational elements throughout their personalized learning pathways.



Click for a brief introduction to Imagine Math PreK-2

bit.ly/impkintroduction

Login

math.imaginelearning.com

Username

Password

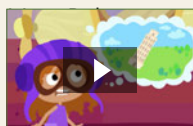
Site Code (Students Only)

Be sure to explore the following benefits of the Imagine Math PreK-2 program:

Imagine Math that Ignites Engagement

DEVELOPMENTALLY APPROPRIATE CONTENT

Imagine math lessons that **IGNITE ENGAGEMENT** in early learners. Imagine Math PreK-2's content is challenging, fun, and keeps students engaged in their Zone of Proximal Development while developing a growth mindset. Students become immersed in the imaginative world with animated characters that play along with students in their learning journey.



cious five-year-old who wants to
en she grows up!

<https://imaginelearning.wistia.com/medias/h3p2foho7b>

LESSON EXPLORER

Content > Lesson Explorer > PreK-2

Experience lessons students encounter in their personalized grade-level pathway. Educators can utilize the Lesson Explorer for individualized, small group, or whole group instruction.



- Search within Lessons & Assessments, Pre-Requisites, Songs, and the Glossary
- Click on Songs to access songs students learn in their pathway
- Click on Glossary to see how and where academic math vocabulary is first encountered in each grade level
- Suggestion: Preview the first grade lesson called "Review addition and subtraction based on place value". Within this lesson, watch Activity 4, Exercise 1.

| Lesson Explorer | | PreK-2 | Grade 3+ |
|-----------------------|---------|----------------|----------|
| LESSONS & ASSESSMENTS | | PRE-REQUISITES | SONGS |
| English | Spanish | PS | ES |
| Before (up to 100) | 1000000 | PS-001 | ES-001 |
| Before (up to 1000) | 1000 | PS-002 | ES-002 |
| Before | 10000 | PS-003 | ES-003 |

Imagine Math that Maximizes Personal Relevance

ADAPTIVE CURRICULUM

MAXIMIZE PERSONAL RELEVANCE with an adaptive curriculum, which is automatically delivered to students in their instructional pathways at their point-of-need. Students receive custom feedback and support based on their responses to the questions. These same resources are also available on-demand for the teacher to explore and utilize! Find a lesson that aligns with the standards being addressed to enhance whole-class instruction or small-group lessons.

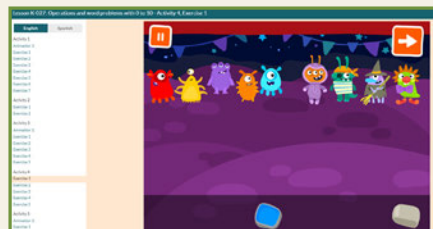


bit.ly/impkscaffolding

LESSON EXPLORER

Content > Lesson Explorer > PreK-2

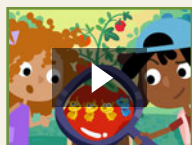
1. Select Kindergarten in the **All Grades** filter
2. Click the link for **lesson K-027**
3. From the navigation sidebar, preview **Activity 4, Exercise 1**



Imagine Math that Amplifies Confidence

BUILDING FOUNDATIONAL SKILLS

Early learners progress through a carefully designed curriculum consisting of more than 2,000 exercises per grade level. Students are taught foundational mathematical skills to help build their number sense as early as PreK! In the vignette below, notice the attention to one-to-one correspondence while teaching counting and cardinality. Teaching foundational math concepts in context **AMPLIFIES CONFIDENCE** in our youngest mathematicians.

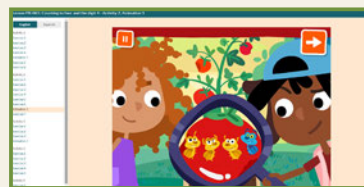


bit.ly/impknumbersense

LESSON EXPLORER

Content > Lesson Explorer > PreK-2

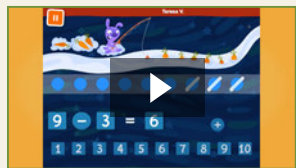
1. Select Pre-Kindergarten in the **All Grades** filter
2. Click the link for **lesson PK-065**
3. From the navigation sidebar, preview **Activity 2, Animation 1**



Imagine Math that Inspires Breakthroughs

DUAL LANGUAGE SUPPORT

IMAGINE MATH PREK-2 is available in both English and Spanish. We build the foundations for communication and critical thinking as a bilingual, biliterate, and bicultural learner in a dual-language setting to help **INSPIRE BREAKTHROUGHS** for students. Teachers can also utilize the Lesson Explorer in whole-group or small-group settings in either English or Spanish.

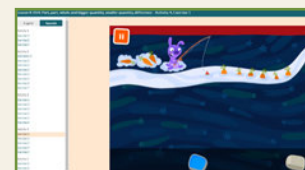


bit.ly/impkalgebraicthinking

LESSON EXPLORER

Content > Lesson Explorer > PreK-2

1. Select Kindergarten in the **All Grades** filter
2. Scroll down to and click into **Lesson K-054**
3. Under **Language** on the top left corner, click **Spanish**
4. From the navigation sidebar, **preview Activity 4, Exercise 1**



Want to learn more?

Explore the [research basis](#) behind our product, check out our [success stories](#), and download the [Imagine Learning Language Advantage™ White Paper](#).

Direct further questions to your Area Partnership Manager (APM), _____:

Phone: _____ Email: _____

Need tech help? Download apps and view system requirements [here](#), and call **866.457.8776** for trouble-shooting assistance.

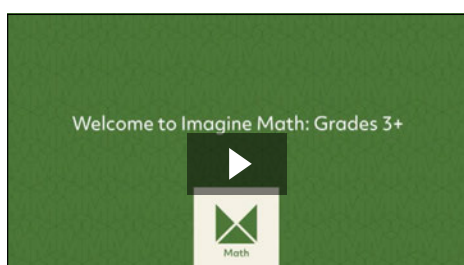


imagine
Math 3+

Trial Instructions

Welcome!

Imagine Math 3+ personalizes learning and engages students in a meaningful exploration of mathematical understanding. An emphasis on academic discourse empowers learners to apply reasoning and critical thinking skills and sets them up for future successes in school and beyond. Students in Imagine Math 3+ have access to live instruction by certified bilingual math educators, and an in-depth motivational system to develop confident thinkers.



Click to view a brief overview of Imagine Math 3+ for **teachers** and **students**.

bit.ly/imintro

Login

math.imaginelearning.com

Username

Password

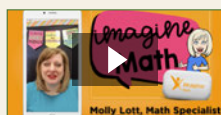
Site Code (Students Only)

Be sure to explore the following benefits of the Imagine Language & Literacy program:

Imagine Math that Ignites Engagement

MOTIVATION

Imagine Math that IGNITES ENGAGEMENT through both intrinsic and extrinsic motivation. As students work through their learning pathway, they earn Think Points. These Think Points can be used towards a classroom, school, or district-wide goal, to update their avatar, or students can donate their Think Points to a charity.



bit.ly/immotivation

MOTIVATION OPTIONS

Motivation > Leaderboards, Classroom Goals, Charities, Contests

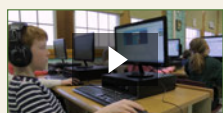
Be sure to check out all of the built-in motivation from the Imagine Math portal. Under the Motivation tab, teachers can see where students are using their Think Points.



Imagine Math that Maximizes Personal Relevance

ADAPTIVE CONTENT

MAXIMIZE PERSONAL RELEVANCE with the **Lesson Explorer**. Assessment, powered by the Quantile Framework for Mathematics™, personalizes each student's pathway. Students receive embedded multi-modal supports to reinforce language development and mathematical comprehension. All lessons are available on-demand for the teacher to explore, use in the classroom, and assign targeted lessons to students! Find standards aligned lessons to enhance whole-class instruction, small-group lessons, or assign a customized pathway.



bit.ly/imlessonexplorer

LESSON EXPLORER

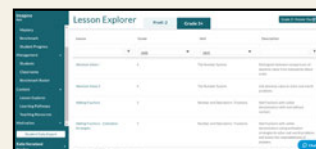
Content > Lesson Explorer.

Options for accessing Imagine Math lessons:

1. Search by lesson title. Filter options include: grade level, lesson, unit, or description. Suggestions:

Interpreting Division or Percent and Percent Change.

Click on any section under **Preview** to check out the student view of the lesson.

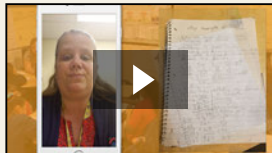


2. Navigate to **Content > Learning Pathways**. Search out the grade level default pathway and click on the pathway name. You will see the scope and sequence of the lessons in the pathway.

Imagine Math that Amplifies Confidence

MATH JOURNALS

Math journals are a powerful component in the math classroom. Students receive many supports in their Imagine Math pathway including: academic language supports, math tools, a math glossary, calculator, Live Teacher, and journal supports. Journal supports include: prompts, sentence stems, sample problem-solving strategies, and connecting words and phrases that help **AMPLIFY CONFIDENCE** in math. Students have the opportunity to think and reflect about their conceptual understanding and develop the ability to self-monitor and self-correct in a space where meaningful learning is encouraged and supported.

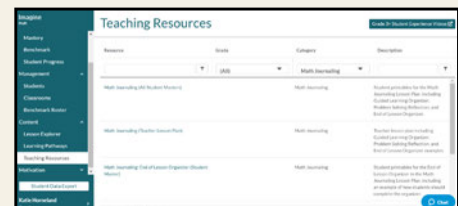


bit.ly/imjournaling

TEACHING RESOURCES

Content > Teaching Resources

Use **Category** to filter and browse the resources. Suggestions: Check out the Math Journaling (Teacher Lesson Plan) to find a journaling lesson plan including both a student rubric and a teacher rubric, as well as sample journal entries.

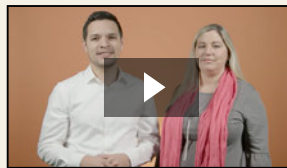


Imagine Math that Inspires Breakthroughs

LIVE TEACHER

Language development in mathematics helps students to make connections to the math they are learning. Imagine Math's live, certified bilingual math teachers use academic language via mathematical discourse and assessing for understanding.

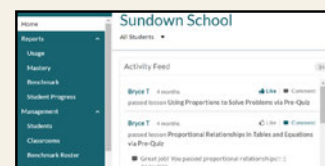
INSPIRE BREAKTHROUGHS with live certified bilingual teachers. While working on their individual pathway, students have access to our live Imagine Math teachers seven days a week! Each of our Imagine Math teachers receives daily professional development to help develop students' conceptual understanding and engage them in math discourse.



bit.ly/imliveteaching

ACTIVITY FEED

The classroom teacher can see which students are working with our live teachers under our Usage report. Additionally, teachers can see comments that the live Imagine Math teachers leave about their time working with the students on the Activity Feed on the Home Page of the portal.



Want to learn more?

Explore the [research basis](#) behind our product, check out our [success stories](#), and download the [Imagine Learning Language Advantage™ White Paper](#).

Direct further questions to your Area Partnership Manager (APM), _____:

Phone: _____ Email: _____

Need tech help? Download apps and view system requirements [here](#), and call 866.457.8776 for trouble-shooting assistance.



imagine
Math PreK-2

quick guide



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1

Getting Started

The screenshot shows the Imagine Learning login interface. At the top, there are tabs for 'Students' and 'Educators & Families'. Below the 'Students' tab, it says 'Log in to your Student account'. There are two main options: 'Scan QR code' (with a QR code image) and 'Login' (with a form). The form includes fields for 'Username', 'Password', and 'Site code'. There are also links for 'Forgot Password' and 'Enter site code'. At the bottom, there are social media icons and a copyright notice for Imagine Learning, Inc. All Rights Reserved. System Requirements, Privacy Policy, and End User License Agreement are also listed.

Student and Educators/ Families Login

math.imaginelearning.com

USERNAME

PASSWORD

SITE CODE Site code is not necessary for educators.

The image shows a printable student login card for 'Chuddy Grade 3'. It has two columns: 'Scan QR code' and 'Log in'. The 'Scan QR code' column contains a QR code. The 'Log in' column contains the following information: 'Username: chuddy-grade3', 'Password: 1234', and 'Site Code: 8664578776'. At the bottom, there is a URL: <http://math.imaginelearning.com>.

Print Start Cards for Students

A student's login card displays the QR code, username, and password, and site code. These cards can be printed and laminated for easy log in with the QR code or to help students remember their information until they have it memorized.

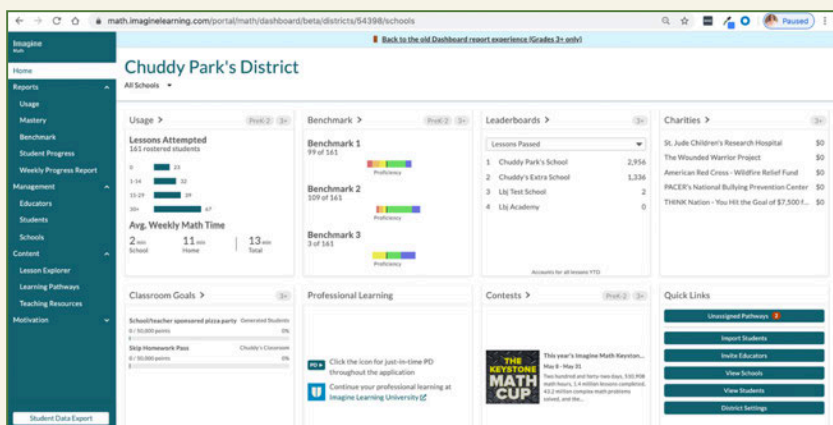
Select **Management**, click **Classrooms**, and then click **Start Cards** and print for each respective class. If students use a single-sign-on system (such as Clever) to sign in, they will not use these cards but parents will need them to link to their student account in registering for the parent portal.

2

Teacher Dashboard

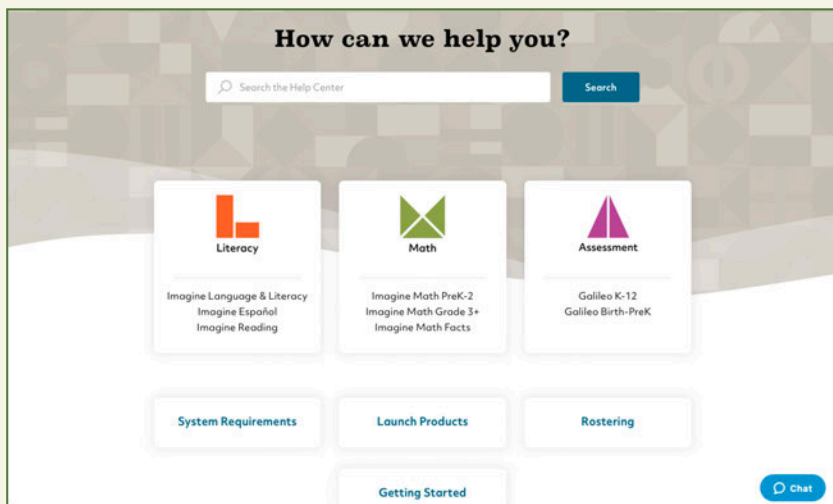
The Imagine Math Teacher Dashboard

On the home screen, use any of the tabs on the left side of the page to manage students, classes, and pathways. From here you can also view reports, set classroom goals, and access resources and Help.



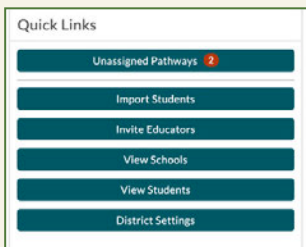
Need Help?

Visit help.imaginelearning.com to get answers to your questions about rostering, getting started, and more!



3

Add/Edit Students



Add a Single Student

1. Click **Import Students**.
2. Choose between **Go Step-by-Step** and **Upload a CSV**.
3. Follow the on-screen instructions.

Add Existing Students

1. Click **Import Students** under Quick Links.
2. Click **Go Step-by-Step**.
3. Click a class.
4. Follow the on-screen instructions.
5. Click **Add Existing Students**.
6. Add Student Information Number(s).
**If you are adding multiple students to the classroom, separate the numbers with commas
7. Click **Search**.
8. Check the students' names you wish to add to your classroom.
9. Click **Add Selected Students**.
10. Review information and click **Confirm Changes**.

Edit Student Details and Language Settings

Option 1

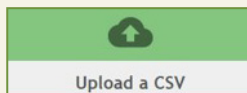
1. Click **Management**.
2. Select **Students**.
3. Search the student name
4. Click the **Pencil Icon** to edit the individual student.

Option 2

1. Click **Management**.
2. Click **Classrooms**.
3. Click on the **Quick Edit Students** button.
4. Click the cell you would like to edit.
5. Click **OK** to save changes.

Bulk Upload Instructions

To bulk import students click on **Import Students** on the home page and click **Upload a CSV**. Download the template and follow instructions.



4

Benchmark Assessment

About the Benchmark

Students will receive three assessments in Imagine Math PreK–2. The first assessment is Benchmark 1 and will be delivered for the student automatically after the introductory activities and first lesson. Benchmark 2 and Benchmark 3 need to be assigned by a teacher or administrator.

The Imagine Math PreK–2 benchmarks report Quantile® measures for grades PreK, Kindergarten, First Grade, and Second Grade, in partnership with MetaMetrics®. This means we use a valid, reliable, norm-referenced consistent scale to show growth over time.

QUANTILE® is a registered trademark of MetaMetrics, Inc.

| Name | Benchmark | Completed | Performance Levels | Avg Quantile® Growth | Avg Weekly Usage | Avg Benchmark Time |
|---------------------------------------|-------------|-----------|--------------------|----------------------|------------------|--------------------|
| 1st Period - Math/Science - 3rd Grade | Benchmark 1 | 0 | | N/A | N/A | --- |
| | Most Recent | 0 | | --- | --- | --- |
| 2nd Period - 5th Grade | Benchmark 1 | 0 | | N/A | N/A | --- |
| | Most Recent | 0 | | --- | --- | --- |
| 3rd Period - 8th Grade | Benchmark 1 | 1 | | N/A | N/A | 00:01 |
| | Most Recent | 0 | | --- | --- | --- |
| 4th Period - Languages | Benchmark 1 | 1 | | N/A | N/A | 00:19 |
| | Most Recent | 0 | | --- | --- | --- |
| 5th Period | Benchmark 1 | 3 | | N/A | N/A | 01:09 |
| | Most Recent | 0 | | --- | --- | --- |
| 6th Period - Pre-K | Benchmark 1 | 2 | | N/A | N/A | --- |
| | Most Recent | 1 | | 4602 | 00:01 | 0 |

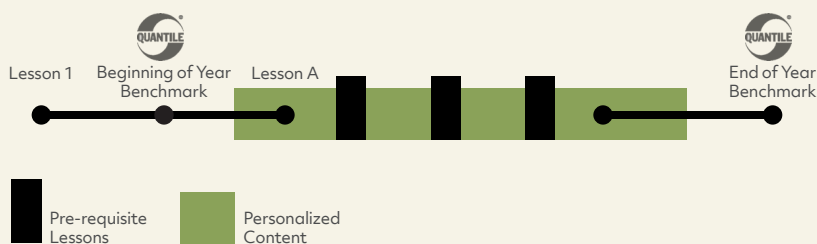
Accessing Student Benchmark Growth Data

1. Click Reports.
2. Click Benchmark.

5 Student Sessions

Personalized Content

The Imagine Math PreK–2 content is personalized for every student. Assessment, powered by the Quantile Framework® from MetaMetrics®, will personalize the student's pathway building in pre-requisite lessons along the way. The student will be placed in the content sequence based on their performance on the Benchmark 1. If a student does not complete an activity with at least 50% accuracy, they can enter **Targeted Review** for a chance to try again and earn back their token.



Goal

Students should pass 30 lessons before the end of the year. Imagine Math PreK–2 is designed to develop foundational knowledge and skills and connect math to the surrounding world. The Imagine Math PreK–2 covers foundational skills and topics that are essential to future success in mathematics, including: numbers, counting & cardinality, addition & subtraction, geometry & spatial sense, logical reasoning, measurement, algebraic thinking, and word/story problems. Conceptual understanding is developed through a combination of educational animations, interactive exercises and detailed explanations in rigorous content.

Usage

Recommended usage for Imagine Math PreK–2 is 20–30 minutes per session, three times a week, with 2 lessons completed each week.

Usage Tip

Students can access Imagine Math PreK–2 on any device that has Internet. Students can work on math at home, at the library, and on iPads. The recommended browser is Google Chrome®. For more information on system requirements, visit help.imaginelearning.com.

6

Student Experience

Sequence of Initial Login Activities

Students will begin their grade level prescriptive pathway after the following activities in Imagine Math PreK–2.

The student will:

1. Listen and watch the introductory song.
2. Complete the Introductory Lesson.
3. Visit the map.
4. Complete Lesson 1 in the pathway.
5. Take the Beginning of Year Benchmark 1.
6. There are 3 subtests in the benchmarks.
7. Receive placement in the content sequence based on BOY Benchmark performance. The program will continuously strategically scaffold instruction as necessary.



Student Instructions



Next: continue with lesson



OK: submit an answer



Reminder: hear the instructions repeated



Pause: exit the lesson, keep working, or report an issue

How to Log Out

Click **Pause**. Then click the X to exit and log out.

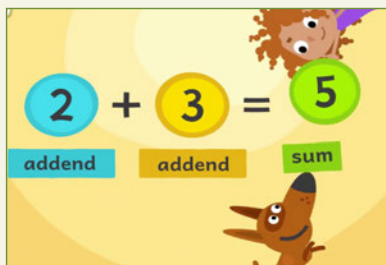




Student Experience: Map

Vocabulary

Students learn to understand and use the language of math in context through vocabulary embedded throughout the content. New vocabulary is introduced and intentionally incorporated into each lesson. Teachers are encouraged to utilize the Glossary in a variety of ways. Small groups and whole-class instruction support mathematical discourse.



Map

Students see their name at the top of their home screen as well as a map. Each location represents a lesson, game, or piece of the story. The map includes the following areas: Playground, Mr. Walker's Workshop, Barn, Fruit Orchard, Ruby and Oliver's House, Treehouse, Forest, Vegetable Garden, Mr. and Mrs. Vega's House, and the Lake.



Optional Areas on the Map

Once students complete an entire lesson, other areas on the map will open that students may explore.

Music Hall

The Music Hall contains all songs intentionally embedded in Imagine Math PreK–2 that students may wish to revisit and listen to as they explore.



Information Center

The Information Center is where each of the characters come alive and introduce themselves to tell a little about their interests and aspirations.



Treasure Island

Treasure Island houses all tokens earned. Here, students can view their tokens and can earn back unearned tokens promoting perseverance and a growth mindset.



The Fair

The Fair houses all intervention games! The intervention games are intended to build pre-requisite skills. The circus in the fair focuses on Number Composition up to 10. (Available after PK – 053)





Student Engagement

Tokens

Students earn tokens if they pass 50% or more of the exercises in each activity. When a lesson starts, the student will see how many tokens they can earn by completing that lesson successfully. If students earn all tokens within a lesson, the lesson counts as passed.

Students have two opportunities to earn back missed tokens.

1. Targeted Review—Upon completion of each lesson, students are shown all tokens they've earned and tokens they've missed. They immediately get a chance to earn any missed tokens.
2. Treasure Island—Students can see all tokens and where they can enter to earn back tokens by trying the activities again.



Songs

Young students learn through play. Imagine Math PreK–2 provides a play space where they can play and learn. Music, songs, animations and graphics engage students in the learning process.

Animations

Students learn math in familiar settings that reinforce that math is happening all around them. Ruby, Oliver, and friends engage the students with storylines as they solve problems.





Teaching Resources

Teaching Resources

Access the Teaching Resources under **Content**. Teachers have access to scope & sequence and correlation documents. These resources are filterable by resource, grade, category, and description.

| Teaching Resources | | | |
|---|------------------------------------|------------------------------------|---|
| Grade 3+ Student Experience Videos | | | |
| Resource | Grade | Category | Description |
| <input type="text"/> | <input type="text" value="(All)"/> | <input type="text" value="(All)"/> | <input type="text"/> |
| Addition and Subtraction with Regrouping (Student Master) | Grade 2 | PreK-2 Offline Materials | In this activity students practice adding and subtracting with regrouping. Base-10 block models are used to reinforce place value. |
| Addition and Subtraction with Regrouping (Student Master) (Spanish) | Grade 2 | PreK-2 Offline Materials | In this activity (in Spanish) students practice adding and subtracting with regrouping. Base-10 block models are used to reinforce place value. |
| Addition and Subtraction within 10 (Student Master) | Grade 1 | PreK-2 Offline Materials | In this activity students practice adding and subtracting fluently within 10. |
| Addition and Subtraction within 10 (Student Master) (Spanish) | Grade 1 | PreK-2 Offline Materials | In this activity (in Spanish) students practice adding and subtracting fluently within 10. |
| Addition and Subtraction within 20 (Student Master) | Grade 2 | PreK-2 Offline Materials | In this activity students practice adding and subtracting fluently within 20. |
| Addition and Subtraction within 20 (Student Master) (Spanish) | Grade 2 | PreK-2 Offline Materials | In this activity (in Spanish) students practice adding and subtracting fluently within 20. |
| Addition within 10 (Student Master) | Kindergarten | PreK-2 Offline Materials | In this activity students practice addition within 10. |

Whole-Group Instruction

1. Click **Content**.
2. Click **Lesson Explorer**.
3. Select the grade.
4. Choose the lesson and click **Preview**.

| Title | ID | Type |
|--|--------|--------|
| Colors and location words | | |
| Introduction of colors | PK-001 | Lesson |
| Grouping by color | PK-002 | Lesson |
| Location words: On, under, above, next to | PK-003 | Lesson |
| Location words: Behind, in front of, between | PK-004 | Lesson |
| Similarity and difference | | |
| Circles and ovals/pops | PK-005 | Lesson |
| Grouping by color and shape | PK-006 | Lesson |
| Location words: above, below, up, down | PK-007 | Lesson |

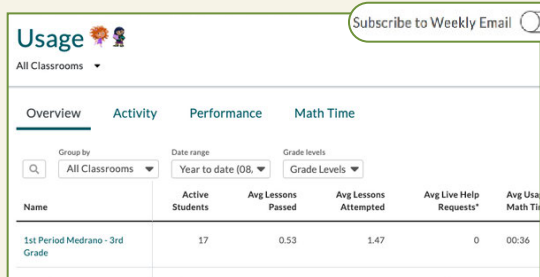
10 Reports: Usage & Progress

Reporting Overview

Imagine Math PreK–2 is focused on meeting the instructional needs of teachers and students. Reports are designed to give educators the information they need to ensure program success. The system organizes student performance data and provides powerful visual summaries giving insight into where students are, how much progress they are making, and where they need to go next.

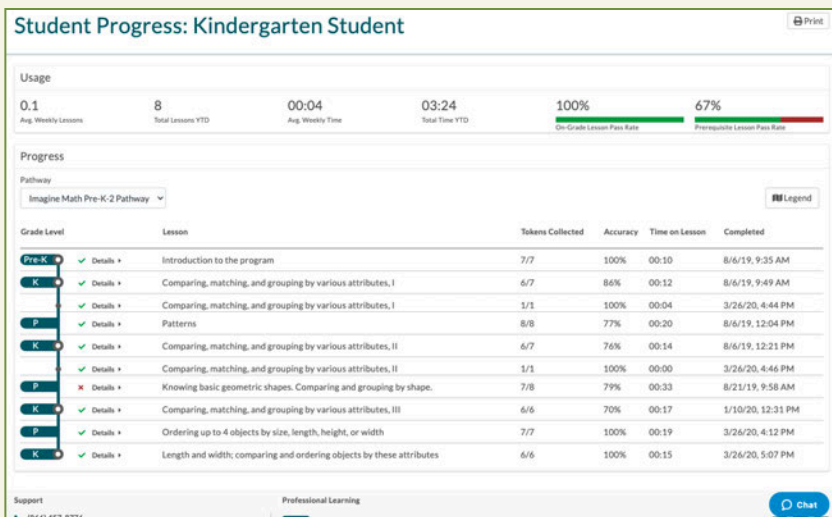
Usage Report

The Usage Report provides information about student performance in Imagine Math PreK–2 and usage of the application. Teachers and school administrators can subscribe to receive weekly emailed reports.



Student Progress Report

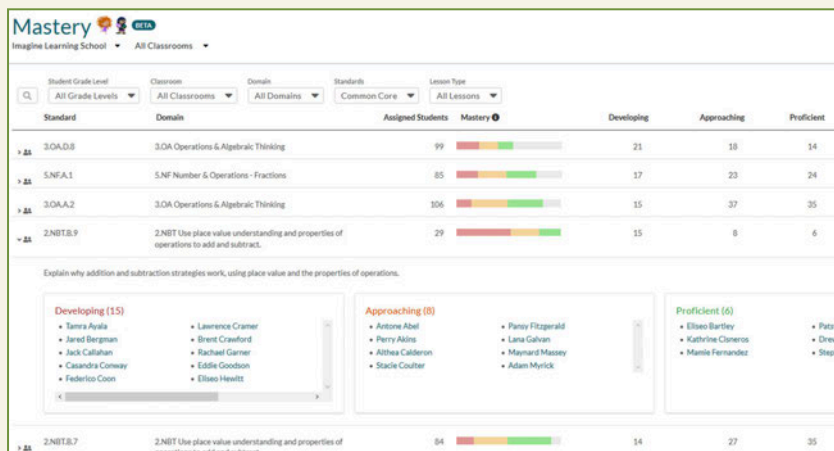
The Student Progress Report provides a detailed view of how students are performing on their pathways as they use Imagine Math PreK–2. This report is designed to be printed so you can share a student's progress with families.



11 Reports: Mastery Report

Mastery Report

The Mastery Report provides a view of how students, classrooms, schools, and districts are performing against standards set by their state.



12 Implementation Models

Imagine Math PreK–2 provides support for a continuum of learning models, including resources for both online and offline learning.

IN-PERSON



HYBRID



VIRTUAL



In-Person Learning Model: Sample weekly schedule

Students physically attend school for five days a week.

| Monday | Tuesday | Wednesday | Thursday | Friday |
|--|---|--|----------|--|
| Independent learning/ Small group instruction <ul style="list-style-type: none"> • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes | Whole-class instruction or small group teacher-led instruction | Independent learning/ Small group instruction <ul style="list-style-type: none"> • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes | | Independent learning/ Small group instruction <ul style="list-style-type: none"> • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes |

Hybrid Learning Model: Sample Weekly Schedule

Students physically attend school for part of the week and do additional learning at home.

| | Monday | Tuesday | Wednesday | Thursday | Friday |
|-----------|--|--|--|--|--|
| In School | | Independent learning/ Small group instruction <ul style="list-style-type: none"> • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes | | Independent learning/ Small group instruction <ul style="list-style-type: none"> • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes | |
| At Home | 10 minutes of Imagine Math Facts for grades 1+ | 10 minutes of Imagine Math Facts for grades 1+ | 10 minutes of Imagine Math Facts for grades 1+ | 10 minutes of Imagine Math Facts for grades 1+ | 10 minutes of Imagine Math Facts for grades 1+ |

At-Home Learning Model: Sample Weekly Schedule

Students remain at home, where they work independently and receive instruction from their teacher through video conferencing.

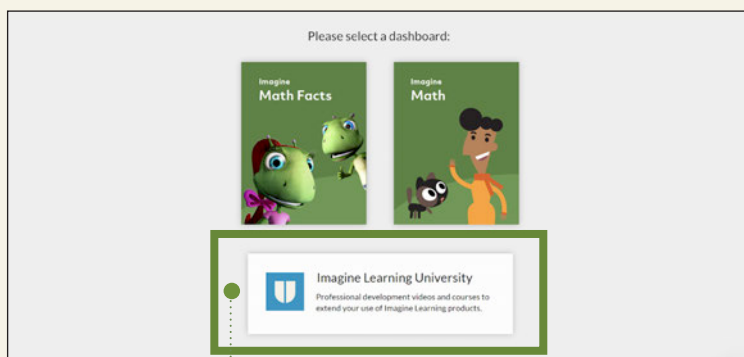
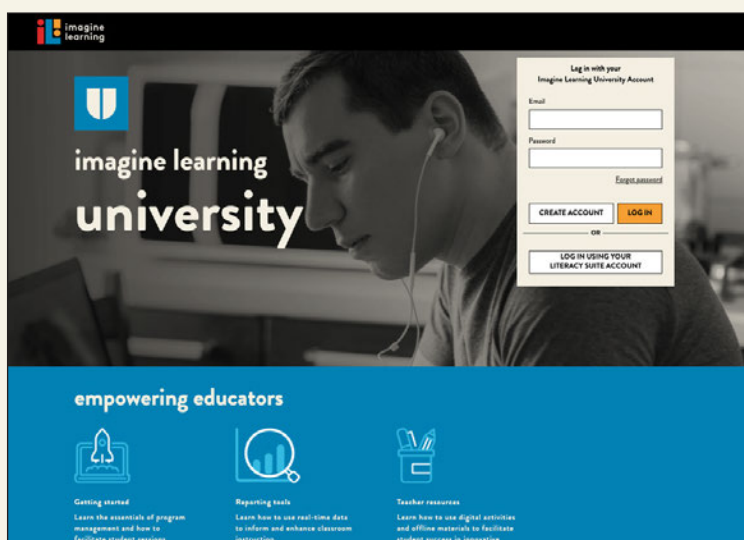
| Monday | Tuesday | Wednesday | Thursday | Friday |
|--|--|--|----------|--|
| Independent learning/ Small group instruction <ul style="list-style-type: none"> • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes | Whole-class instruction or small group teacher-led instruction via web conference | Independent learning/ Small group instruction <ul style="list-style-type: none"> • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes | | Independent learning/ Small group instruction <ul style="list-style-type: none"> • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes |

Usage Recommendations

Recommended usage for Imagine Math PreK–2 is 20–30 minutes per session, three times a week, with 2 lessons completed each week.

13 Imagine Learning University

Access on-demand, self-paced courses in Imagine Learning University to get started and for on-going support throughout the year. A one-stop shop for learning, available 24/7.



- When you are in the Math Portal, click on the Imagine Learning University tile to access the site. Then, log in using your Imagine Learning University credentials.



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 help.imaginelearning.com
 support@imaginelearning.com
 1.866.457.8776

 facebook.com/imaginelearning
 twitter.com/imaginelearning
 pinterest.com/imaginelearning



imagine
Math 3+

quick guide



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1

Getting Started

Imagine
Math • Math Facts

Students Educators & Families

Log in to your Student account

QR code

Scan QR code

or

Username
Username

Password
Password

Site code
Enter site code

Login

© 2020 Imagine Learning, Inc. All Rights Reserved
System Requirements
Privacy Policy / End User License Agreement

Student and Educators & Families Login

math.imaginelearning.com

USERNAME

PASSWORD

SITE CODE Site code is not necessary for educators.

Chuddy Grade 3

Scan QR code

Log in

QR code

Username:
chuddy-grade3

Password:
1234

Site Code:
8664578776

<http://math.imaginelearning.com>

Print Start Cards for Students

A student's login card displays the QR code, username, and password, and site code. These cards can be printed and laminated for easy log in with the QR code or to help students remember their information until they have it memorized.

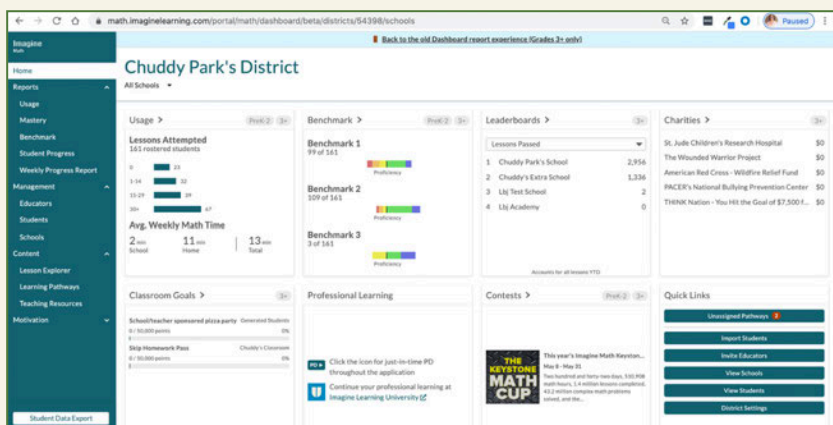
Select **Management**, click **Classrooms**, and then click **Start Cards** and print for each respective class. If students use a single-sign-on system (such as Clever) to sign in, they will not use these cards but parents will need them to link to their student account in registering for the parent portal.

2

Teacher Dashboard

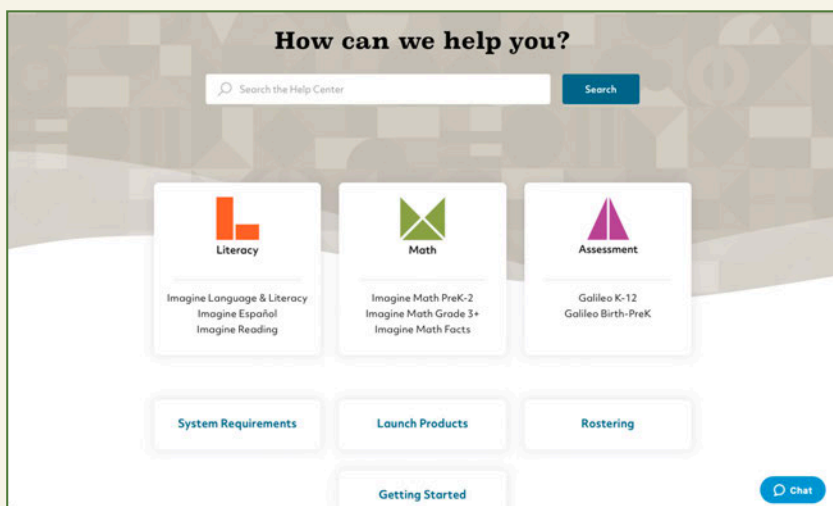
The Imagine Math Teacher Dashboard

On the home screen, use any of the tabs on the left side of the page to manage students, classes, and pathways. From here you can also view reports, set classroom goals, and access resources and Help.



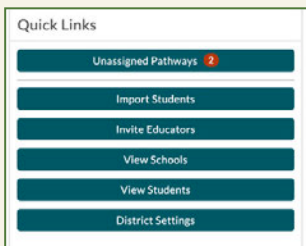
Need Help?

Visit help.imaginelearning.com to get answers to your questions about rostering, getting started, and more!



3

Add/Edit Students



Add a Single Student


1. Click **Import Students**.
2. Choose between **Go Step-by-Step** and **Upload a CSV**.
3. Follow the on-screen instructions.

Add Existing Students

1. Click **Import Students** under Quick Links.
2. Click **Go Step-by-Step**.
3. Click a class.
4. Follow the on-screen instructions.
5. Click **Add Existing Students**.
6. Add Student Information Number(s).
**If you are adding multiple students to the classroom, separate the numbers with commas
7. Click **Search**.
8. Check the students' names you wish to add to your classroom.
9. Click **Add Selected Students**.
10. Review information and click **Confirm Changes**.

Edit Student Details and Language Settings

Option 1

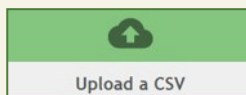
1. Click **Management**.
2. Select **Students**.
3. Search the student name
4. Click the **Pencil Icon**  to edit the individual student.

Option 2

1. Click **Management**.
2. Click **Classrooms**.
3. Click the **Quick Edit Students** button.
4. Click the cell you would like to edit.
5. Click **OK** to save changes.

Bulk Upload Instructions

To bulk import students click **Import Students** on the home page and click **Upload a CSV**. Download the template and follow instructions.




4

Benchmark Assessment

About the Benchmark

The Imagine Math Benchmark was developed by MetaMetrics® and is an inspection tool used to identify necessary remediation curricular areas and show growth over time. It is a 30-question, adaptive test and takes 30–45 minutes to complete. The result of the Benchmark is a Quantile® measure, a performance grade level, an instructional grade level, and normative rankings. Benchmark 1 is automatically delivered upon initial login. Two additional benchmarks will be scheduled over the course of the year and will adjust the content a student receives in their pathway.

QUANTILE® is a registered trademark of MetaMetrics, Inc.

| Benchmark  | | | | | | | | | |
|---|--------------------|--------------|------------------------|----------------------|------------------|--------------------|--------------|--------------|--------------|
| All Classrooms | | | | | | | | | |
| Administration | | | | | | | | | |
| 119 | 86% | 14% | 3% | 0% | 0% | 0% | 0% | 0% | 0% |
| Enrolled Students | Completed No Tests | Completed B1 | Completed B2 | Completed B3 | Completed B4 | Completed B5 | Completed B6 | Completed B7 | Completed B8 |
| Growth | | | | | | | | | |
| <input type="text" value="Search"/> <input type="button" value="All Classrooms"/> <input type="button" value="Benchmark 1 to most recent"/> <input type="button" value="Print"/> <input type="button" value="Export"/> <input type="button" value="Customize"/> | | | | | | | | | |
| Name | Benchmark | Completed | Performance Levels | Avg Quantile® Growth | Avg Weekly Usage | Avg Benchmark Time | | | |
| 1st Period Math/Science - 3rd Grade | Benchmark 1 | 0 | 0 | N/A | N/A | N/A | N/A | N/A | N/A |
| | Most Recent | 0 | 0 | --- | --- | --- | --- | --- | --- |
| 2nd Period - 5th Grade | Benchmark 1 | 0 | 0 | N/A | N/A | N/A | N/A | N/A | N/A |
| | Most Recent | 0 | 0 | --- | --- | --- | --- | --- | --- |
| 3rd Period - 8th Grade | Benchmark 1 | 1 | <div><div></div></div> | N/A | N/A | N/A | N/A | 00:01 | --- |
| | Most Recent | 0 | 0 | --- | --- | --- | --- | --- | --- |
| 4th Period - Languages | Benchmark 1 | 1 | <div><div></div></div> | N/A | N/A | N/A | N/A | 00:19 | --- |
| | Most Recent | 0 | 0 | --- | --- | --- | --- | --- | --- |
| 5th Period | Benchmark 1 | 3 | <div><div></div></div> | N/A | N/A | N/A | N/A | 01:09 | --- |
| | Most Recent | 0 | 0 | --- | --- | --- | --- | --- | --- |
| 6th Period - Pre-K | Benchmark 1 | 2 | 0 | N/A | N/A | N/A | N/A | 00:01 | --- |
| | Most Recent | 1 | 1 | 4602 | 00:01 | 0 | 0 | --- | --- |

Accessing Student Benchmark Growth Data

1. Click Reports.
2. Click Benchmark.

5 Manage Pathways

Imagine Math Content

Imagine Math has grade-level pathways built for grades 3+, Algebra I, Geometry, and college test prep. The program also has grade 1 and 2 lessons available for support and remediation. Teachers and administrators have the option to create custom pathways and assign multiple pathways.

Pathway Types

Default Pathway: State-specific pathway. Automatically assigned when enrolled. Includes benchmark tests and booster packs (when applicable).

Domain Pathways: Focuses on specific areas of curriculum—fractions, measurement, expressions and equations, etc.

Custom Pathways: Created by the customer. Contact your CSM for details.

The screenshot shows the 'Class Roster' section with a dropdown menu for 'State: Active'. Below it are buttons for 'Assign Pathways', 'Search Pathways', 'Change Class', and 'Reassign Student'. The 'Pathways' section has a 'Grade Level' dropdown set to 'All Grades' and a 'Pathway Type' dropdown set to 'All Pathways'. A 'Search' button is labeled with a circled '6'. Below the dropdowns is a link 'or start over'. The 'Pathways' table has columns for 'Select', 'Project', and 'Pathway'. The table lists several pathways, including 'Imagine Math' for 'CCSS 1 Math', 'CCSS 2 Geometry', 'CCSS 3 Measurement and Data', 'CCSS 4 Number and Operations: Fractions', 'CCSS 5 Number and Operations in Base Ten', 'CCSS 6 Operations and Algebraic Thinking', 'Florida Grade 3', and 'Florida Report Card Standards Grade 3'. A 'Enroll' button is at the bottom, labeled with a circled '8'.

| Select | Project | Pathway |
|-------------------------------------|--------------|--|
| <input type="checkbox"/> | Imagine Math | CCSS 1 Math |
| <input type="checkbox"/> | Imagine Math | CCSS 2 Geometry |
| <input type="checkbox"/> | Imagine Math | CCSS 3 Measurement and Data |
| <input type="checkbox"/> | Imagine Math | CCSS 4 Number and Operations: Fractions |
| <input checked="" type="checkbox"/> | Imagine Math | CCSS 5 Number and Operations in Base Ten |
| <input type="checkbox"/> | Imagine Math | CCSS 6 Operations and Algebraic Thinking |
| <input type="checkbox"/> | Imagine Math | Florida Grade 3 |
| <input type="checkbox"/> | Imagine Math | Florida Report Card Standards Grade 3 |

Assigning Pathways

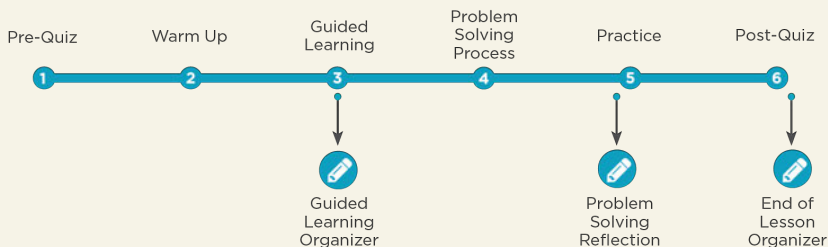
1. From the home screen click **Management** and click **Classrooms**.
2. Click **Current Students**.
3. Check the box next to student name.
4. Click **Assign Pathway**.
5. Use the grade-level dropdown.
6. Click **Search**.
7. Select the pathway.
8. Click **Enroll**.

6

Student Sessions

Pathways

The initial Benchmark is automatically assigned to students based on their grade level. Their pathway is built based on how they perform on the benchmark. The students will progress through the process below for each lesson.



Usage

Recommended usage for Imagine Math is 60–90 minutes (or 2–3 lessons) per week.

Goal

Students should pass 30 lessons before the end of the year. Students who pass 30 or more lessons show statistically significant higher scores on state exams.

Usage Tip

Students can access Imagine Math on any device that has Internet. Students can work on math at home, at the library, on iPads, or even phones. The recommended browser is Google Chrome. For more information on system requirements, visit help.imaginelearning.com.



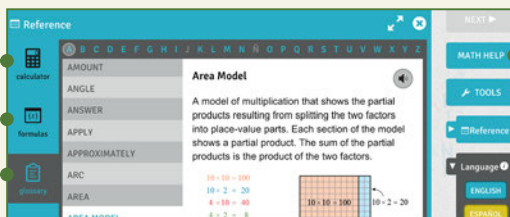
Student Experience

Tools

Math manipulatives and tools are available for students to use during the Guided Learning, and Problem-Solving Process sections.

Reference

The reference section contains a calculator, formulas, and math words to help students as they work through tough problems.

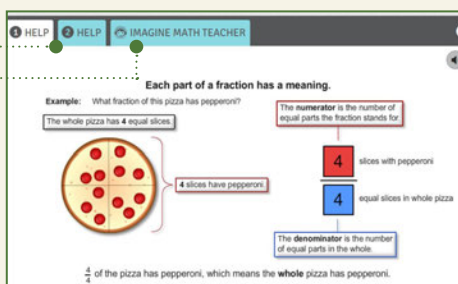


Selecting Math Help takes students to additional support for the question they are working on, including access to a live teacher during the Guided Learning and Problem Solving Process sections.

Math Help

Imagine Math offers two Help tabs that consist of a diagram, animation, or video that will help the student on problems they're struggling with. If that's not enough, they can connect to a live, certified math teacher.

Two Help tabs
Connect to a live teacher



Live Teacher

A live, certified math teacher is available to help your students. Students have access to the teacher tab after clicking on *both* Help tabs and attempting the problem.



Student Engagement

Points

Students earn points for solving math problems correctly. Students are able to view a ledger of points earned by clicking on **View your THINK Points History** on the home page.

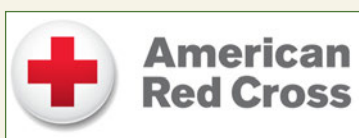
Bonus Opportunities

Students have the opportunity to earn bonus points. If they pass the Pre-Quiz with 80 percent or more, they earn 750 bonus points. If they pass a lesson, they receive 250 bonus points, and if they make the THINK 30 club, they earn 10,000 bonus points.



Redeem Points

Students can redeem points to purchase items for their avatar, donate to the charity of the month, or donate to their classroom goal.



Contests

Watch for the current contest under the Motivation tab to stay updated on the latest national or statewide competitions.





Teaching Resources

Teaching Resources

Access the Teaching Resources under **Content**. Teachers have access to Math Journaling lesson plans, Journaling organizers, certificates, Application Tasks, and correlation documents. These resources are filterable by resource, grade, category, and description.

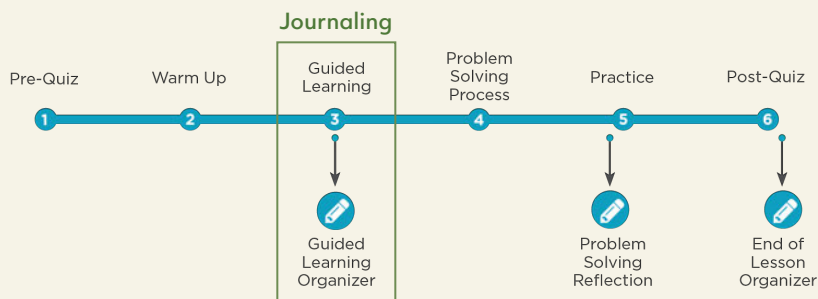
| Teaching Resources | | | |
|---|------------------------------------|------------------------------------|--|
| Grade 3+ Student Experience Videos | | | |
| Resource | Grade | Category | Description |
| <input type="text"/> | <input type="text" value="(All)"/> | <input type="text" value="(All)"/> | <input type="text"/> |
| Addition and Subtraction with Regrouping (Student Master) | Grade 2 | PreK-2 Offline Materials | In this activity students practice adding and subtracting with regrouping. Base-10 block models are used to reinforce place value. |
| Addition and Subtraction with Regrouping (Student Master) (Spanish) | Grade 2 | PreK-2 Offline Materials | In this activity (in Spanish) students practice adding and subtracting with regrouping. Base-10 block models are used to reinforce place value. |
| Addition and Subtraction within 10 (Student Master) | Grade 1 | PreK-2 Offline Materials | In this activity students practice adding and subtracting fluently within 10. |
| Addition and Subtraction within 10 (Student Master) (Spanish) | Grade 1 | PreK-2 Offline Materials | In this activity (in Spanish) students practice adding and subtracting fluently within 10. |
| Addition and Subtraction within 20 (Student Master) | Grade 2 | PreK-2 Offline Materials | In this activity students practice adding and subtracting fluently within 20. |
| Addition and Subtraction within 20 (Student Master) (Spanish) | Grade 2 | PreK-2 Offline Materials | In this activity (in Spanish) students practice adding and subtracting fluently within 20. |
| Addition within 10 (Student Master) | Kindergarten | PreK-2 Offline Materials | In this activity students practice addition within 10. Watch to see if students are progressing from counting everything up to adding fluently. |
| Addition within 10 (Student Master) (Spanish) | Kindergarten | PreK-2 Offline Materials | In this activity (in Spanish) students practice addition within 10. Watch to see if students are progressing from counting everything up to adding fluently. |
| Analyze Aloe Vera Gel Growth and Production (Student Master) | Grade 7 | Application Task | Student materials including application task, glossary of academic, comparative, and math language-related science questions. |

Whole-Group Instruction

1. Click **Content**.
2. Click **Lesson Explorer**.
3. Select the grade.
4. Choose the lesson.
5. Under **Preview** select **Guided Learning** (or the part you want to do as a whole group).
6. When you are finished, click the triangle next to your name.
7. Click **Done with Preview an Activity**.

| Lesson Explorer | | | |
|--|---|---|----------------------|
| PreK-2 | | | |
| LESSONS & ASSESSMENTS | PREREQUISITE | SHOWS | GLOSSARY |
| <input type="text"/> | <input type="text" value="All Grades"/> | <input type="text" value="All Topics"/> | <input type="text"/> |
| Title | ID | | |
| Colors and location words | | | |
| Introduction to colors | | | PK-001 |
| Grow like the color | | | PK-002 |
| Location words: on, under, above, next to | | | PK-003 |
| Location words: behind, in front of, between | | | PK-004 |
| Similarity and difference | | | |
| Colors and adjectives | | | PK-005 |
| Grow like the color and shape | | | PK-006 |
| Location words: above, below, on, down | | | PK-007 |

10 Journaling



Imagine Learning highly encourages that you make journaling a requirement. Journaling during the Guided Learning activity is crucial for teaching students mathematical concepts and provides notes for students to use when working on the Practice and Post-Quiz activities. We have in product prompts and printable graphic organizers for the journaling prompts offered after the **Problem-Solving Process** (available in some lessons for grades 5+) and after completion of a lesson following the **Post-Quiz**. Imagine Learning recommends that you grade the journals as a way to hold the students accountable.

Click on **Content** and **Teaching Resources** to find all organizers, a lesson plan, and grading rubric related to journaling.

Write or Talk

PRINT JOURNAL PAGE

Reflect on the lesson. Use linking words and phrases in your responses.

- 1. Major Words and Phrases**
Write at least one important math word or phrase that was used in this lesson. For each word or phrase, write the definition in your own words and draw a visual representation.
- 2. Problem-Solving Strategies**
Write at least one strategy that you used in this lesson and describe how you used it.
- 3. Growth**
Write about something you learned in this lesson, perhaps from a mistake you made, that you could apply to future problems.
- 4. Continued Learning**
Write about questions you still have or something you want to learn more about.

Resources

Example

► Strategies

► Linking Words and Phrases

NEXT

11

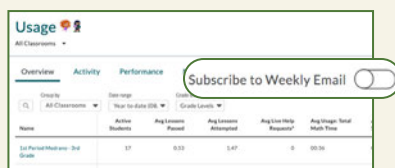
Reports: Overview & Progress

Reporting Overview

Imagine Math is focused on meeting the instructional needs of teachers and students. Imagine Math reports are designed to give educators the information they need to ensure program success. The system organizes student performance data and provides powerful visual summaries giving insight into where students are, how much progress they are making, and where they need to go next.

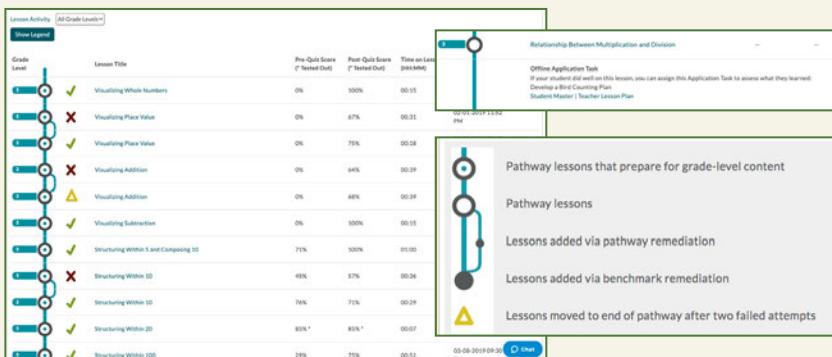
Overview Report

The Overview Report provides information about student performance in Imagine Math and usage of the application. Teachers and school administrators can subscribe to receive weekly emailed reports.



Student Progress Report

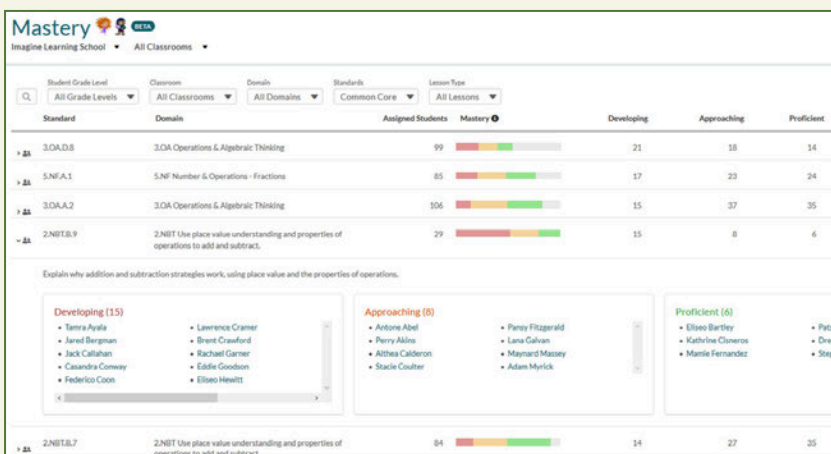
The Student Progress Report provides a detailed view of how students are performing on their pathways as they use Imagine Math and recommends an appropriate Application Task. This report is designed to be printed so you can share a student's progress with families.



12 Reports: Mastery Report

Mastery Report

The Mastery Report provides a view of how students, classrooms, schools, and districts are performing against standards set by their state.



13 Implementation Models

Imagine Math 3+ provides support for a continuum of learning models, including resources for both online and offline learning.

IN-PERSON



HYBRID



VIRTUAL



In-Person Learning Model: Sample weekly schedule

Students physically attend school for five days a week.

| Monday | Tuesday | Wednesday | Thursday | Friday |
|---|--|---|------------------|---|
| 30–45-minutes: <i>Independent learning</i> <i>Small group instruction</i> | Whole-class instruction or small group teacher-led instruction | 30–45-minute center rotations: <i>Independent learning</i> <i>Small group instruction</i> | Application Task | 30–45-minute center rotations: <i>Independent learning</i> <i>Small group instruction</i> |

Hybrid Learning Model: Sample Weekly Schedule

Students physically attend school for part of the week and do additional learning at home.

| | Monday | Tuesday | Wednesday | Thursday | Friday |
|-----------|----------------------------------|---|----------------------------------|---|----------------------------------|
| In School | | 30–45-minutes: <i>Independent learning</i> <i>Small group instruction</i> 10 minutes of Imagine Math Facts | | 30–45-minutes: <i>Independent learning</i> <i>Small group instruction</i> 10 minutes of Imagine Math Facts | |
| At Home | 10 minutes of Imagine Math Facts | | 10 minutes of Imagine Math Facts | | 10 minutes of Imagine Math Facts |

At-Home Learning Model: Sample Weekly Schedule

Students remain at home, where they work independently and receive instruction from their teacher through video conferencing.

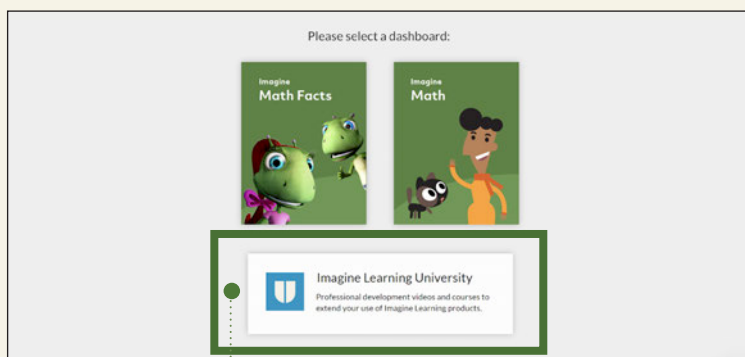
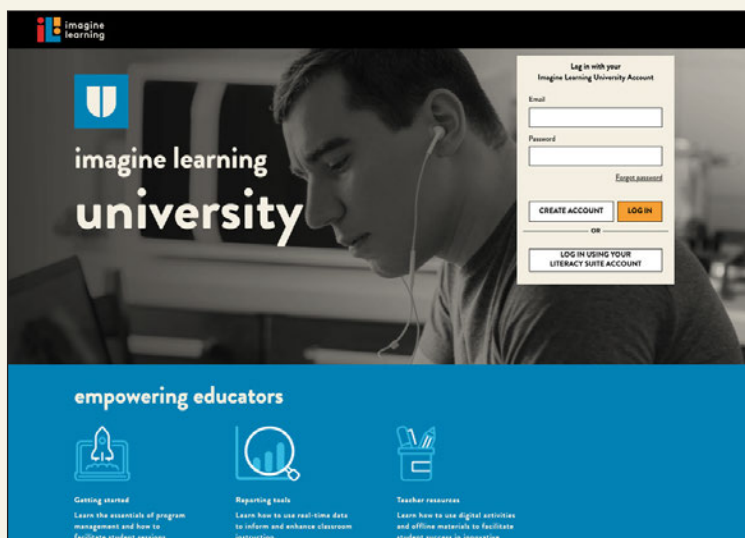
| Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|
| 30–45-minutes: <i>Independent learning</i> <i>Small group instruction</i> | Whole-class instruction or small group teacher-led instruction via web conference | 30–45-minute center rotations: <i>Independent learning</i> <i>Small group instruction</i> | Collaborative online student Application Task | 30–45-minute center rotations: <i>Independent learning</i> <i>Small group instruction</i> |

Usage Recommendations

Recommended usage for Imagine Math is 60–90 minutes (or 2–3 lessons) per week.

14 Imagine Learning University




Access on-demand, self-paced courses in Imagine Learning University to get started and for on-going support throughout the year. A one-stop shop for learning, available 24/7.



- When you are in the Math Portal, click on the Imagine Learning University tile to access the site. Then, log in using your Imagine Learning University credentials.



imagine
learning

 help.imaginelearning.com
 support@imaginelearning.com
 1.866.457.8776

 facebook.com/imaginelearning
 twitter.com/imaginelearning
 pinterest.com/imaginelearning



imagine
Math Facts

quick guide

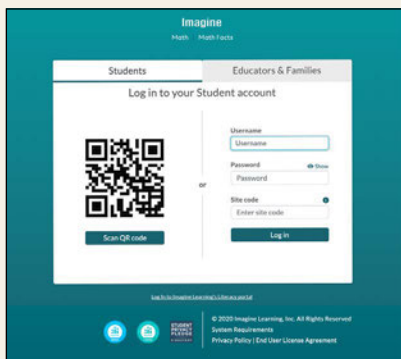


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1

Getting Started



Student and Educators & Families Login

math.imaginelearning.com

USERNAME

PASSWORD

SITE CODE

Site code is not necessary for educators.



Print Start Cards for Students

A student's login card displays the QR code, username, and password, and site code. These cards can be printed and laminated for easy log in with the QR code or to help students remember their information until they have it memorized.

Select **Management**, click **Classrooms**, and then click **Start Cards** and print for each respective class. If students use a single-sign-on system (such as Clever) to sign in, they will not use these cards.

2

Teacher Dashboard

The Imagine Math Facts Teacher Dashboard

While on the home screen use any of the tabs on the left side of the page to manage students and classes, view reports, and access help.

The screenshot shows the 'Editing Dallin Demo Class' interface. On the left is a navigation menu with options: Home, Reports, Usage, Management, Students, and Classrooms. The main content area is titled 'Editing Dallin Demo Class' and includes a 'Name of your Class' field set to 'Dallin Demo Class'. Below this is the 'School' field set to 'Customer Care Demo School'. The 'Avatar Settings' section contains a note: 'Set days and times that students will be prevented from designing avatars or purchasing accessories. (Grades 3+ only)'. This is followed by a table for 'Restrict Access' with columns for 'Start Time' and 'End Time'. The table lists days from Monday to Friday, each with a time range (e.g., 12 W 3:00 W - 12 W 3:00 W) and a status 'to'. Below the table is the 'Imagine Math' section with three checkboxes: 'Allow students in this class to use the built-in calculator? (Grades 3+ only)', 'Allow Imagine Math to manage pathway environments? (Grades 3+ only)', and 'Enable sound effects while students are doing math? (Grades 3+ only)'. The 'Imagine Math Facts' section includes a dropdown for 'Order of operations (default)' with options: Addition, Subtraction, Multiplication, and Division.

Need Help?

Visit help.imaginelearning.com to get answers to your questions about rostering, getting started, and more!

The screenshot shows the 'How can we help you?' help center page. It features a search bar with the placeholder text 'Search the Help Center' and a 'Search' button. Below the search bar are three main categories: 'Literacy' (with a red L icon), 'Math' (with a green M icon), and 'Assessment' (with a purple A icon). Each category lists related products: 'Imagine Language & Literacy', 'Imagine Español', 'Imagine Reading' under Literacy; 'Imagine Math PreK-2', 'Imagine Math Grade 3+', 'Imagine Math Facts' under Math; and 'Galileo K-12', 'Galileo Birth-PreK' under Assessment. At the bottom, there are four buttons: 'System Requirements', 'Launch Products', 'Rostering', and 'Getting Started'. A 'Chat' button is located in the bottom right corner.

3

Add/Edit Students

Students

Add Students

Add a Single Student


1. Click on Import Students.
2. Choose between Go Step-by-Step and Upload a CSV.
3. Follow the on-screen instructions.

Add Existing Students

1. Click on Import Students under Quick Links.
2. Click Go Step-by-Step.
3. Click a class.
4. Follow the on-screen instructions.
5. Click Add Existing Students.
6. Add Student Information Number(s).
**If you are adding multiple students to the classroom, separate the numbers with commas
7. Click Search.
8. Check on the students' names you wish to add to your classroom.
9. Click Add Selected Students.
10. Review information and click Confirm Changes.

Edit Student Details and Language Settings

Option 1

1. Click Management.
2. Select Students.
3. Search the student name.
4. Click the Pencil Icon  to edit the individual student.

Option 2

1. Click Management.
2. Click Classrooms.
3. Click on the Quick Edit Students button.
4. Click the cell you would like to edit.
5. Click OK to save changes.

Bulk Import Students

To bulk import students click on Import Students on the home page and click Upload a CSV. Download the template and follow instructions.



Upload a CSV

4

Operation Ordering

Edit Force Operation Ordering

When creating or editing a class, you can choose the order of operations you would like all students in your class to experience. Otherwise, all students will be able to select which operation they will see.

Select Management > Classrooms > Edit Classroom.

Classes

Create a Class

Active Classes

Inactive Classes

Dallin Demo Class

Teacher:

Dallin Demo

Edit Classroom

Add Students

Generate Students

Current Students

Quick Edit Students

Start Cards

Deactivate

Imagine Math Tools

Home

Reports

Usage

Management

Students

Classrooms

Programs

Dallin Demo

Teacher

Editing Dallin Demo Class

Name of your class

Dallin Demo Class

School

Customer Care Demo School

Avatar Settings

Set days and times that students will be prevented from designing avatars or purchasing accessories. (Grades 3+ only)

| Restrict Access | Start Time | | End Time |
|------------------------------------|--------------------|----|--------------------|
| <input type="checkbox"/> Monday | 12:00 PM - 1:00 PM | to | 12:00 PM - 1:00 PM |
| <input type="checkbox"/> Tuesday | 12:00 PM - 1:00 PM | to | 12:00 PM - 1:00 PM |
| <input type="checkbox"/> Wednesday | 12:00 PM - 1:00 PM | to | 12:00 PM - 1:00 PM |
| <input type="checkbox"/> Thursday | 12:00 PM - 1:00 PM | to | 12:00 PM - 1:00 PM |
| <input type="checkbox"/> Friday | 12:00 PM - 1:00 PM | to | 12:00 PM - 1:00 PM |

Imagine Math

Allow students in this class to use the built-in calculator? (Grades 3+ only)

Allow Imagine Math to manage gateway endpoints? (Grades 3+ only)

Enable sound effects while students are doing math? (Grades 3+ only)

Active

Imagine Math Facts

Operation Ordering

Order of operations (default)

Addition

Subtraction

Multiplication

Division

☐ Friendly Mode

Cancel

Save

1. Check **Operation Ordering**.
2. Drag and drop to set operation order.
3. Click **Save**.

5

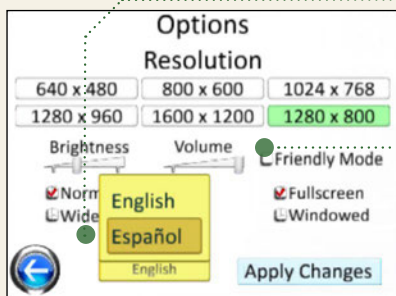
5 Feature Enablement

Before You Begin

To enable the following features, you must be logged in as the student. During the student session, press **ESC** to access the options button.



Options



Turn on Spanish Language Support

1. Select **Options** on pause screen.
2. Select **Español**.
3. Select **Apply Changes**.

Turn on Friendly Mode

This disables intense effects when students answer incorrectly.

1. Select **Options** on pause screen.
2. Select box next to **Friendly Mode**.
3. Select **Apply Changes**.

You can also enable Friendly Mode from the Imagine Math Facts Teacher Portal.

1. Select **Management > Classrooms > Edit Classroom**.
2. Check **Friendly Mode** underneath Operation Ordering.
3. Click **Save**.

6

Student Pre-Test and Post-Test

Student Pre-Test and Post-Test

If the teacher hasn't selected Operation Ordering, students will select the operation and character when they log in. The program will have them take a typing test and a pre-test for the operation they chose. The information from the pre-test automatically creates and constantly updates the curriculum for each student to improve his or her fluency in the targeted area. The program also constantly updates typing speed in order to separate recall speed from total response time. Once students have had an opportunity to master and prove their knowledge, they will take a post-test to complete that operation.



Usage

Recommended usage for Imagine Math Facts is 10-15 minutes per session, 4-5 times per week.

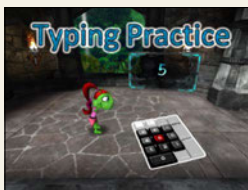


Student Experience

Navigation Buttons



The arrow keys are used to navigate the avatar.



The number keys are used for the math problems.

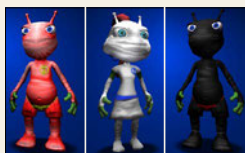


Game Theory Design

Background music, a captivating 3D world, and immediate feedback boost students' interest. They are able to unlock Ninja mode once they have at least 95 percent fluency.

Ninja Mode

Ninja mode in Addition and Subtraction automatically becomes available once a student has passed both operations with at least 95% fact fluency. Ninja mode will become available for Multiplication and Division once a student has achieved at least 95% fact fluency in all four operations.. This mode has three levels: Ninja Apprentice (white clothes), Ninja (red clothes), and Ninja Master (black clothes). As students unlock higher levels of Ninja mode, the time allowed to complete the answer decreases. Once each level is mastered, the student moves up a level.



Usage Report

Overview

From the Overview section, you can monitor the time that individual students spend using Imagine Math Facts at home, at school, and in total. Hover over the colored bars in the Total Math Time column to see the percentage of time that students spend working on each operation in the program.

| Imagine Math Facts | | Usage | |
|--------------------|------------------|--|-----------------|
| Home | | All Students | |
| Reports | | Overview | |
| Usage | | Group by: All Students | |
| Student Progress | | Date range: Custom (06/24/2020 - 09/24/2020) | |
| Management | | Grade levels: Grade Levels | |
| Students | | | |
| Classrooms | | | |
| IMF Teacher | | | |
| First Name | Last Name | Grade Level | Total Fact Time |
| Mikah | Ziebarth | Algebra I | 8h 10m |
| Joyce | McArthur Johnson | Grade 3 | 3h 27m |
| Riley | Leonhardt | Grade 4 | 2h 43m |
| Feliciti | Ziebarth | Grade 8 | 1h 51m |
| Kizzie | Mears | Grade 4 | 1h 14m |
| Madlyn | Ziebarth | Grade 6 | 0h 48m |
| Lisa | Wise | Grade 2 | 0h 20m |

Operations

For an in-depth summary of student usage and performance on each operation, click any of the operation symbols next to the date range filter. You can customize the report to show or remove data columns. In particular, you may want to focus on the estimated time that a student has remaining in the program for that particular operation.

| Imagine Math Facts | | Usage | |
|--------------------|------------------|--|-------------------|
| Home | | All Students | |
| Reports | | Overview | |
| Usage | | Group by: All Students | |
| Student Progress | | Date range: Custom (06/24/2020 - 09/24/2020) | |
| Management | | Grade levels: Grade Levels | |
| Students | | | |
| Classrooms | | | |
| IMF Teacher | | | |
| First Name | Last Name | Facts Passed | Facts Encountered |
| Mikah | Ziebarth | 588 | 777 |
| Joyce | McArthur Johnson | 613 | 680 |
| Feliciti | Ziebarth | 334 | 437 |
| Riley | Leonhardt | 131 | 164 |
| Kizzie | Mears | 140 | 175 |
| Lisa | Wise | 214 | 271 |
| Madlyn | Ziebarth | 186 | 221 |
| Dan | Sawyer | 85 | 90 |
| Kristen | Schorer | 101 | 134 |
| | | Addition Time | |
| | | Estimated Time Remaining | |
| | | School Fact Time | |
| | | Home Fact Time | |
| | | 2h 10m | |
| | | 1h 43m | |
| | | 1h 26m | |
| | | 0h 40m | |
| | | 0h 32m | |
| | | 0h 29m | |
| | | 0h 28m | |
| | | 0h 20m | |
| | | 0h 18m | |



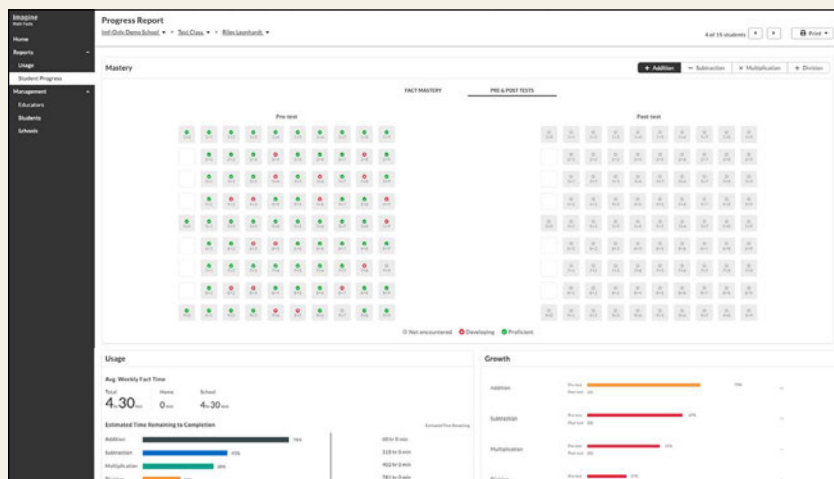
Student Progress Report

Pre- and Post-Tests

The Student Progress Report shows you which math facts a student encountered during the pre-test and later the post-test for a specific operation. Green boxes indicate that the student is proficient with that math fact. Red boxes indicate that the student is still developing proficiency with that math fact, and a gray box indicates that this math fact was not encountered during the pre-test or post-test.

Note: Under Addition and Subtraction, there will be empty boxes for math facts using 0. This is not a mistake. Because students need less practice with anything plus zero, the program only asks the student to master three facts using zero for addition and subtraction. Any facts that students do not see in the program will appear empty.

Scroll down to see snapshot summaries of student usage and student growth.



Fact Mastery

After a pre-test, you can monitor student progress by viewing the Fact Mastery section of the report. This section allows you to see current progress for each student toward math fact mastery.



10

Flexible Implementation Models

Usage Recommendations

Imagine Math Facts supplements and support standards-based instruction with rigorous content and intentional scaffolds focused on developing conceptual understanding and grade-level success. Imagine Math Facts offers critical foundations in fact fluency and supports algebra readiness through game-like learning.

In-person Learning Model: Sample weekly schedule

Students physically attend school for five days a week.

| Monday | Tuesday | Wednesday | Thursday | Friday |
|---|--|---|--|---|
| Independent Imagine Math learning Whole-class: computer lab 1:1 devices Small groups: station rotations • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes • Grades 3+: 30–45 minutes | Whole-class or small group teacher-led instruction. | Independent Imagine Math learning Whole-class: computer lab 1:1 devices Small groups: station rotations • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes • Grades 3+: 30–45 minutes | Application Task (grades 3+ only) | Independent Imagine Math learning Whole-class: computer lab 1:1 devices Small groups: station rotations • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes • Grades 3+: 30–45 minutes |
| Plus, optional independent use of Imagine Math Facts daily (5–7 times/week) for at least 30 minutes total/week | | | | |

Hybrid Learning Model: Sample weekly schedule

Students physically attend school for part of the week and do additional learning outside of school.

| | Monday | Tuesday | Wednesday | Thursday | Friday |
|-----------|--|---|--|---|--|
| In-person | | Imagine Math Facts • Grades 1+: 10 min Imagine Math: • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes • Grades 3+: 30–45 minutes | | Imagine Math Facts • Grades 1+: 10 min Imagine Math: • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes Grades 3+: 30–45 minutes | |
| Virtual | Imagine Math Facts • Grades 1+: 10 min | | Imagine Math Facts • Grades 1+: 10 min | | Imagine Math Facts • Grades 1+: 10 min |

Virtual Learning Model: Sample weekly schedule

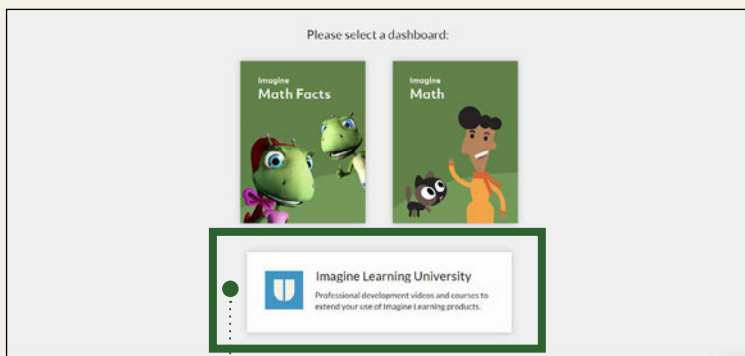
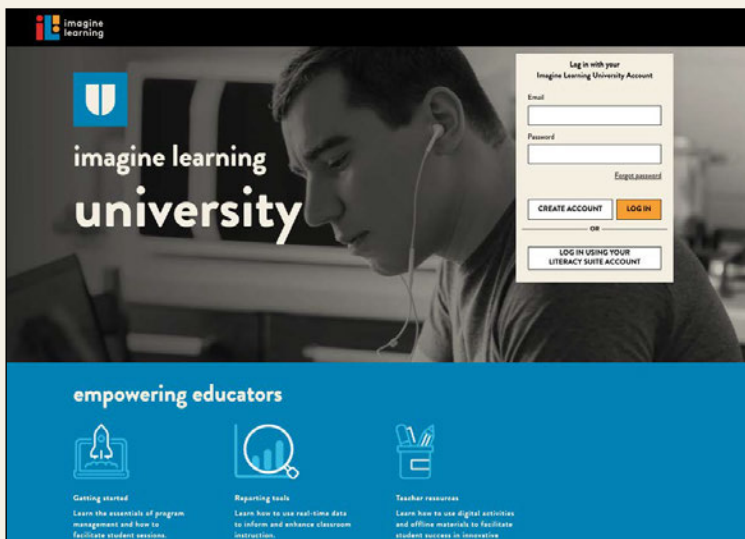
Students do not come to school; instead, they work independently and receive instruction from their teacher through video conferencing. Independent student learning is supported by embedded motivational elements for all learners and strategic, rigorous Live Teacher support at grades 3 and above.

| Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|--|---|
| Independent Imagine Math learning • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes • Grades 3+: 30–45 minutes | Whole-class or small group Imagine Math instruction via web conference | Independent Imagine Math learning • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes • Grades 3+: 30–45 minutes | Collaborative online student work on Application Task (grades 3+) | Independent Imagine Math learning • Pre-K & K: 15–20 minutes • Grades 1 & 2: 20–30 minutes • Grades 3+: 30–45 minutes |
| Plus, optional independent use of Imagine Math Facts daily (5–7 times/week) for at least 30 minutes total/week | | | | |

11

Imagine Learning University

Access on-demand, self-paced courses in Imagine Learning University to get started and for ongoing support throughout the year. A one-stop shop for learning, available 24/7.



- When you are in the Math Portal, click on the Imagine Learning University tile to access the site. Then, log in using your Imagine Learning University credentials.



imagine
learning

 help.imaginelearning.com
 support@imaginelearning.com
 1.866.457.8776

 facebook.com/imaginelearning
 twitter.com/imaginelearning
 pinterest.com/imaginelearning

b. A projected schedule for performing key phases of the project, including estimated time frame;

Imagine Learning is committed to creating a smooth onboarding process and will assign a dedicated education success manager to provide the resources and guidance needed to ensure an efficient and successful implementation. Our project management plans include the following phases.

- **Project Planning.** The Project Planning phase will begin upon contract award and continue throughout the first month of the partnership to ensure Imagine Learning's plans reflect the District's goals. Initial planning meetings will confirm the communications plan and the student upload procedures. Moving forward, the planning will focus on teacher professional development and continued program use.
- **Technical Development.** The Technical Development phase will focus on the tools HCPS will use to upload students into the programs. Imagine Learning's technical systems engineer will work with the district IT department to ensure correct student data is being uploaded in a way that fits the district's IT protocol.
- **Implementation, Training, and Ongoing Support.** The Implementation, Training, and Ongoing Support plan focuses on timely implementations, customized train-the-trainer model for schools through success planning, onsite training, online training, onsite kickoff visits, and site-based coaching visits to ensure program fidelity. An in-state team delivers these sessions supported by an online team focused on customer support.
- **Analysis and Quality Improvement.** The basis for Analysis and Quality Improvement is having an open and effective communication program with the district. Therefore, Imagine Learning provides regular activity briefs, monthly reports on progress, and quarterly meetings to discuss how the implementation is tracking to plan. This effort is ongoing and key to achieving a strong working relationship that supports the goals of the district.

The following table is a projected timeline of implementation and training for this contract. **The dates listed are only examples; Imagine Learning will work on a final timeline with the district.** The beige headers denote significant milestones in the process.

| Tasks | Responsible Parties | Completion Dates |
|--|--------------------------|------------------|
| Project Planning | | |
| Contract award and initial planning meetings to confirm the communications plan and student upload procedures. | Imagine Learning HCPS | June 2021 |
| Technical Development | | |
| Examine SIS tools for student data rostering. Review past reporting tools to determine needs for any additional reports. | Imagine Learning | July 2021 |

| Tasks | Responsible Parties | Completion Dates |
|--|--------------------------|------------------|
| Pre-installation Preparation | | |
| Complete installation on Cloud server. | Imagine Learning | July 2021 |
| Schedule training dates for any workshops. | Imagine Learning HCPS | July 2021 |
| Communication and Marketing | | |
| Direct outreach campaign to generate awareness, including training information for teachers. | Imagine Learning | June–July 2021 |
| Communicate special events and program opportunities, including motivational announcements. | Imagine Learning HCPS | Ongoing |
| Site Installation and Trainings | | |
| Implement programs on devices. | HCPS Imagine Learning | July 2021 |
| Provide training workshops, as applicable. | Imagine Learning | July-August 2021 |
| Ensure students begin using the program. | Imagine Learning HCPS | September 2021 |
| Conduct follow-up calls or visits. | Imagine Learning | September 2021 |
| Follow-up Trainings | | |
| Conduct first follow-up training workshop. | Imagine Learning | October2021 |
| Conduct second follow-up trainings, if necessary. | | November 2021 |
| Training and Ongoing Support | | |
| Provide online training, onsite kickoff visits, and site-based coaching visits to ensure program fidelity. | Imagine Learning | Ongoing |
| Monitoring | | |
| Monitor usage and regularly reach out to schools to encourage efficacious use. | Imagine Learning | Ongoing |
| Meet to discuss how the implementation is tracking to plan. | Imagine Learning HCPS | Quarterly |

c. Any agreements to which HCPS may be required to agree to as part of the contract should your firm be awarded the contract. (i.e. Service Level Agreement etc.)

HCPS will be required to agree to Imagine Learning's End User License Agreement should we be awarded the contract. This agreement is provided in Tab 11: Exceptions.

d. Any terms and conditions the "end user" is required to accept;

End users are not required to accept any terms and conditions to use the programs.

e. Discuss how parental consent is handled, if required; and

Parental consent is not required to use the programs. However, the program does provide family letters describing the program and providing guidance on how to access the program from home.

f. A detailed timeline for implementation of the proposed solution indicating resources (responsible party) and completion dates.

A tentative timeline is provided in response to item #b above. Imagine Learning will work with HCPS during the implementation planning phase to finalize a timeline.

Tab 5: Training and Professional Development

Information about Imagine Learning's training and professional development services are provided on the following pages.

In this tab, offerors shall describe training and professional development that is included with the proposed solution. Offerors shall include a description of the required training for implementation of the program for on-site training and virtual, as well as options for continued professional development at either the district or school level. This shall include on-site, webinar and printed materials. Pricing shall be clearly defined in the proposal submission. Offerors shall provide the number of participants and hours provided.

Imagine Learning is committed to the success of its districts and schools. Professional development services typically include multiple opportunities for virtual and onsite coaching to improve teacher effectiveness. Teachers experience professional gains as they incorporate high-leverage teaching practices, research-based instructional routines, data-driven instruction, and blended learning.

Educators who attend Imagine Learning's professional development sessions are more likely to implement Imagine Language & Literacy with fidelity and positively impact student achievement. With flexible delivery options, leveled learning, and sessions targeted to district needs, Imagine Learning's experienced professional development team will provide the support HCPS needs to ensure a successful implementation. Imagine Learning's professional development is:

- **Comprehensive.** Designed to ensure the district receives leveled support throughout the partnership, Imagine Learning's professional development is tailored to both instructional leaders and educators. Our professional development packages will help grow HCPS' implementation over time based on established instructional goals.
- **Focused.** With targeted packages for each product, Imagine Learning's professional development helps leaders and educators learn key features of each products, such as how to interpret and analyze data to make informed decisions.
- **Flexible.** Imagine Learning's professional development options are flexible, accommodating virtual, onsite, and blended sessions.
- **Adaptable.** Professional development packages are adaptable, ensuring sessions are targeted to each site. HCPS can also share sessions with multiple sites across the district.

Imagine Learning will personalize HCPS' professional development based on the district's customer journey, educators, and instructional goals. Sessions are tailored to reach users with differing levels of experience and are targeted specifically to the needs of educators and instructional leaders.

Imagine Learning proposes our comprehensive professional development package—described in detail on the following pages—in two models, per school and district wide. Additional details are provided in Tab 9: Pricing/Cost Proposal

| Annual Pricing | | |
|--|--------------|---------|
| Product | License Type | Cost |
| PD Webinar Package – Foundational: Includes 4 sessions of customer’s choice delivered virtually. Up to 40 educators. | Per Package | \$3,000 |
| PD Onsite Package – Foundational: Includes 4 sessions of customer’s choice delivered onsite. Up to 40 educators. | Per Package | \$5,000 |

Imagine Learning Professional Development



Educators who attend Imagine Learning's professional development sessions are more likely to implement with fidelity and positively impact student achievement.

With flexible delivery options, leveled learning, and sessions targeted to your needs, our experienced professional development team will provide the support you need to set your implementation up for success throughout the year.

Our sessions focus on:



Products

Participants will learn key features of the product, including how to interpret & analyze data to make data-informed decisions.



Practices

Interactive discussions and hands-on opportunities help educators adopt best practices for new models of teaching and learning.



Personalization

Our Professional Development Specialists partner with you to deliver content aligned to your instructional goals.

Flexible Scheduling to Fit Your Needs

Our team will partner with you to build a professional development plan based on your schedule and aligned to your goals. Sessions are tailored to reach users with differing levels of experience and are targeted specifically to the needs of educators and instructional leaders.

For a detailed description of each professional development session, visit imaginelearning.com/services to access the full professional development catalog.



Foundational and Comprehensive Professional Development Packages

Focused professional development packages for each product:

- Imagine Language & Literacy
- Imagine Math
- Imagine Español
- Imagine Reading
- Imagine Lectora
- Galileo K-12 Assessment®

Flexible options with virtual or onsite delivery

Adaptable packages for each site or options to share with different sites in a district

| | Foundational Webinar Package | Comprehensive Webinar Package | Foundational Onsite Package | Comprehensive Onsite Package |
|---------------------|---|--|---|--|
| MODALITY | Virtual | Virtual | Onsite | Onsite |
| NUMBER OF EDUCATORS | Up to 40 | Up to 40 | Up to 40 | Up to 40 |
| NUMBER OF SESSIONS | 4 sessions | 8 sessions | 2 Onsite days (4 sessions) | 4 Onsite days (8 sessions) |
| FOCUS | Getting Started and Building Leadership | Taking Your Implementation to the Next Level | Getting Started and Building Leadership | Taking Your Implementation to the Next Level |

Professional Development Sessions

- Comprehensive professional development for instructional leaders and educators
- Personalized professional development tailored to customer's journey
- Each session is designed for up to 40 educators for up to a three-hour session. We will work with sites to tailor content to fit your grade-level planning periods, professional learning community time, etc.

Leading with Success Sessions *Audience: Leaders*

- Best Practices to Lead with Success
- Facilitating Data Teams and Data-Driven Dialogue
- Engaging Families
- Establishing a Data Culture
- Leading PLCs with Imagine Learning University
- Taking Action with Data and State Test Results*
- Including Formative Assessment in Your District Data Story*
- Maximizing Mid-Year Benchmark Data*
- Supporting Differentiation of Instruction & Interventions*
- Leading PLCs with Galileo K-12 Assessment Data*

Getting Started Sessions *Audience: Educators*

- Getting Started with Success
- Best Practices with Distance Learning
- Best Practices with Reports & Data
- Taking Action with Initial Benchmark Data*

Taking Your Implementation to the Next Level Sessions *Audience: Educators*

- Using Data to Inform Instruction
- Helping All Learners Succeed
- Engaging Families
- Maximizing Your Galileo ELA Benchmark Data*
- Journaling and the Language of Math*
- Blended Learning Best Practices
- Targeting Priority Standards to Avoid Learning Loss
- Summer School Success
- Maximizing Mid-Year Benchmark Data*
- Facilitating Academic Discourse*

Targeted Support Sessions *Audience: Educators*

- Goal Setting and Motivating Students
- Customized Office Hours with Tailored Support

**Sessions designed for a specific product.*

Tab 6: Technical Requirements

Responses that detail how Imagine Learning meets the technical requirements of this RFP are provided on the following pages. Additional information is also provided under the “Technical Specifications” section in Tab 2: Statement of the Scope and in Tab 7: Infrastructure and System Administration.

In this tab, offerors should describe, in detail, how the proposed solution meets the technical requirement of the RFP. This shall include Offerors shall provide, at a minimum, documentation to support:

a. Evidence of their ability to accommodate concurrent users based on data collected from a similar environment;

Because Imagine Language & Literacy is cloud-based, Imagine Learning can auto-scale platform resources to support additional user load. Therefore, there is no limit to the number of concurrent users the program can accommodate.

b. How accounts are maintained in their system and how they support automated provisioning of users and accounts;

Several methods exist for user provisioning, depending on the size of the engagement and the preferences of HCPS administrators. Self-Managed rostering is available for smaller lists through individual or bulk import—typically through CSV uploads. Assisted one-time rostering is available for larger engagements via CSV templates and technical support. Automated rostering is also available for larger engagements via SFTP uploads, OneRoster integration, ClassLink, or Clever. Please see <https://help.imaginelearning.com/hc/en-us/categories/360005906953-Rostering> for additional details.

c. Describe the data exchange process in detail;

The data exchange process will vary depending on the method HCPS chooses. However, PII data is always encrypted in transit and at rest.

d. Describe any limitations the proposed solution may have such as the number of teachers for a class and the number of schools associated with teachers and students;

Some products have limitations on whether a single teacher account can be assigned to multiple schools. For Imagine Math and Imagine Math Facts, teacher accounts are limited to one school, but multiple teachers can be assigned to a single classroom. School and district administrator accounts can have access to multiple classrooms and schools.

e. Provide per user bandwidth requirements for the proposed solution;

For Imagine Math and Imagine Math Facts, the minimum network bandwidth required per student is 2 Mbps. However, Imagine Learning recommends 6.0 Mbps or higher.

f. Provide the average bandwidth per student required;

As described above, the user bandwidth required to access Imagine Math and Imagine Math Facts is 2 Mbps.

g. Provide a detailed description of the implementation and support the solution has for LTI version 1.1 or higher certified as a toll Provider (TP) with our LMS Solution (Schoology).

Imagine Math and Imagine Math Facts support several single sign-on integrations, including Clever, ClassLink, and other identity providers who support OpenID Connect, OAuth 2, Active Directory Federation Services (ADFS), LDAP, and SAML.

Tab 7: Infrastructure and System Administration

Responses to requirements about Imagine Learning's system infrastructure and administration are provided on the following pages.

In this tab, offerors shall discuss the infrastructure of their solution. In describing their infrastructure and solution the following should be provided:

a. Details of the hosting environment including hosting provider, service level agreements between the Offeror and the hosting provider, and length of the relationship between the Offeror and the hosting provider.

Imagine Learning's products are hosted via well-established cloud service providers—primarily Microsoft Azure and Amazon Web Services—eliminating the need for HCPS to host or maintain any services. This allows Imagine Learning products to scale, meeting the needs of hundreds of thousands of students per day, with failover, high availability, and disaster recovery processes in place. The length of the relationship depends on the provider, but Imagine Learning started transitioning its products from on-premise to cloud in 2015.

Amazon Web Services (AWS) is the primary hosting provider for Imagine Learning. AWS service level agreements are published here: <https://aws.amazon.com/legal/service-level-agreements/>. Service level agreements that are more pertinent to our products include Amazon EC2, Amazon RDS, and Amazon S3.

b. Specifics of structures in place to ensure high availability including redundant Internet paths, hardware failover, scalability, and protection against denial of service attacks or other network threats.

Data is distributed across AWS/Azure database service instances within a particular U.S.-based AWS/Azure region. There are strict logical tenancies between customers. Imagine Learning employs industry best practices in data security, as described below.

c. Specifics of security measures in place to ensure that district data is secure during both storage and transit.

In addition to the protections afforded by our cloud hosting providers, practices employed at Imagine Learning to protect personal data include, but are not limited to:

- **Data encryption.** Data is encrypted in transit and at rest.
- **Access.** Access to personal information is restricted to a limited number of Imagine Learning employees who need such access to perform their job.
- **Data Systems Monitoring.** Imagine Learning employs several third-party services that continuously monitor and scan our online services for vulnerabilities and

misconfigurations. Employees dedicated to operating our services monitor these services and receive automated alerts when performance falls outside of prescribed norms.

- **Incident Response Plan.** Imagine Learning regularly reviews and maintains an incident response plan.
- **File Transfer Protocol.** Data is securely transferred to Imagine Learning using File Transfer Protocol (FTP) over secure (SSL/TLS) cryptographic protocol.
- **Firewalls.** Anti-virus software and firewalls are installed and configured to scan our systems. The firewall is periodically updated and configured so that users cannot disable the scans.
- **Security audits.** Imagine Learning conducts security audits and code reviews, both by outside providers and by executive summary.
- **Secure programming practices.** Imagine Learning software developers are aware of secure programming practices and strive to avoid introducing errors in our applications (such as those identified by OWASP and SANS) that could lead to security breaches.
- **Account protection.** Each user of Imagine Learning is required to create an account with a unique account name and password. Single Sign-On (SSO) users are authenticated with secure tokens.
- **Facility security.** Imagine Learning is located inside the continental United States. Physical access is protected by electronic access devices, with monitored security and fire/smoke alarm systems.
- **Security Breach.** In the event of a security breach that results in unauthorized release of personal data, Imagine Learning will notify affected customers of such breach, will investigate, and will restore the integrity of its data systems as soon as possible. We will fully cooperate and assist with required notices to those individuals affected by such breach.
- **Employee Training.** Imagine Learning has designated a Director of Privacy & Data Protection to oversee employee security training and compliance. The Director of Privacy & Data Protection also oversees the storage and destruction of sensitive data.

d. SOC 2 compliance status (certification documentation should be provided)

Imagine Learning does not have a SOC 2 compliance report. However, our Security Management System (ISMS) has been certified as compliant with the ISO/IEC 27001:2013 standard by Coalfire ISO, Inc., a dual-accredited certification body. A copy of this certificate is provided on the following page.



CERTIFICATE OF REGISTRATION

INFORMATION SECURITY MANAGEMENT SYSTEM – ISO/IEC 27001:2013

Coalfire ISO, Inc. certifies that the following organization operates an Information Security Management System (ISMS) that conforms to the requirements of ISO/IEC 27001:2013 per the scope and boundaries statement detailed below:

| | | | | | |
|---------|------------------------|---------|---|---------|---------------|
| Company | Imagine Learning, Inc. | Address | 382 Park Circle, Suite 100 Provo, UT 84604 | State | Utah |
| | | | | Country | United States |

SCOPE

The Information Security Management System (ISMS) at Imagine Learning governs all client data under the control or ownership of Imagine Learning and residing in its in-scope facilities. The scope of the ISMS includes the assets, technologies, and processes employed by Imagine Learning within its facilities for processing, management, and delivery of services to its customers. Additionally, the scope is defined with consideration of the external and internal context of the organization, requirements of interested parties, such as customers and regulatory bodies, and boundaries with third parties. The products in-scope for this certification are:

Imagine Math

- Math PreK-2
- Math 3+

Imagine Literacy

- Language & Literacy
- Espanol
- Reading

Imagine Assessments

- Galileo Pre-K
- Galileo K-12

The departmental scope includes the Customer Success, Experience Operations, Product Management, Site Reliability, Architecture and Engineering, and Information Technology (IT) teams affecting the ISMS.

Statement of Applicability:

Version: 1.1

Date: May 8, 2020

Original Registration Date:

Certification Issuance Date:

Expiration Date:

May 28, 2020

May 28, 2020

May 28, 2023

On behalf of Coalfire ISO, Inc.

Print Name: Dixon Wright

Dixon Wright

Director of Coalfire ISO



9224

This certificate relates to the Information Security Management System, and not to the products or services of the certified organization. The certification reference number, the mark of the certification body and/or the accreditation mark may not be shown on products or stated in documents regarding products or services. Promotional material, advertisements or other documents showing or referring to this certificate, the trademark of the certification body, or the accreditation mark, must comply with the intention of the certificate.

e. *Specifics of structures in place to ensure acceptable disaster recovery including backup schedules and redundancy.*

Imagine Learning's products are hosted via well-established cloud service providers—primarily Microsoft Azure and Amazon Web Services—which continually backup and maintain multiple redundant instances of data distributed across many servers. Imagine Learning also maintains and regularly reviews its own disaster recovery response plan.

f. *Internet Bandwidth requirements and provide a per user bandwidth usage specification of the software product.*

Imagine Learning's programs require minimum network bandwidth of 2 Mbps per student and recommend 3.5 Mbps per student. Based on the network specifications HCPS provided in the RFP and a proven history of successfully using Imagine Learning's programs, HCPS should be able to successfully use our programs without issues. Our technical systems engineers are available to assist as needed.

g. *Specifics of the availability of remote access to the district's data outside of the web-based application.*

Accessing the cloud-based program is required to access the District's data. Teachers and administrators can download and print data and reports as needed. Should the District request any custom data pulls or reports, these may be provided in PDF or CSV format via a secure channel such as Box.com.

h. *Specifics on the frequency and duration of operating system and application updates including the procedures used to inform the district of maintenance windows and system downtime for these tasks.*

Because Imagine Learning's programs are cloud-based, updates occur automatically without the need for District to manually download anything. Any planned system maintenance or outages are communicated via <http://status.imaginelearning.com> and are typically scheduled late in the evening when schools are not operating. Unexpected outages are also communicated at this site. Interested parties may voluntarily subscribe for automated notifications.

i. *Any tools available to measure system responsiveness.*

System responsiveness depends on many factors, including District network infrastructure and capacity, and no vendor-provided tools are available for measuring responsiveness. Imagine Learning serves millions of unique students annually; we possess the technical capability, business stability, resources, and experience to support the District in achieving its program objectives. Our dedicated Site Reliability Engineering teams utilize 24x7x365 monitoring/alerting, capacity planning/forecasting, and automated scaling policies to meet real-time usage demands. Our systems can support current expected enrollment of District teachers and students and can scale to accommodate population growth and program expansions.

j. *Any limits on data storage (i.e. user quotas, access to previous year data, database size, etc.).*

There are no data storage limits. Imagine Learning's programs scale to accommodate any number of students and teachers. Data is purged after each school year to prepare for the rostering for the upcoming year. District will be notified well in advance of such deletion and will have the opportunity to request an archive of its data.

k. Details about how Digital Math services would recover in the event of an internet or system outage. The proposed solution shall be deployed on servers and equipment hosted or administered by the Successful Offeror. Hosting the solution on a 3rd party, such as Amazon or Azure, is acceptable.

Because Imagine Learning's programs are hosted in the Cloud are not on local premises, District would not have to worry about any data recovery due to an internet or system outage. Imagine Learning's products are hosted via well-established cloud service providers—primarily Microsoft Azure and Amazon Web Services—eliminating the need for HCPS to host or maintain any services. Data is hosted in the cloud across many secure and redundant servers, and data would be available upon restoration of internet or system services. Imagine Learning maintains 99.9% uptime.

Tab 8: Reporting and Monitoring

Details regarding the programs' reporting and monitoring capabilities are provided on the following pages.

In this tab, offerors shall provide the following information regarding reports and monitoring

- a. Describe program-specific progress monitoring. While program monitoring is desired, HCPS shall continue to monitor student progress using a progress monitoring tool that is independent of the students' curriculum/intervention.***

Imagine Math features performance benchmarks powered by the MetaMetrics Quantile Framework. Imagine Math and Imagine Math Facts contain embedded progress, performance, and usage monitoring tools and reports. For example, the **Student Progress Report** provides a detailed view of key student performance metrics, including math time, percent of on and below grade level lessons passed, total lessons passed, adaptive benchmark test results, normative rankings lesson-specific performance, and actionable usage metrics. Additionally, **the Standards Report** provides a view into how students, classrooms, schools, and districts are performing against state or national standards. The report is most commonly used to group students according to these standards. For more information, please see below.

- b. Provide samples and descriptions of reports offered and the ability to customize content and reports.***

Please see below for descriptions and screenshots of reports available in the programs. Embedded dashboards and reports are robust and provide many tools for monitoring students and driving interventions. Imagine Learning will also work with HCPS throughout the implementation on any custom reports or data that may be needed.

Imagine Math Reports

Imagine Math's reports provide educators with the tools necessary to monitor—and if necessary—intervene with students based on program performance. As Imagine Math focuses on meeting the instructional needs of both teachers and students, the program's reports are designed to give educators the information they need to ensure program success.

The system organizes student performance data and delivers powerful visual summaries providing insight into where students are, how much progress they are making, and where they need to go next. Reports update differently depending on the report and the user accessing the report—i.e., teacher, school, district, administrator. Reports listing student details are updated every 10 minutes while reports displaying aggregate data reported at the classroom, school, and district levels are updated once per day.

The following are reports are available:

- Overview Report
- Weekly Emailed Report
- Student Progress Report
- Standards Report
- Strands Report
*Only available in grades 3+
- Benchmark Growth Report
- Benchmark Performance Level Report
- Benchmark Administration Report
- Weekly Progress Summary Report
- Snapshot Reports
- Dashboards
- Student Data Export

Imagine Math reporting data—which users can filter by school, class, course, teacher, and student—can be exported into CSV, Excel, and PDF formats. Additionally, the data teachers can view depends on their level of clearance for viewing private student information. For example, teachers can view data only for the students in their class, while principals can view student data across the entire school. Educators can also disaggregate data into instructional groups, class, school, and district levels.

Every Imagine Math 3+ educator dashboard features a real-time Activity Feed that alerts the teacher when students complete work, pass quizzes, struggle with concepts, and more. The program immediately updates student data from lessons and assessments in reports, enabling teachers to direct lessons and activities based on real-time information.

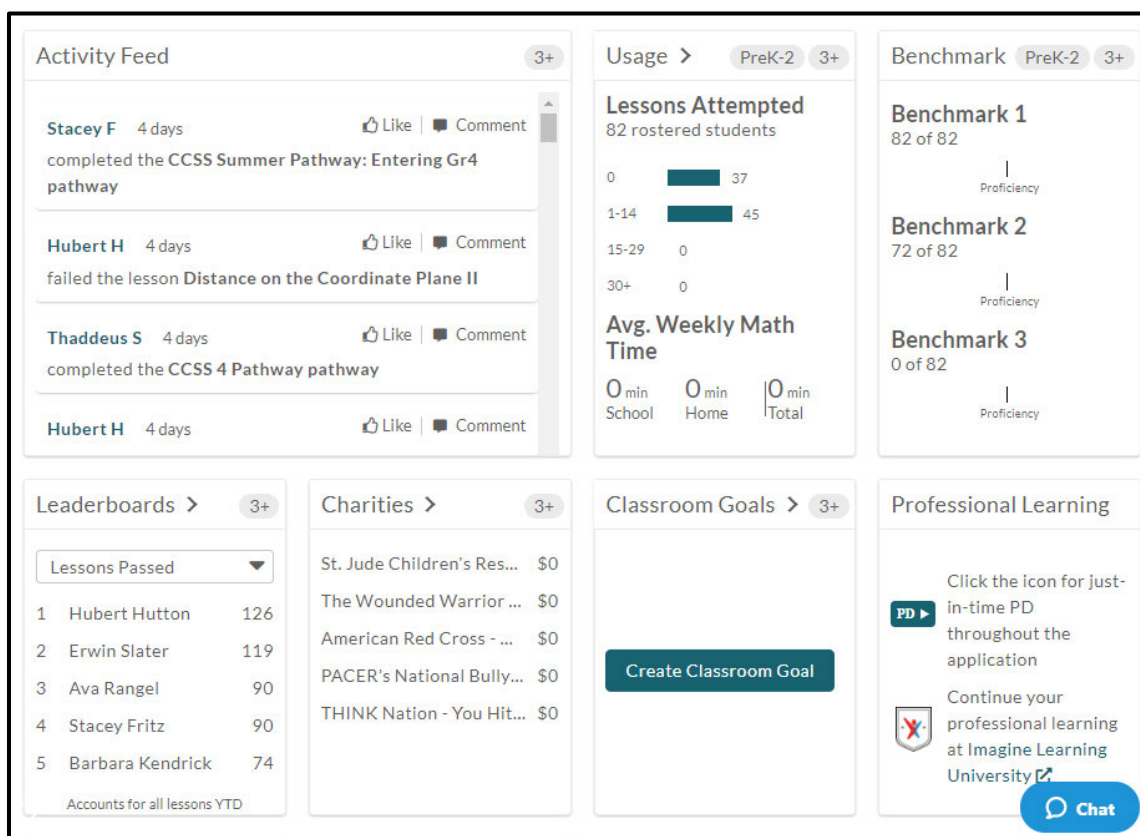


Figure 18. Teacher/Administrator Dashboard. Teachers can view student activity and performance at a glance via Imagine Math's dashboard.

Classroom teachers can use the data to determine which content is best taught in small-group settings, also working through an Imagine Math lesson collaboratively if necessary.

Overview Report

The Overview Report provides information about student performance in Imagine Math and application usage. The report provides the following metrics:

- Average on- and below-grade-level lesson pass rates
- Pre-quiz and post-quiz scores
- Time spent
- Lessons passed
- Math help usage
- Live teacher usage

Overview

Activity

Performance

Math Time

Q

All Classrooms

Date range

Year to date (08,

Grade levels

Grade Levels

Print

| Name | Active Students | Avg Lessons Passed | Avg Lessons Attempted | Avg Live Help Requests* | Avg Usage: Total Math Time | Avg Usage: School Time | Avg Usage: Home Time |
|---------------------------|-----------------|--------------------|-----------------------|-------------------------|----------------------------|------------------------|----------------------|
| 1st Period - 6th Grade | 33 | 24.39 | 37.12 | 0.88 | 10:40 | 03:11 | 07:29 |
| 2nd Period - 6th Grade | 33 | 24.39 | 37.12 | 0.88 | 10:40 | 03:12 | 07:28 |
| 3rd Period - 6th Grade | 33 | 24.39 | 37.12 | 0.88 | 10:40 | 03:12 | 07:28 |
| 4th Period - Intervention | 1 | 10 | 10 | 0 | 00:25 | 00:25 | 00:00 |
| Ann Minckler's Class | 0 | 0 | 0 | 0 | 00:00 | 00:00 | 00:00 |
| BillyBob's Class | 97 | 23.25 | 35.77 | 0.9 | 10:07 | 02:59 | 07:08 |

Figure 19. Overview Report. The Overview Report summarizes key highlights of student and class performance.

Teachers and school administrators can subscribe to receive weekly emailed reports. The Overview Report is most commonly used to identify aggregate trends and support grading for classrooms and can be filtered to refine and group the report data by grade level. Teachers can also use the report to perform the following actions:

- Identify struggling and high-performing students
- Identify specific student behaviors, such as guessing
- See how and when students use Imagine Math and understand student performance on and below grade level
- Understand engagement with assistive features, such as Imagine Math teachers and in-application help

- Identify lessons passed and failed

Student Progress Report

The Student Progress Report provides a detailed view of student performance, listing the following metrics.

- Math time
- Percent of on and below grade level lessons passed
- Total lessons passed
- Adaptive benchmark test results
- Normative rankings
- Lesson-specific performance
- Actionable usage metrics

The report is most commonly used to view student progress and achievement within a pathway.

Teachers can also use the Student Progress Report to perform the following actions:

- Understand performance on and below grade level
- See how a student's performance changes over time
- Determine how remediation lessons are helping students with grade level lessons
- View detailed information about student performance on individual lessons within a pathway
- Print student certificates for completed lessons



Figure 20. Student Progress Report. The Student Progress Report displays detailed information regarding student performance on their individualized pathways. The report lists the specific lessons students have worked on, their scores, and the time they spent on each lesson.

Standards Report

The Standards Report provides a view into how students, classrooms, schools, and districts are performing against state or national standards. The report is most commonly used to group students according to these standards. Teachers also use the Standards Report to perform on the following actions:

- Understand which standards present the biggest challenges to classes, schools, and districts
- Identify groups of students struggling in a common standard area in order to create the most effective small-group instruction

- Identify which classrooms, schools, and districts are struggling in a common standard area in order to provide teacher professional development
- Monitor standards-related student performance to facilitate one-on-one student interventions
- Report to parents the areas in which the student excels and the areas in which the student is challenged

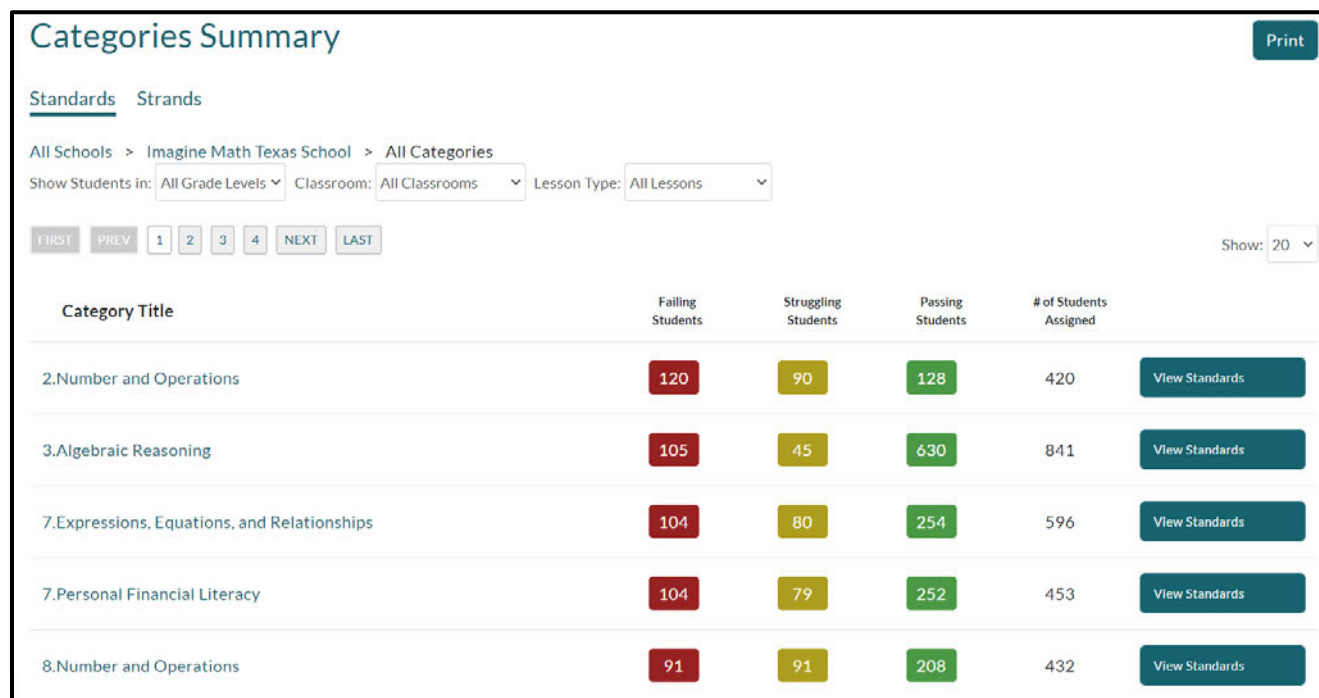


Figure 21. Standards Report. The Standards Report displays the number of students passing, struggling with, or failing a standard—helping educators effectively targeting interventions.

Weekly Progress Summary Report

The Weekly Progress Summary Report displays metrics to show teacher usage and adoption. It provides answers to help understand implementation, district usage, and performance against district goals. Specifically, the report provides the following metrics:

- Usage time by school and conformance to goals
- Lessons completed by school and conformance to goals
- Pass rates by school and conformance to goals
- Math help and live teacher usage rates

Benchmark Growth Report

The Benchmark Growth Report provides a high-level view into student performance and improvement growth between the adaptive benchmark tests. Additionally, teachers and administrators can use this report to group students by performance level, facilitating small group and response to intervention strategies. Teachers and administrators most commonly use this report to measure improvement

between the adaptive benchmark tests. Educators can also use the Benchmark Growth Report to identify opportunities to stimulate student usage in order to realize gains on future benchmark tests.

Growth

From: To:

Show:

| First Name | Last Name | Benchmark 1 Quantile® Measure (date) | Most Recent Quantile® Measure (date) | Quantile® Growth | Remaining to Proficient | Avg Weekly Math Time (HH:MM) | Avg Weekly Lessons Complete | On Grade-level Lesson Pass Rate |
|------------|-----------|--------------------------------------|--------------------------------------|------------------|-------------------------|------------------------------|-----------------------------|---------------------------------|
| LEE | BROUSSARD | 65Q (11/03/2019) Level 1 | 105Q (02/22/2020) Level 1 | 40Q | 285Q | 00:43 | 1.45 | 69.2% |
| NICOLAS | CATES | 65Q (11/03/2019) Level 1 | 110Q (02/18/2020) Level 1 | 45Q | 280Q | 00:32 | 1.83 | 23.1% |
| DIONNE | COOKE | 280Q (11/06/2019) Level 1 | 245Q (02/18/2020) Level 1 | -35Q | 145Q | 00:37 | 1.21 | 84.6% |
| MARTY | DALE | 295Q (11/04/2019) Level 1 | 395Q (02/18/2020) Level 1 | 100Q | -- | 00:32 | 0.79 | 100% |
| STACEY | FRITZ | 430Q (11/03/2019) Level 2 | 590Q (02/18/2020) Level 2 | 160Q | -- | 00:23 | 1.18 | 97.6% |

Figure 22. Benchmark Growth Report. The Benchmark Growth Report shows the average Quantile growth between benchmarks. Educators can view data by school, classroom, or individual student.

Imagine Math Facts Reports

Imagine Math Facts provides easy-to-use, interactive progress reports that show individual student growth, progress, and estimated time to fluency. The reports include bird's-eye aggregated data represented visually, down to minuscule, individual data. Educators can view data at district, school, classroom, or student levels. Students can view these reports "in-game" as students progress in the program. Additionally, educators can track deficiencies to determine the facts that need extra practice, adjusting usage until students achieve fluency. Teachers can easily share reports with administrators and parents.

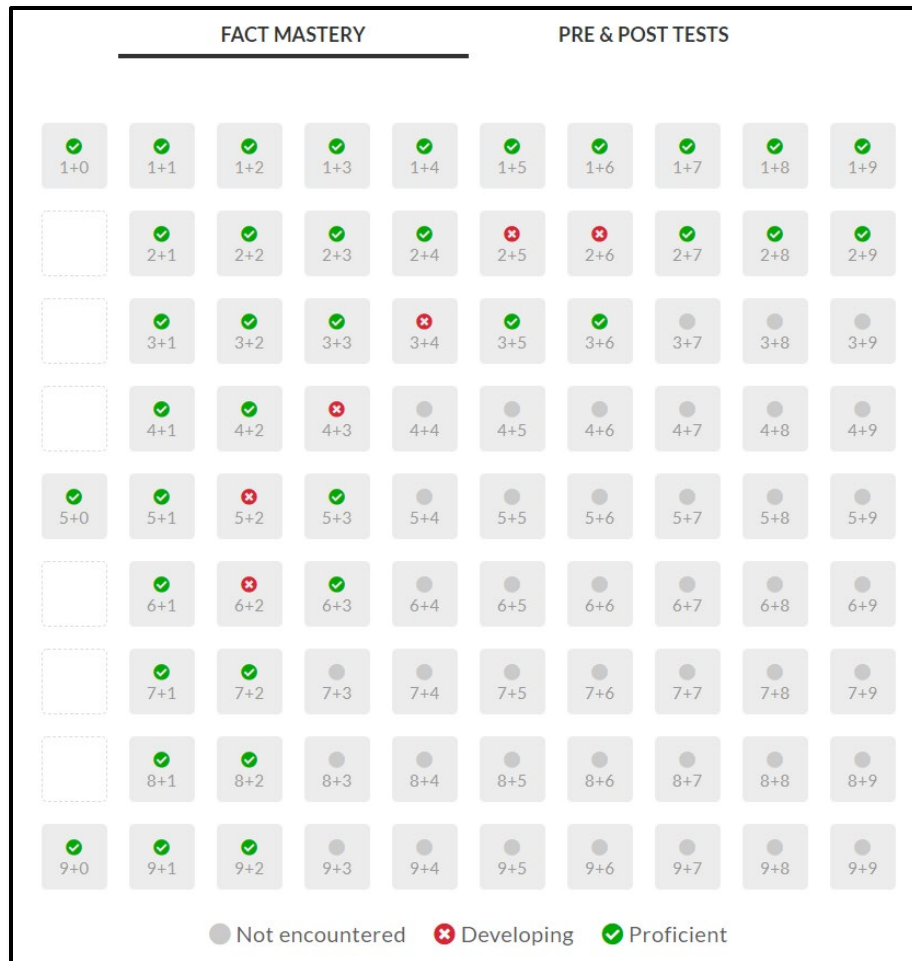


Figure 23. Progress Report. The Imagine Math Progress Report allows educators to monitor student proficiency, identifying which skills students have mastered and those with which students are struggling.

Tab 9: Pricing / Cost Proposal

Requested pricing information, including Attachment G, is provided on the following pages.

In the tab, offerors shall provide a detailed pricing schedule to include all costs associated with providing the services as requested in this RFP.

- a. List all categories separately, itemize such as license per student, teacher, classroom and site, material cost, consumables, training of County staff, projected man-hours, hourly rates, and reimbursable expenses. Attachment H.***
- b. Include a statement that the Successful Offeror will provide all services as outlined in their proposal.***
- c. For evaluation purposes provide all costs as it relates to the proposed solution for the Scenario on Attachment G.***

With the submission of this proposal, Imagine Learning agrees to provide all services outlined in this proposal. Two costs are associated with Imagine Learning products—license subscriptions and professional development. Because our offline materials are accessible and printable from within Imagine Language & Literacy, there is no cost for consumable materials.

Training and professional development options are described in detail in Tab 5: Training and Professional Development. Imagine Learning proposes our comprehensive professional development package and will work with HCPS to ensure the professional development plan best meets the needs of the district—including training new hires beyond the first year of the implementation.

Our proposed pricing is provided on the table below and on the following page in Attachment G.

| Annual Pricing | | |
|--|-------------------------------------|-----------|
| Product | License Type | Cost |
| Imagine Math | Per Student | \$40 |
| Math Suite Bundle (includes Imagine Math and Imagine Math Facts) | Per School | \$8,000 |
| | Districtwide (all students PreK-12) | \$442,000 |
| PD Webinar Package – Foundational: Includes 4 sessions of customer’s choice delivered virtually. Up to 40 educators. | Per Package | \$3,000 |
| PD Onsite Package – Foundational: Includes 4 sessions of customer’s choice delivered onsite. Up to 40 educators. | Per Package | \$5,000 |

Attachment G
Pricing Scenario

Provide pricing for the scenario below based off pricing being offered.

| Scenario | Price |
|---|-----------|
| Provide pricing for an annual subscription for one site license for an elementary school with 415 students | \$ 8,000 |
| Provide pricing for an annual subscription for one site license for a middle school with 900 students | \$ 8,000 |
| Provide pricing for an annual subscription for one site license for a high school with 1,700 students | \$ 8,000 |
| Printed Materials | \$ NA |
| Consumables | \$ NA |
| Provide pricing for 1 day (6 hours) of on-site professional development training for staff of 25 | \$ 5,000 |
| Describe what professional learning options would be available if the county purchased a district license. (46 ES, 12 MS, 10 HS) | \$ 48,000 |
| Total | \$ |

ATTACHMENT H PRICING OPTIONS

| Provide pricing as it relates to the proposed solution | Price |
|---|------------|
| Price per Student | \$40 |
| Price per Teacher | \$ NA |
| Price per Classroom | \$ NA |
| Price per Site | \$8,000 |
| Price for District License PreK-5 | \$299,000 |
| Price for District License PreK-8 | \$377,000 |
| Price for District License PreK-12 | \$ 442,000 |
| Price for District License 6-8 | \$96,000 |
| Price for District License 6-12 | \$ 143,000 |
| Price for District License 9-12 | \$ 80,000 |
| 1 day of Professional Development- train the trainer model (20 Elementary or Secondary ILCs/ITRTs, 3 Educational Specialist, + 1 additional personnel- total of 20 ±) | \$ 3,000 |
| 1 day of Professional Development - price per teacher | \$ |
| 1 day of Professional Development for Elementary or Secondary School Staff- approximately 35 - 100 | \$5,000 |

| | |
|--|----|
| Additional Professional Development models | \$ |
| Printed materials – provide list of pricing for each product offered | \$ |
| Consumables – provide list of pricing for each product offered | \$ |
| Provide information on price breaks for volume purchases. | |

20+ sites purchased, price = \$6,500 per site

Tab 11: Exceptions

In this tab, Offerors shall list any exceptions taken to the Scope of Services and General Terms and Conditions of this Request for Proposals. The County intends to make the RFP and the Successful Offeror's proposal a part of the contract between the parties, so Offerors should list any exceptions for purposes of negotiating the contract. Exceptions to any liability provisions contained in this Request for Proposals is not required to be submitted.

Proposed exceptions and a copy of Imagine Learning's End-User License Agreement (EULA) are provided on the following pages.



Deviations to RFP 21-2142-3EMF

Imagine Learning Inc. ("Contractor") submits the following deviations to the Henrico County PS RFP #21-2142-3EMF for
"Digital Mathematics (PreK-12) Curriculum for Tier I, Tier II and Tier III"

Imagine Learning indicates the changes below as the offering is a subscription based software + content available via Imagine Learning's Software-as-a-Service [SaaS] and not a good, product or professional based service (e.g., architect, electrician, construction, etc). SaaS is not a good for purchase and no transfer of title is contemplated by any future relationship.

| SECTION | DEVIATIONS/REVISIONS |
|--|---|
| GENERAL CONTRACT TERMS AND CONDITIONS Page 10, A – Annual Appropriations <i>(Vendor submits the revisions in the right column.)</i> | Please add the following to the end of this section: In the event of such termination, HCPS or the County shall pay Contractor for all services performed through the date of termination. |
| GENERAL CONTRACT TERMS AND CONDITIONS Page 13, N – Indemnification <i>(Vendor submits the revisions in the right column.)</i> | The Successful Offeror agrees to indemnify, defend and hold harmless the County(including Henrico County Public Schools), and the County's officers, agents and employees from any third-party claims, damages, suits, actions, liabilities and direct costs of any kind or nature, including reasonable attorneys' fees, arising from or caused by the provision of any services, the failure to provide any services or the use of any services or materials furnished (or made available) by the Successful Offeror under the Contract , provided that such liability is not attributable to the County's sole negligence. |
| GENERAL CONTRACT TERMS AND CONDITIONS Page 14, R – Ownership of Deliverable and Related Products <i>(Vendor submits the revisions in the right column.)</i> NOTE: <i>There is no contemplation of the transfer of ownership of any products/services offered in response to this Solicitation. Vendor offers the District a license and retains all rights, title and interest to these services/products.</i> | Please delete this section in its entirety as inapplicable. |
| GENERAL CONTRACT TERMS AND CONDITIONS Page 16, X(2) – Termination of Contract <i>(Vendor submits the revisions in the right column.)</i> | Failure of the Successful Offeror to comply with any material section or part of the Contract will be considered grounds for immediate termination of the Contract by the County. |
| Contractor submits the added terms to right. | Notwithstanding anything to the contrary in the Request for Proposal, the parties agree to add the following terms collectively listed and contained in the Contractor's Standard Terms and Conditions, which is attached hereto and incorporated into this Solicitation by reference: <ul style="list-style-type: none"> Section 1 – Grant of License |



- [Section 3 – Limitations; Transfers](#)
- [Section 4 – Ownership](#)
- [Section 6 – Limited Warranty and Remedy](#)
- [Section 7 – Limitation of Liability](#)

[Any references to “You” will mean “District”.](#)

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NOTICE TO END-USER: This legally binding End-User Software License Agreement (this "**Agreement**") is made and entered into by and between you, the purchaser/licensee and end-user (an individual or entity referred to hereinafter as either "you" or the "**End-User**"), and Imagine Learning, Inc., a Utah corporation (referred to hereinafter as the "**Company**"), the owner/licensor of the subject Software (hereinafter defined) that you are licensing from the Company (whether directly or indirectly through its authorized distributors). YOU ACKNOWLEDGE AND AGREE THAT YOUR ACT OF USING THE COMPANY'S SOFTWARE FURNISHED TO YOU BY THE COMPANY OR ITS DISTRIBUTOR CONCLUSIVELY CONFIRMS YOUR ACCEPTANCE OF THIS AGREEMENT (AND THE SOFTWARE) AND YOUR PROMISE TO HONOR ALL OBLIGATIONS OF THE END-USER HEREUNDER. THEREFORE, YOU NEED TO FIRST REVIEW THE TERMS OF THIS AGREEMENT, AND IF YOU AGREE WITH ALL OF THE TERMS AND CONDITIONS OF THIS AGREEMENT, THEN, AND ONLY THEN, MAY YOU USE THE SOFTWARE. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS AGREEMENT, THEN YOU NEED TO REMOVE THE ENTIRE SOFTWARE PACKAGE (INCLUDING ALL DOCUMENTATION) AND RETURN ANY PROVIDED HARDWARE TO THE COMPANY OR ITS DISTRIBUTOR (UNUSED AND UNDAMAGED) NO LATER THAN TEN (10) DAYS FROM THE DATE OF YOUR PURCHASE IN ORDER TO RECEIVE A REFUND OF THE UNUSED PORTION OF YOUR SOFTWARE PURCHASE PRICE. SOFTWARE AND HARDWARE INSTALLATION AND TRAINING COSTS ARE NON-REFUNDABLE.

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10. General Provisions. This Agreement is the final expression of the Company's and the End-User's agreement and is intended to be a complete and exclusive statement of the terms and conditions thereof, including any exhibits attached hereto. Any waiver of any performance required hereunder of either party shall be valid only in the instance for which it is given, not for any future instances or other provisions hereof, and only if waived in writing by the party otherwise benefiting from such performance. Access to usage, performance, and efficacy data of all types from all Company software shall be granted at all times to the Company and may be used for reports, evaluations, and publications without restriction as long as the public reports, evaluations, and publications contain no individual student identification information. The End-User will not engage in, allow, assist, or permit any report, evaluation or publication of usage, performance, or efficacy data related to or derived from the Company's software without prior express written permission. Other than the Company's income taxes, the End-User shall be solely responsible for all taxes, assessments, fees, duties, etc. that may be charged by any governmental authority by virtue of this Agreement and/or your use of the Software. The Company's licensors who have contributed software or code to the Software (e.g., Microsoft) are direct and intended third party beneficiaries of this Agreement and may enforce it directly against you, but without any liability to you for damages of any kind that may arise out of this Agreement. Any action for breach of this Agreement must be commenced by the non-breaching party within one (1) year from the later of: (i) the date the cause of action arises, or (ii) the date the cause of action is discovered (or in the exercise of reasonable diligence by you, *should* have been discovered). This Agreement and all matters relating hereto shall be governed by the laws of the State of Utah and the United States of America. This Agreement will not be governed by the United Nations Convention on Contracts for the International Sale of Goods, the application of which is expressly excluded. Both parties agree to resolve any controversy or dispute relating to this Agreement (other than equitable relief permitted under paragraph 6) by binding arbitration conducted in accordance with the commercial arbitration rules and procedures of the International Chamber of Commerce in Salt Lake City, Utah. In any suit, arbitration or appeal regarding this Agreement, the prevailing party's attorneys' fees and costs shall be reimbursed in full by the non-prevailing party. In the event that any provision of this Agreement is found by arbitration or a court of competent jurisdiction to be contrary to any applicable law, such law shall be deemed controlling and this Agreement shall be regarded as modified accordingly, giving maximum permissible effect to the parties' intentions.

expressed herein, and the remainder of this Agreement shall continue in full force and effect. The individuals executing this Agreement are fully authorized to do so by their respective companies' bylaws and/or board resolutions. This Agreement shall be binding upon and inure to the benefit of the parties hereto, their successors-in-interest and permitted assigns.

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Should you have any questions concerning these Agreements, please contact the Company at

Imagine Learning, Inc., 382 W. Park Circle, Suite 100, Provo, UT 84604

Phone toll free: 1-866-ILSUPPORT; 1-866-457-8776; fax: 801-377-5072; or email: support@imaginelearning.com.

Tab 12: Assumptions

In this tab, offerors shall list any assumptions made when responding to this Request for Proposals.

Imagine Learning's pricing is based on one year. HCPS will have to pay the proposed price every year of the contract.

Tab 13: Appendix A – SOL Alignments

Correlations documents that show alignment between Imagine Math and Virginia’s SOL standards are provided on the following pages.



VIRGINIA



Imagine Math Standards Alignment for PreK–Grade 8



Mathematical Practices and Processes in Imagine Math

For more than fifteen years, our foundation has been helping students acquire, develop, and strengthen the language skills necessary to fully participate in academic settings and prepare for college and careers. At Imagine Learning, we believe that language is at the center of how students develop and demonstrate mathematical understanding.

In addition to grade-level standards focused on mastering specific skills over time, each state's standards articulate a series of practice and process standards that span all grade levels. These practices and processes emphasize key mathematical paradigms, including perseverance in problem solving, critical thinking, mathematical modeling, and communication. These habits of strong mathematical thinkers are developed over many years. They require that students be provided with an abundance of opportunities to think deeply about mathematics in settings where they can safely explore new ideas and synthesize mathematical concepts within their current grade and across school years.

Imagine Math was intentionally designed to provide students with a welcoming environment to develop these powerful habits throughout their mathematical journey, from Prekindergarten through high school. We believe that meaningful opportunities in our personalized software prepare students for mathematical discourse, and ultimately for success in college and careers.

Supplemental and Review Lessons in Imagine Math

Imagine Math is a research-based, personalized supplemental math solution with a focus on scaffolding up to grade-level proficiency. Through age-appropriate learning environments and a system of adaptive and standards-aligned benchmark and formative assessments, Imagine Math keeps students in their zone of proximal development. In Prekindergarten through Grade 2, Imagine Math focuses on developing a solid understanding of core math concepts and strongly supporting cognitive development. As such, the program includes logic problems, puzzles, pattern games, and other extensions of grade level material—these lessons are listed as “Supplemental.” Starting in Grade 3, Imagine Math learning pathways may include review content to help support grade level success for students who benefit from such intentional scaffolds; these lessons are identified as “Review.”

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Virginia Foundation Blocks for Early Learning Aligned to Imagine Math Lessons

Prekindergarten

Virginia Foundation Blocks for Early Learning Aligned to Prekindergarten Imagine Math Lessons

| VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING | | IMAGINE MATH |
|---|---|--|
| Prekindergarten | | Lessons |
| PK.1a Number and Number Sense | | |
| PK.1a | Count forward to 20 or more. Count backward from 5. | <ul style="list-style-type: none"> • The digit and number 1 • First ordinal position • Counting to two and the digit 2 • Two and the concept of a pair • Ordinal counting up to two • Comparing and grouping objects by two attributes • Counting to three and the digit 3 • Ordinal counting up to 3 • Triangles: 3 sides, 3 angles • Number composition of 3 • Word problems: story with a question • Counting to four and the digit 4 • Ordinal counting up to 4 and comparison • Counting to five and the digit 5 • Ordinal counting and comparison up to 5 • Number composition of 5 • Review of number composition and counting • Review of comparison and introduction of counting down • Word problems with numbers up to 5 • Counting to six and the digit 6 • Ordinal counting and comparison up to 6 • Word problems with numbers up to 6 • Counting to seven and the digit 7 • Ordinal counting and comparison up to 7 • Word problems with numbers up to 7 • Counting to eight and the digit 8 • Ordinal counting and comparison up to 8 • Word problems with numbers up to 8 • Counting to nine and the digit 9 • Ordinal counting and comparison up to 9 • Word problems with numbers up to 9 • Counting to 10 and representing 10 • Ordinal counting and comparison up to 10 • Word problems with numbers up to 10 • Using a ruler to compare numbers • Addition and subtraction with a ruler, I • Addition and subtraction with a ruler, II • Review, I |

| VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING | | IMAGINE MATH |
|---|---|---|
| Prekindergarten | | Lessons |
| | | <ul style="list-style-type: none"> • Review, II • Review, III • Review, IV • Review, V • Review, VII |
| PK.1b Number and Number Sense | | |
| PK.1b | Count a group (set/collection) of five to ten objects by touching each object as it is counted and saying the correct number (one-to-one correspondence). | <ul style="list-style-type: none"> • Counting to six and the digit 6 • Ordinal counting and comparison up to 6 • Counting to seven and the digit 7 • Counting to eight and the digit 8 • Ordinal counting and comparison up to 8 • Word problems with numbers up to 8 • Counting to nine and the digit 9 • Ordinal counting and comparison up to 9 • Counting to 10 and representing 10 • Word problems with numbers up to 10 |
| PK.1c Number and Number Sense | | |
| PK.1c | Count the items in a collection of one to ten items and know the last counting word tells "how many." | <ul style="list-style-type: none"> • The digit and number 1 • First ordinal position • Counting to two and the digit 2 • Two and the concept of a pair • Comparing and grouping objects by two attributes • Counting to three and the digit 3 • Triangles: 3 sides, 3 angles • Number composition of 3 • Word problems: story with a question • Counting to four and the digit 4 • Ordinal counting up to 4 and comparison • Counting to five and the digit 5 • Review of number composition and counting • Review of comparison and introduction of counting down • Word problems with numbers up to 5 • Counting to six and the digit 6 • Ordinal counting and comparison up to 6 • Word problems with numbers up to 6 • Counting to seven and the digit 7 • Ordinal counting and comparison up to 7 • Word problems with numbers up to 7 • Counting to eight and the digit 8 • Ordinal counting and comparison up to 8 • Word problems with numbers up to 8 • Counting to nine and the digit 9 • Ordinal counting and comparison up to 9 • Word problems with numbers up to 9 • Counting to 10 and representing 10 • Word problems with numbers up to 10 • Using a ruler to compare numbers • Review, I |

| VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING | | IMAGINE MATH |
|---|---|---|
| Prekindergarten | | Lessons |
| | | <ul style="list-style-type: none"> • Review, II • Review, III • Review, IV • Review, V • Review, VII |
| PK.1d Number and Number Sense | | |
| PK.1d | Compare two groups (sets/collections) of matched objects (zero through ten in each set) and describe the groups using the terms more, fewer, or same. | <ul style="list-style-type: none"> • Comparing quantities: Equality I • Comparing quantities: Equality II • Dividing into equal groups • Comparing quantities: More-Fewer, I • Comparing quantities: More-Fewer, II • Comparing quantities: One-Many • Comparing quantities: Inequality, I • Comparing quantities: Inequality, II • Comparing quantities: Inequality, III • Making equal by increasing, I • Making equal by increasing, II • Making equal by increasing, III • Making equal by decreasing, I • Making equal by decreasing, II • The digit and number 1 • First ordinal position • The digit and number 0 • Practice using the numbers 0 and 1 • Counting to two and the digit 2 • Comparing and grouping objects by two attributes • Counting to three and the digit 3 • Ordinal counting up to 3 • Number composition of 3 • Word problems: story with a question • Counting to four and the digit 4 • Ordinal counting up to 4 and comparison • Number composition of 4, I • Counting to five and the digit 5 • Review of number composition and counting • Review of comparison and introduction of counting down • Counting to six and the digit 6 • Counting to seven and the digit 7 • Ordinal counting and comparison up to 7 • Counting to eight and the digit 8 • Ordinal counting and comparison up to 8 • Counting to nine and the digit 9 • Ordinal counting and comparison up to 9 • Counting to 10 and representing 10 • Word problems with numbers up to 10 • Using a ruler to compare numbers • Review, II • Review, III • Review, V |

| VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING | | IMAGINE MATH |
|---|---|---|
| Prekindergarten | | Lessons |
| PK.1e Number and Number Sense | | |
| PK.1e | Use ordinal numbers (first through fifth) when describing the position of objects or groups of children in a sequence. | <ul style="list-style-type: none"> • Addition with manipulatives, III • Ordinal counting up to two • Ordinal counting up to 3 • Number composition of 3 • Ordinal counting up to 4 and comparison • Ordinal counting and comparison up to 5 • Number composition of 5 • Review of number composition and counting • Ordinal counting and comparison up to 6 • Word problems with numbers up to 6 • Ordinal counting and comparison up to 7 • Word problems with numbers up to 7 • Ordinal counting and comparison up to 8 • Word problems with numbers up to 8 • Ordinal counting and comparison up to 9 • Word problems with numbers up to 9 • Ordinal counting and comparison up to 10 • Review, I • Review, VII |
| PK.2a Computation | | |
| PK.2a | Describe changes in groups (sets/ collections) by using more when groups of objects (sets) are combined (added together). | <ul style="list-style-type: none"> • Making equal by increasing, I • Making equal by increasing, II • Making equal by increasing, III • Addition with manipulatives, I • Addition with manipulatives, II • Addition with manipulatives, III • Addition with manipulatives, IV • Addition and subtraction with manipulatives • Word problems: story with a question • Counting to four and the digit 4 • Counting to five and the digit 5 • Counting to six and the digit 6 • Counting to seven and the digit 7 • Counting to eight and the digit 8 • Counting to nine and the digit 9 • Review, III |
| PK.2b Computation | | |
| PK.2b | Describe changes in groups (sets/ collections) by using fewer when groups of objects (sets) are separated (taken away). | <ul style="list-style-type: none"> • Making equal by decreasing, III • Subtraction with manipulatives, I • Subtraction with manipulatives, II • Subtraction with manipulatives, III • Addition and subtraction with manipulatives • Word problems: story with a question • Review, III |

| VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING | | IMAGINE MATH |
|---|---|--|
| Prekindergarten | | Lessons |
| PK.3a Measurement | | |
| PK.3a | Recognize attributes of length by using the terms longer or shorter when comparing two objects. | <ul style="list-style-type: none"> • Height: Tall and short • Comparing and ordering by height, I • Comparing and ordering by height, II • Length: Long and short • Comparing and ordering by length, I • Comparing and ordering by length, II • Width: Wide and narrow • Comparing and ordering by width, I • Comparing and ordering by width, II • Comparing quantities: Inequality, II • Making equal by increasing, I • Making equal by increasing, II • Making equal by increasing, III • Making equal by decreasing, III • Subtraction with manipulatives, II • Practice using the numbers 0 and 1 • Solving word problems with the numbers 1, 2, 3 • Review of comparison and introduction of counting down • Counting to six and the digit 6 • Ordinal counting and comparison up to 6 • Word problems with numbers up to 6 |
| PK.3d Measurement | | |
| PK.3d | Use appropriate vocabulary when describing duration of time, e.g., hour, day, week, month, morning, afternoon, and night. | <ul style="list-style-type: none"> • Circles and polygons • Time of day: Morning, afternoon, evening, night • Sequences: First and last • Review, III |
| PK.4a Geometry | | |
| PK.4a | Match and sort shapes (circle, triangle, rectangle, and square). | <ul style="list-style-type: none"> • Circles and polygons • Grouping by color and shape • Location words: above, below, up, down • Triangles, rectangles, and squares • Location words: Left and right • Comparing and grouping objects by size, color, and shape • Comparing and ordering by height, II • Comparing and ordering by width, II • Sequences: First and last • Comparing quantities: Equality I • Comparing quantities: Inequality, I • Making equal by increasing, I • Making equal by increasing, II • Making equal by decreasing, II • Making equal by decreasing, III • Addition with manipulatives, III • Subtraction with manipulatives, III • Addition and subtraction with |

| VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING | | IMAGINE MATH |
|---|--|--|
| Prekindergarten | | Lessons |
| | | <ul style="list-style-type: none"> manipulatives The digit and number 1 First ordinal position Two and the concept of a pair Comparing and grouping objects by two attributes Triangles: 3 sides, 3 angles Word problems: story with a question Number composition of 4, I Number composition of 4, II Number composition of 5 Review of number composition and counting Counting to six and the digit 6 Word problems with numbers up to 8 Counting to nine and the digit 9 Counting to 10 and representing 10 Using a ruler to compare numbers Review, I Review, IV Review, V |
| PK.4b Geometry | | |
| PK.4b | Describe how shapes are similar and different. | <ul style="list-style-type: none"> Circles and polygons Grouping by color and shape Location words: above, below, up, down Location words: Left and right Comparing and grouping objects by size, color, and shape Making equal by increasing, I Addition with manipulatives, III Comparing and grouping objects by two attributes Triangles: 3 sides, 3 angles Number composition of 4, I Number composition of 4, II Word problems with numbers up to 8 Counting to nine and the digit 9 Using a ruler to compare numbers |
| PK.4c Geometry | | |
| PK.4c | Recognize and name shapes (circle, triangle, rectangle, and square). | <ul style="list-style-type: none"> Circles and polygons Triangles, rectangles, and squares Comparing and grouping objects by size, color, and shape Sequences: First and last Comparing quantities: Inequality, I Making equal by decreasing, III Addition with manipulatives, III First ordinal position Two and the concept of a pair Comparing and grouping objects by two attributes |

| VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING | | IMAGINE MATH |
|---|---|---|
| Prekindergarten | | Lessons |
| | | <ul style="list-style-type: none"> • Triangles: 3 sides, 3 angles • Word problems: story with a question • Number composition of 4, I • Number composition of 4, II • Number composition of 5 • Review of number composition and counting • Counting to nine and the digit 9 • Counting to 10 and representing 10 • Review, I • Review, IV • Review, V |
| PK.4d Geometry | | |
| PK.4d | Describe the position of objects in relation to other objects and themselves using the terms next to, beside, above, below, under, over, top, and bottom. | <ul style="list-style-type: none"> • Location words: On, under, above, next to • Location words: Behind, in front of, between • Circles and polygons • Location words: above, below, up, down • Size: big and small • Location words: Left and right • Comparing and grouping objects by size, color, and shape • Sequences: First and last • Patterns • Dividing into equal groups • Comparing quantities: More-Fewer, I • Comparing quantities: Inequality, II • Making equal by decreasing, II • Making equal by decreasing, III • The digit and number 0 • Triangles: 3 sides, 3 angles • Number composition of 4, II • Word problems with numbers up to 6 • Counting to nine and the digit 9 • Ordinal counting and comparison up to 9 • Ordinal counting and comparison up to 10 • Addition and subtraction with a ruler, I • Review, I • Review, IV • Review, VII |
| PK.6a Patterns and Relationships | | |
| PK.6a | Sort and classify objects according to one or two attributes (color, size, shape, and texture). | <ul style="list-style-type: none"> • Introduction of colors • Location words: On, under, above, next to • Location words: Behind, in front of, between • Circles and polygons • Grouping by color and shape • Location words: above, below, up, down |

| VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING | | IMAGINE MATH |
|---|--|---|
| Prekindergarten | | Lessons |
| | | <ul style="list-style-type: none"> • Size: big and small • Comparing and ordering by size • Triangles, rectangles, and squares • Location words: Left and right • Length: Long and short • Width: Wide and narrow • Comparing and ordering by width, I • Dividing into equal groups • Comparing quantities: More-Fewer, II • Comparing quantities: Inequality, III • Addition with manipulatives, I • Addition with manipulatives, II • Addition with manipulatives, III • Addition with manipulatives, IV • Subtraction with manipulatives, I • Subtraction with manipulatives, II • Subtraction with manipulatives, III • The digit and number 1 • The digit and number 0 • Practice using the numbers 0 and 1 • Two and the concept of a pair • Number composition of 2 • Ordinal counting up to two • Comparing and grouping objects by two attributes • Counting to seven and the digit 7 • Word problems with numbers up to 7 • Counting to eight and the digit 8 • Counting to nine and the digit 9 • Using a ruler to compare numbers • Review, I |
| PK.6b Patterns and Relationships | | |
| PK.6b | Identify and explore simple patterns, i.e., AB, AB; red, blue, red, blue. | <ul style="list-style-type: none"> • Patterns • Dividing into equal groups • Comparing quantities: Inequality, I • Comparing quantities: Inequality, II • Making equal by decreasing, I • Making equal by decreasing, II • Making equal by decreasing, III • Subtraction with manipulatives, II • Practice using the number 1 • Ordinal counting up to two • Counting to five and the digit 5 • Review of number composition and counting • Review, I |
| PK.6c Patterns and Relationships | | |
| PK.6c | Use patterns to predict relationships between objects, i.e., the blue shape follows the yellow shape, the triangle follows the square. | <ul style="list-style-type: none"> • Patterns • Dividing into equal groups • Comparing quantities: Inequality, I • Comparing quantities: Inequality, II |

| VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING | | IMAGINE MATH |
|---|--|---|
| Prekindergarten | | Lessons |
| | | <ul style="list-style-type: none"> • Making equal by decreasing, I • Making equal by decreasing, II • Making equal by decreasing, III • Subtraction with manipulatives, II • Practice using the number 1 • Ordinal counting up to two • Counting to five and the digit 5 • Review of number composition and counting • Review, I |

Standards of Learning for Virginia Public Schools Aligned to Imagine Math Lessons

Kindergarten

Standards of Learning for Virginia Public Schools Aligned to Kindergarten Imagine Math Lessons

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|--|
| Kindergarten | | Lessons |
| K.1a Number and Number Sense | | |
| K.1a | Count forward to 20 or more. Count backward from 5. | <ul style="list-style-type: none"> • Finding the bigger quantity • Finding the smaller quantity • Problems with two operations, I • Problems with two operations, II • Counting, ordering, and place value decomposition up to 13 • Finding the previous and the next number up to 13 • Addition and subtraction based on place value decomposition up to 13 • Review of part, part, whole and bigger quantity, smaller quantity, difference • Addition and subtraction based on place value decomposition up to 19 • Writing numbers up to 19 in expanded form • Practice word problems and addition/subtraction up to 19 • Introduction to the number 20 • Part, part, whole and bigger quantity, smaller quantity, difference • Addition of two numbers to get 20 • Subtraction of a one-digit number from 20 • Addition and subtraction up to 20 • Circles, rectangles, and cylinders, I • Review: Operations within 20, II • Counting, comparison, and expressions with two operations • Two-digit numbers above 20, II |
| K.1b Number and Number Sense | | |
| K.1b | Count a group (set/collection) of five to ten objects by touching each object as it is counted and saying the correct number (one-to-one correspondence). | <ul style="list-style-type: none"> • Operations with numbers 0 to 5 • Comparing numbers within 10 • Number composition of 6 • Number composition of 7 • Number composition of 8 • Number composition of 9 • Addition and subtraction • Two-digit numbers and place value • Number composition of 10 • Comparing numbers using a ruler |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|--|
| Kindergarten | | Lessons |
| | | <ul style="list-style-type: none"> • Operations with 0 to 10 • Using segment models for part-part-whole • Operations and word problems with 0 to 10 • Identifying the bigger quantity, smaller quantity, and difference • Finding the difference • Finding the bigger quantity • Practice finding the difference and the bigger quantity • Finding the smaller quantity • Solving comparison problems • Problems with two operations, II • Counting, ordering, and place value decomposition up to 13 • Comparing numbers up to 13 • Finding the previous and the next number up to 13 • Addition and subtraction based on place value decomposition up to 13 • Review of part, part, whole and bigger quantity, smaller quantity, difference • Counting, ordering, and place value decomposition up to 19 • Comparing numbers up to 19 • Addition and subtraction based on place value decomposition up to 19 • Practice counting, comparing, and place value decomposition up to 19 • Practice word problems and addition/subtraction up to 19 • Introduction to the number 20 • Comparing numbers and finding the difference • Counting, comparing, and ordering up to 20 • Part, part, whole and bigger quantity, smaller quantity, difference • Addition of two numbers to get 20 • Review addition, subtraction, and bigger quantity, smaller quantity, difference • Subtraction of a one-digit number from 20 • Review addition, subtraction, ordering, and two-step calculations • Review: Operations within 20 and shapes • Rays and segments • Closed and open curves • Money • Circles and spheres, II • Squares and cubes, I |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|---|
| Kindergarten | | Lessons |
| | | <ul style="list-style-type: none"> • Squares and cubes, II • 2D and 3D shapes: Review • Review: Operations within 20, II • Counting and comparison • Place value composition • Round numbers within 100 • Two-digit numbers above 20, I • Measurement, II |
| K.2a Computation | | |
| K.2a | Describe changes in groups (sets/ collections) by using more when groups of objects (sets) are combined (added together). | <ul style="list-style-type: none"> • As many as, more, and less • Equality and inequality: Equal and not equal signs • Greater than and less than: $>$ and $<$ signs • Comparing numbers using a ruler • Identifying the bigger quantity, smaller quantity, and difference • Finding the difference |
| K.2b Computation | | |
| K.2b | Describe changes in groups (sets/ collections) by using fewer when groups of objects (sets) are separated (taken away). | <ul style="list-style-type: none"> • Comparing numbers using a ruler • Money |
| K.3a Measurement | | |
| K.3a | Recognize attributes of length by using the terms longer or shorter when comparing two objects. | <ul style="list-style-type: none"> • Finding the bigger quantity • Finding the smaller quantity • Problems with two operations, I • Problems with two operations, II • Counting, ordering, and place value decomposition up to 13 • Finding the previous and the next number up to 13 • Writing numbers up to 13 in expanded form • Addition and subtraction based on place value decomposition up to 13 • Review of part, part, whole and bigger quantity, smaller quantity, difference • Counting, ordering, and place value decomposition up to 19 • Addition and subtraction based on place value decomposition up to 19 • Writing numbers up to 19 in expanded form • Practice addition and subtraction up to 19 • Practice word problems and addition/subtraction up to 19 • Introduction to the number 20 • Part, part, whole and bigger quantity, |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|---|
| Kindergarten | | Lessons |
| | | smaller quantity, difference <ul style="list-style-type: none"> • Addition of two numbers to get 20 • Subtraction of a one-digit number from 20 • Addition and subtraction up to 20 • Circles, rectangles, and cylinders, I • Review: Operations within 20, II • Counting and comparison • Counting, comparison, and expressions with two operations • Two-digit numbers above 20, II |
| K.3b Measurement | | |
| K.3b | Know the correct names for the standard tools used for telling time and temperature, and for measuring length, capacity, and weight (clocks, calendars, thermometers, rulers, measuring cups, and scales). | <ul style="list-style-type: none"> • Two-digit numbers and place value • Operations with 0 to 10 |
| K.3c Measurement | | |
| K.3c | Use the appropriate vocabulary when comparing temperatures, e.g., hot, cold. | <ul style="list-style-type: none"> • Comparing numbers within 10 • Two-digit numbers and place value • Comparing numbers using a ruler • Operations with 0 to 10 • Problems with two operations, I • Addition and subtraction based on place value decomposition up to 19 • Two-digit numbers above 20, II • Two-digit numbers above 20, III |
| K.3d Measurement | | |
| K.3d | Use appropriate vocabulary when describing duration of time, e.g., hour, day, week, month, morning, afternoon, and night. | <ul style="list-style-type: none"> • Round numbers within 100 • Identifying and comparing round numbers • Counting by tens |
| K.4a Geometry | | |
| K.4a | Match and sort shapes (circle, triangle, rectangle, and square). | <ul style="list-style-type: none"> • Operations with numbers 0 to 5 • Introduction of part-part-whole • Segment models for part-part-whole • Commutative property of addition • Number composition of 6 • Number composition of 7 • Number composition of 8 • Number composition of 9 • Addition and subtraction • Number composition of 10 • Properties of 0 • Operations with 0 to 10 • Using segment models for part-part-whole • Operations and word problems with 0 to |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|---|
| Kindergarten | | Lessons |
| | | 10 <ul style="list-style-type: none"> Finding the difference Finding the bigger quantity Writing numbers up to 13 in expanded form Addition and subtraction based on place value decomposition up to 13 Review of part, part, whole and bigger quantity, smaller quantity, difference Addition and subtraction based on place value decomposition up to 19 Practice counting, comparing, and place value decomposition up to 19 Practice addition and subtraction up to 19 Introduction to the number 20 Part, part, whole and bigger quantity, smaller quantity, difference Subtraction of a one-digit number from 20 Addition and subtraction up to 20 Circles and spheres, II Squares and cubes, I 2D and 3D shapes: Review Review: Operations within 20, I Counting and comparison Two-digit numbers above 20, II |
| K.4b Geometry | | |
| K.4b | Describe how shapes are similar and different. | <ul style="list-style-type: none"> Introduction of part-part-whole Segment models for part-part-whole Commutative property of addition Number composition of 6 Number composition of 7 Number composition of 8 Number composition of 9 Addition and subtraction Number composition of 10 Properties of 0 Using segment models for part-part-whole Operations and word problems with 0 to 10 Finding the difference Finding the bigger quantity Writing numbers up to 13 in expanded form Addition and subtraction based on place value decomposition up to 13 Review of part, part, whole and bigger quantity, smaller quantity, difference Addition and subtraction based on place value decomposition up to 19 Practice counting, comparing, and place |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|--|
| Kindergarten | | Lessons |
| | | value decomposition up to 19 <ul style="list-style-type: none"> • Practice addition and subtraction up to 19 • Introduction to the number 20 • Part, part, whole and bigger quantity, smaller quantity, difference • Subtraction of a one-digit number from 20 • Addition and subtraction up to 20 • Circles and spheres, II • 2D and 3D shapes: Review • Review: Operations within 20, I • Counting and comparison |
| K.6 Computation and Estimation | | |
| K.6 | The student will model and solve single-step story and picture problems with sums to 10 and differences within 10, using concrete objects. | <ul style="list-style-type: none"> • Introduction of part-part-whole • Segment models for part-part-whole • Commutative property of addition • Number composition of 7 • Number composition of 9 • Addition and subtraction • Number composition of 10 • Comparing numbers using a ruler • Operations with 0 to 10 • Operations and word problems with 0 to 10 • Review of part, part, whole and bigger quantity, smaller quantity, difference • Practice counting, comparing, and place value decomposition up to 19 • Practice word problems and addition/subtraction up to 19 • Ordinals, addition, and subtraction • Comparing numbers and finding the difference • Part, part, whole and bigger quantity, smaller quantity, difference • Review addition, subtraction, and bigger quantity, smaller quantity, difference • Review addition, subtraction, ordering, and two-step calculations • Rays and segments • Money • Squares and cubes, I • Review: Operations within 20, I • Counting and comparison • Place value composition • Round numbers within 100 • Two-digit numbers above 20, I • Two-digit numbers above 20, III |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|--|
| Kindergarten | | Lessons |
| K.7 Measurement and Geometry | | |
| K.7 | The student will recognize the attributes of a penny, nickel, dime, and quarter and identify the number of pennies equivalent to a nickel, a dime, and a quarter. | <ul style="list-style-type: none"> • Money |
| K.9 Measurement and Geometry | | |
| K.9 | The student will compare two objects or events, using direct comparisons, according to one or more of the following attributes: length (longer, shorter), height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder), volume (more, less), and time (longer, shorter). | <ul style="list-style-type: none"> • Comparing, matching, and grouping by various attributes, I • Length and width; comparing and ordering objects by these attributes • Volume; comparing and ordering objects by volume • Weight • Equality and inequality: Equal and not equal signs • Review comparing object quantities • Number composition of 7 • Number composition of 8 • Comparing numbers using a ruler • Using segment models for part-part-whole • Finding the bigger quantity • Writing numbers up to 13 in expanded form • Part, part, whole and bigger quantity, smaller quantity, difference • Addition and subtraction up to 20 • Measurement, I • Measurement, II |
| K.10a Measurement and Geometry | | |
| K.10a | identify and describe plane figures (circle, triangle, square, and rectangle); | <ul style="list-style-type: none"> • Comparing, matching, and grouping by various attributes, II • Comparing, matching, and grouping by various attributes, III • Length and width; comparing and ordering objects by these attributes • Greater than and less than: $>$ and $<$ signs • Number composition of 8 • Operations with 0 to 10 • Review ordering, place value decomposition, addition, and subtraction • Review: Operations within 20 and shapes • Closed and open curves • Circles and spheres, I • Circles and spheres, II • Squares and cubes, I • Squares and cubes, II • Triangles, circles, and cones, I |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|---|
| Kindergarten | | Lessons |
| K.10b Measurement and Geometry | | |
| K.10b | compare the size (smaller, larger) and shape of plane figures (circle, triangle, square, and rectangle); and | <ul style="list-style-type: none"> • Comparing, matching, and grouping by various attributes, I • Comparing, matching, and grouping by various attributes, II • Comparing, matching, and grouping by various attributes, III • Weight • Comparing numbers and finding the difference • Review: Operations within 20 and shapes |
| K.10c Measurement and Geometry | | |
| K.10c | describe the location of one object relative to another (above, below, next to) and identify representations of plane figures (circle, triangle, square, and rectangle) regardless of their positions and orientations in space. | <ul style="list-style-type: none"> • Equality and inequality: Equal and not equal signs • Greater than and less than: $>$ and $<$ signs • Finding the bigger quantity • Review ordering, place value decomposition, addition, and subtraction |
| K.11a Probability and Statistics | | |
| K.11a | collect, organize, and represent data; and | <ul style="list-style-type: none"> • Operations and word problems with 0 to 10 • Addition and subtraction based on place value decomposition up to 19 • Subtraction of a one-digit number from 20 • Review: Operations within 20 and shapes |
| K.12 Patterns, Functions, and Algebra | | |
| K.12 | The student will sort and classify objects according to one attribute. | <ul style="list-style-type: none"> • Equality and inequality: Equal and not equal signs • Greater than and less than: $>$ and $<$ signs • Review comparing object quantities • Number composition of 8 • Properties of 0 • Using segment models for part-part-whole • Finding the difference • Comparing numbers up to 13 • Writing numbers up to 13 in expanded form • Counting, ordering, and place value decomposition up to 19 • Writing numbers up to 19 in expanded form • Comparing numbers and finding the difference |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|---|
| Kindergarten | | Lessons |
| | | <ul style="list-style-type: none"> • Closed and open curves • Polygons • Circles and spheres, I • Money • Circles and spheres, II • Squares and cubes, I • Squares and cubes, II • Circles, rectangles, and cylinders, I • Circles, rectangles, and cylinders, II • 2D and 3D shapes: Review • Counting and comparison • Two-digit numbers above 20, I • Two-digit numbers above 20, II • Measurement, I • Measurement, II |
| K.13 Patterns, Functions, and Algebra | | |
| K.13 | The student will identify, describe, extend, create, and transfer repeating patterns. | <ul style="list-style-type: none"> • Comparing, matching, and grouping by various attributes, II • As many as, more, and less • Two-digit numbers and place value • Solving comparison problems • Counting, comparing, and ordering up to 20 • Closed and open curves • Polygons • Circles and spheres, I • Triangles, circles, and cones, I • Circles, rectangles, and cylinders, I |

Grade 1

Standards of Learning for Virginia Public Schools Aligned to Grade 1 Imagine Math Lessons

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|--|
| Grade 1 | | Lessons |
| 1.1a Number and Number Sense | | |
| 1.1a | count forward orally by ones to 110, starting at any number between 0 and 110; | <ul style="list-style-type: none"> • Comparing and grouping objects • 2D shapes, counting, and number composition • Counting forward and backward • Continue solving addition problems • Bigger quantity, smaller quantity, difference • Practice place value decomposition • Commutative property and expressions with two operations • Adding one-digit numbers by making ten: Adding 7 • Subtraction from 11 using making ten • Subtraction from 12 using making ten • Numbers 21-99 • Place value decomposition, ordering, and comparison up to 99, I • Place value decomposition, ordering, and comparison up to 99, II • Addition and subtraction up to 100 • 2D and 3D shapes, I • 2D and 3D shapes, V • Order of operations with and without parentheses, II • Money I |
| 1.1b Number and Number Sense | | |
| 1.1b | write the numerals 0 to 110 in sequence and out-of-sequence; | <ul style="list-style-type: none"> • Comparing and grouping objects • 2D shapes, counting, and number composition • Counting forward and backward • Continue solving addition problems • Bigger quantity, smaller quantity, difference • Practice place value decomposition • Commutative property and expressions with two operations • Adding one-digit numbers by making ten: Adding 7 • Subtraction from 11 using making ten • Subtraction from 12 using making ten • Numbers 21-99 • Place value decomposition, ordering, and comparison up to 99, I • Place value decomposition, ordering, and comparison up to 99, II • Addition and subtraction up to 100 |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|--|
| Grade 1 | | Lessons |
| | | <ul style="list-style-type: none"> • 2D and 3D shapes, I • 2D and 3D shapes, V • Order of operations with and without parentheses, II • Numbers 101-120, I • Money I |
| 1.1c Number and Number Sense | | |
| 1.1c | count backward orally by ones when given any number between 1 and 30; and | <ul style="list-style-type: none"> • 2D shapes, counting, and number composition • Bigger quantity, smaller quantity, difference • Practice place value decomposition |
| 1.1d Number and Number Sense | | |
| 1.1d | count forward orally by ones, twos, fives, and tens to determine the total number of objects to 110. | <ul style="list-style-type: none"> • Round numbers up to 100, I • Round numbers up to 100, II • Subtraction of round numbers • The number 100 • Review: Addition, subtraction, measurement, and word problems, II • Numbers 101-120, I • Counting by twos, fives, and tens • Review • Money I |
| 1.3 Number and Number Sense | | |
| 1.3 | The student, given an ordered set of ten objects and/or pictures, will indicate the ordinal position of each object, first through tenth. | <ul style="list-style-type: none"> • 2D shapes, counting, and number composition • Addends and sums |
| 1.4b Number and Number Sense | | |
| 1.4b | represent and name fractions for halves and fourths, using models. | <ul style="list-style-type: none"> • Halves and quarters • Triangles, quadrilaterals, and pentagons • Review: Addition, subtraction, measurement, and word problems, I |
| 1.6 Computation and Estimation | | |
| 1.6 | The student will create and solve single-step story and picture problems using addition and subtraction within 20. | <ul style="list-style-type: none"> • Addition and subtraction as inverse operations • Part, part, whole • Addends and sums • Continue solving addition problems • Lines, rays, and segments • Commutative property of addition • Bigger quantity, smaller quantity, difference • Minuend, subtrahend, difference • Finding the minuend, subtrahend, or difference given the other two • Practice addition and subtraction • Properties of 0 |

**STANDARDS OF LEARNING FOR VIRGINIA
PUBLIC SCHOOLS**

IMAGINE MATH

Grade 1

Lessons

- Place value decomposition
- Practice place value decomposition
- Expressions with two operations
- Commutative property and expressions with two operations
- Review: Expressions with two operations
- The making ten strategy for addition
- Adding one-digit numbers by making ten: Adding 2, 3
- Adding one-digit numbers by making ten: Adding 4
- Adding one-digit numbers by making ten: Adding 5
- Adding one-digit numbers by making ten: Adding 6
- Adding one-digit numbers by making ten: Adding 7
- Adding one-digit numbers by making ten: Adding 8, 9
- Review all cases of addition with making ten
- The making ten strategy for subtraction
- Subtraction from 12 using making ten
- Subtraction from 13 using making ten
- Subtraction from 14 using making ten
- Subtraction from 15 using making ten
- Subtraction from 16 using making ten
- Subtraction from 17 and 18 using making ten
- Review all cases of subtraction with making ten
- Review addition and subtraction with making ten
- Review evaluating expressions with two operations
- Prepare to solve two-step word problems, I
- Solving two-step word problems, I
- Solving two-step word problems, II
- Addition of a one- and a two-digit number, I
- Subtraction of a one-digit number from a two-digit number, I
- Points, lines, rays, and segments, II
- Measuring length with different units, III
- Triangles, quadrilaterals, and pentagons
- Review: Finding an unknown and expressions with parentheses
- Introduction to algebraic equations
- Solving equations: Unknown minuend, I
- Counting by twos, fives, and tens
- Money II

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|---|
| Grade 1 | | Lessons |
| 1.7a Computation and Estimation | | |
| 1.7a | recognize and describe with fluency part-whole relationships for numbers up to 10; and | <ul style="list-style-type: none"> • Comparing, ordering, and number composition • 2D shapes, counting, and number composition • Counting forward and backward • Addition and subtraction as inverse operations • Part, part, whole • Continue solving addition problems • Bigger quantity, smaller quantity, difference • The making ten strategy for addition • Adding one-digit numbers by making ten: Adding 2, 3 • Adding one-digit numbers by making ten: Adding 4 • Adding one-digit numbers by making ten: Adding 5 • Adding one-digit numbers by making ten: Adding 6 • Adding one-digit numbers by making ten: Adding 7 • Adding one-digit numbers by making ten: Adding 8, 9 • The making ten strategy for subtraction • Subtraction from 11 using making ten • Subtraction from 12 using making ten • Subtraction from 13 using making ten • Subtraction from 14 using making ten • Subtraction from 15 using making ten • Subtraction from 16 using making ten • Addition of round numbers • Finding an unknown part in addition problems • Finding an unknown part in subtraction problems • Review: Finding an unknown and expressions with parentheses • Introduction to algebraic expressions • Introduction to algebraic equations • Solving equations: Unknown addend, I • Solving equations: Unknown addend, II • Solving equations: Unknown minuend, I • Solving equations: Unknown minuend, II • Solving equations: Unknown subtrahend, I • Solving equations: Unknown subtrahend, II • Numbers 101-120, I • Numbers 101-120, II • Review |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|---|
| Grade 1 | | Lessons |
| 1.7b Computation and Estimation | | |
| 1.7b | demonstrate fluency with addition and subtraction within 10. | <ul style="list-style-type: none"> • Counting forward and backward • Addition and subtraction as inverse operations • Part, part, whole • Addends and sums • Continue solving addition problems • Lines, rays, and segments • Commutative property of addition • Bigger quantity, smaller quantity, difference • Minuend, subtrahend, difference • Finding the minuend, subtrahend, or difference given the other two • Properties of 0 • Expressions with two operations • Commutative property and expressions with two operations • Review: Expressions with two operations • The making ten strategy for addition • Adding one-digit numbers by making ten: Adding 2, 3 • Adding one-digit numbers by making ten: Adding 4 • Adding one-digit numbers by making ten: Adding 5 • Adding one-digit numbers by making ten: Adding 6 • Adding one-digit numbers by making ten: Adding 7 • Adding one-digit numbers by making ten: Adding 8, 9 • Review all cases of addition with making ten • The making ten strategy for subtraction • Subtraction from 11 using making ten • Subtraction from 12 using making ten • Subtraction from 13 using making ten • Subtraction from 14 using making ten • Subtraction from 15 using making ten • Subtraction from 16 using making ten • Subtraction from 17 and 18 using making ten • Review addition and subtraction with making ten • Review evaluating expressions with two operations • Prepare to solve two-step word problems, I • Round numbers up to 100, I • Round numbers up to 100, II • Subtraction of round numbers |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|--|
| Grade 1 | | Lessons |
| | | <ul style="list-style-type: none"> • Addition and subtraction of round numbers, II • Solving two-step word problems, II • Addition based on place value • Subtraction based on place value • Addition of a one- and a two-digit number, I • Subtraction of a one-digit number from a two-digit number, I • Points, lines, rays, and segments, II • Halves and quarters • 2D and 3D shapes, V • Finding an unknown part in addition problems • Finding an unknown part in subtraction problems • Review: Expressions with two operations • Introduction to parentheses • Order of operations with and without parentheses, I • Order of operations with and without parentheses, II • Review: Finding an unknown and expressions with parentheses • Introduction to algebraic expressions • Solving equations: Unknown addend, I • Solving equations: Unknown addend, II • Solving equations: Unknown minuend, II • Solving equations: Unknown subtrahend, I • Solving equations: Unknown subtrahend, II • Money I • Money II |
| 1.8 Measurement and Geometry | | |
| 1.8 | The student will determine the value of a collection of like coins (pennies, nickels, or dimes) whose total value is 100 cents or less. | <ul style="list-style-type: none"> • Money I • Money II |
| 1.9a Measurement and Geometry | | |
| 1.9a | tell time to the hour and half-hour, using analog and digital clocks; and | <ul style="list-style-type: none"> • Telling time, I • Telling time, II • Telling time, III • Review: Time and 3D shapes • Finding an unknown part in subtraction problems • Review: Expressions with two operations |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|---|
| Grade 1 | | Lessons |
| 1.10 Measurement and Geometry | | |
| 1.10 | The student will use nonstandard units to measure and compare length, weight, and volume. | <ul style="list-style-type: none"> • Measuring length with different units, I • Measuring length with different units, II • Measuring length with different units, III • Review: Lines, rays, segments, and measurement • Review measurement • Review: Addition, subtraction, measurement, and word problems, II • 2D and 3D shapes, II • 2D and 3D shapes, IV • Finding an unknown part in subtraction problems |
| 1.11a Measurement and Geometry | | |
| 1.11a | identify, trace, describe, and sort plane figures (triangles, squares, rectangles, and circles) according to number of sides, vertices, and angles; and | <ul style="list-style-type: none"> • Halves and quarters • Triangles, quadrilaterals, and pentagons • Introduction to algebraic expressions |
| 1.11b Measurement and Geometry | | |
| 1.11b | identify and describe representations of circles, squares, rectangles, and triangles in different environments, regardless of orientation, and explain reasoning. | <ul style="list-style-type: none"> • Comparing and grouping objects • Comparing, ordering, and number composition • Review: Expressions with two operations • Adding one-digit numbers by making ten: Adding 7 • Review all cases of addition with making ten • Subtraction from 11 using making ten • Subtraction from 13 using making ten • Subtraction from 15 using making ten • Review addition and subtraction with making ten • Addition of round numbers • Subtraction of round numbers • Addition and subtraction of round numbers, I • Solving two-step word problems, II • Solving two-step word problems, III • Addition and subtraction with a one- and a two-digit number • Finding an unknown part in subtraction problems • Solving equations: Unknown subtrahend, I |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|--|
| Grade 1 | | Lessons |
| 1.12a Probability and Statistics | | |
| 1.12a | collect, organize, and represent various forms of data using tables, picture graphs, and object graphs; and | <ul style="list-style-type: none"> • 2D shapes, counting, and number composition • Money I |
| 1.12b Probability and Statistics | | |
| 1.12b | read and interpret data displayed in tables, picture graphs, and object graphs, using the vocabulary more, less, fewer, greater than, less than, and equal to. | <ul style="list-style-type: none"> • Money I |
| 1.13 Probability and Statistics | | |
| 1.13 | The student will sort and classify concrete objects according to one or two attributes. | <ul style="list-style-type: none"> • Place value decomposition, ordering, and comparison up to 99, II |
| 1.14 Probability and Statistics | | |
| 1.14 | The student will identify, describe, extend, create, and transfer growing and repeating patterns. | <ul style="list-style-type: none"> • Comparing and grouping objects • Comparing, ordering, and number composition • Part, part, whole • Expressions with two operations • Review: Expressions with two operations • Adding one-digit numbers by making ten: Adding 4 • Adding one-digit numbers by making ten: Adding 8, 9 • Subtraction from 16 using making ten • Subtraction from 17 and 18 using making ten • Addition based on place value • Subtraction based on place value • Measuring length with different units, II • Review: Addition, subtraction, measurement, and word problems, II • 2D and 3D shapes, III • Review: Finding an unknown and expressions with parentheses • Introduction to algebraic equations • Solving equations: Unknown addend, II • Counting by twos, fives, and tens |
| 1.15 Probability and Statistics | | |
| 1.15 | The student will demonstrate an understanding of equality through the use of the equal symbol. | <ul style="list-style-type: none"> • Counting forward and backward • Addition and subtraction as inverse operations • Part, part, whole • Addends and sums • Continue solving addition problems • Lines, rays, and segments • Commutative property of addition |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|---|
| Grade 1 | | Lessons |
| | | <ul style="list-style-type: none"> • Bigger quantity, smaller quantity, difference • Minuend, subtrahend, difference • Finding the minuend, subtrahend, or difference given the other two • Practice addition and subtraction • Properties of 0 • Practice place value decomposition • Commutative property and expressions with two operations • The making ten strategy for addition • Adding one-digit numbers by making ten: Adding 5 • Adding one-digit numbers by making ten: Adding 8, 9 • The making ten strategy for subtraction • Subtraction from 13 using making ten • Solving two-step word problems, III • Points, lines, rays, and segments, II • Review: Lines, rays, segments, and measurement • Review: Time and 3D shapes • Numbers 101-120, II |

Grade 2

Standards of Learning for Virginia Public Schools Aligned to Grade 2 Imagine Math Lessons

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|---|--|---|
| Grade 2 | | Lessons |
| 2.1 Number and Number Sense | | |
| 2.1.a | read, write, and identify the place and value of each digit in a three-digit numeral, with and without models; | <ul style="list-style-type: none"> • Numbers to 100, I • Numbers to 100, II • Adding and subtracting within 100, I • Introduction to hundreds • Adding and subtracting hundreds • Comparing hundreds • Three-digit numbers and place value I • Three-digit numbers and place value II • Review: three-digit numbers, lengths, word problems • Counting within 1000 • Comparing three-digit numbers I • Comparing three-digit numbers II • Review: numbers to 1000 • Adding using expanded form, e.g., $500+40$, $500+5$ • Adding and subtracting using expanded form I, e.g., $500+40+7$, $547-40-7$ • Adding and subtracting using expanded form II • Adding and subtracting 10 and 100 • Subtracting using the standard algorithm without regrouping • Adding and subtracting tens with regrouping I, e.g., $60+80$, $160-80$ • Adding and subtracting tens with regrouping II, e.g., $540+60$, $500-70$ • Adding and subtracting tens with regrouping III, e.g., $260+80$, $360-80$ • Adding within 1000 with regrouping • Subtracting within 1000 with regrouping • Measuring with feet and inches • Numbers 1000-1200 |
| 2.1.b | identify the number that is 10 more, 10 less, 100 more, and 100 less than a given number up to 999; | <ul style="list-style-type: none"> • Adding and subtracting within 100, III • Adding and subtracting hundreds • Adding and subtracting 10 and 100 • Adding and subtracting three-digit numbers without regrouping I • Adding and subtracting three-digit numbers without regrouping II • Adding and subtracting three-digit numbers without regrouping III • Subtracting using the standard algorithm without regrouping • Adding and subtracting tens with regrouping I, e.g., $60+80$, $160-80$ |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|--|
| Grade 2 | | Lessons |
| | | <ul style="list-style-type: none"> Subtracting using the standard algorithm II Adding using the standard algorithm, regrouping both ones and tens Adding and subtracting within 1200 using expanded form Producers and Consumers |
| 2.1.c | compare and order whole numbers between 0 and 999; and | <ul style="list-style-type: none"> Numbers to 100, II Adding and subtracting within 100, I Adding and subtracting within 100, III Adding, subtracting, and comparing numbers using the number line Even and odd numbers Introduction to hundreds Adding and subtracting hundreds Comparing hundreds Three-digit numbers and place value II Counting within 1000 Comparing three-digit numbers I Comparing three-digit numbers II Review: numbers to 1000 Adding and subtracting 10 and 100 Adding and subtracting tens with regrouping III, e.g., $260+80$, $360-80$ Subtracting within 1000 with regrouping Subtracting using the standard algorithm II Adding using the standard algorithm, regrouping both ones and tens Adding and subtracting within 1200 using expanded form Saving and Spending; Deposit and Withdrawal |
| 2.2 Number and Number Sense | | |
| 2.2.c | use objects to determine whether a number is even or odd. | <ul style="list-style-type: none"> Even and odd numbers Review: numbers to 1000 |
| 2.4 Number and Number Sense | | |
| 2.4.a | name and write fractions represented by a set, region, or length model for halves, fourths, eighths, thirds, and sixths; | <ul style="list-style-type: none"> Partitioning rectangles into equal shares Partitioning circles and rectangles into equal shares |
| 2.4.b | represent fractional parts with models and with symbols; and | <ul style="list-style-type: none"> Partitioning rectangles into equal shares Partitioning circles and rectangles into equal shares |
| 2.4.c | compare the unit fractions for halves, fourths, eighths, thirds, and sixths, with models. | <ul style="list-style-type: none"> Partitioning rectangles into equal shares Partitioning circles and rectangles into equal shares |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|--|
| Grade 2 | | Lessons |
| 2.5 Computation and Estimation | | |
| 2.5.a | recognize and use the relationships between addition and subtraction to solve single-step practical problems, with whole numbers to 20; and | <ul style="list-style-type: none"> • The commutative property of addition • Adding two-digit numbers with regrouping I |
| 2.5.b | demonstrate fluency with addition and subtraction within 20. | <ul style="list-style-type: none"> • Numbers to 100, II • Adding and subtracting within 100, I • Adding and subtracting within 100, II • Adding and subtracting within 100, III • Adding and subtracting a two-digit number and a round number II • Adding two-digit numbers without regrouping I • Solving word problems I • Subtracting two-digit numbers without regrouping I • Review: adding and subtracting without regrouping, word problems, bar graphs • Adding, subtracting, and comparing numbers using the number line • Even and odd numbers • The making ten strategy for addition I • The making ten strategy for addition II • Adding a two-digit number and a one-digit number with regrouping I • Adding a two-digit number and a one-digit number with regrouping II • Subtracting from a round number • Subtracting a one-digit number from a two-digit number with regrouping I • Subtracting a one-digit number from a two-digit number with regrouping II • Adding and subtracting a one-digit and a two-digit number with regrouping I • Adding and subtracting a one-digit and a two-digit number with regrouping III • Finding an unknown addend I • Finding an unknown addend II • Finding an unknown number in a subtraction equation • Adding two-digit numbers with regrouping I • Adding two-digit numbers with regrouping II • Subtracting two-digit numbers with regrouping I • Subtracting two-digit numbers with regrouping II • Solving word problems IV • Expressions with parentheses I • Expressions with parentheses II • Review: adding and subtracting with |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|--|
| Grade 2 | | Lessons |
| | | regrouping, word problems, coins <ul style="list-style-type: none"> • The associative property of addition • Centimeters and meters, measuring with rulers • Solving problems with lengths II • Comparing hundreds • Comparing three-digit numbers II • Review: numbers to 1000 • Adding using the standard algorithm without regrouping • Subtracting using the standard algorithm without regrouping • Adding and subtracting tens with regrouping I, e.g., $60+80$, $160-80$ • Adding within 1000 with regrouping • Adding using the standard algorithm • Subtracting using the standard algorithm I • Partitioning circles and rectangles into equal shares • Saving and Spending; Deposit and Withdrawal • Producers and Consumers |
| 2.6 Computation and Estimation | | |
| 2.6.b | determine sums and differences, using various methods; and | <ul style="list-style-type: none"> • Adding and subtracting within 100, I • Adding and subtracting within 100, II • Adding and subtracting within 100, III • Adding and subtracting a two-digit number and a round number I • Adding and subtracting a two-digit number and a round number II • The commutative property of addition • Adding two-digit numbers without regrouping I • Adding two-digit numbers without regrouping II • Solving word problems I • Subtracting two-digit numbers without regrouping I • Subtracting two-digit numbers without regrouping II • Solving word problems II • Review: adding and subtracting without regrouping, word problems, bar graphs • Adding, subtracting, and comparing numbers using the number line • The making ten strategy for addition I • The making ten strategy for addition II • Adding a two-digit number and a one-digit number with regrouping I • Adding a two-digit number and a one-digit number with regrouping II • Subtracting from a round number |

**STANDARDS OF LEARNING FOR VIRGINIA
PUBLIC SCHOOLS**

IMAGINE MATH

Grade 2

Lessons

- Subtracting a one-digit number from a two-digit number with regrouping I
- Subtracting a one-digit number from a two-digit number with regrouping II
- Adding and subtracting a one-digit and a two-digit number with regrouping I
- Adding and subtracting a one-digit and a two-digit number with regrouping II
- Adding and subtracting a one-digit and a two-digit number with regrouping III
- Finding an unknown addend I
- Finding an unknown addend II
- Finding an unknown number in a subtraction equation
- Adding two-digit numbers with regrouping I
- Adding two-digit numbers with regrouping II
- Solving word problems III
- Review: word problems, adding up to 4 numbers
- Subtracting two-digit numbers with regrouping I
- Subtracting two-digit numbers with regrouping II
- Solving word problems IV
- Expressions with parentheses I
- Expressions with parentheses II
- Review: adding and subtracting with regrouping, word problems, coins
- The associative property of addition
- Centimeters and meters, measuring with rulers
- Solving problems with lengths I
- Relationships between metric units
- Solving problems with lengths II
- Measuring and estimating with measurement tools, a ruler as a number line
- Introduction to hundreds
- Adding and subtracting hundreds
- Comparing hundreds
- Three-digit numbers and place value I
- Three-digit numbers and place value II
- Review: three-digit numbers, lengths, word problems
- Counting within 1000
- Comparing three-digit numbers I
- Comparing three-digit numbers II
- Review: numbers to 1000
- Adding using expanded form, e.g., $500+40$, $500+5$
- Subtracting using expanded form, e.g., $540-40$, $505-5$

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|--|
| Grade 2 | | Lessons |
| | | <ul style="list-style-type: none"> • Adding and subtracting using expanded form I, e.g., $500+40+7$, $547-40-7$ • Adding and subtracting using expanded form II • Adding and subtracting 10 and 100 • Adding and subtracting three-digit numbers without regrouping I • Adding and subtracting three-digit numbers without regrouping II • Adding and subtracting three-digit numbers without regrouping III • Adding using the standard algorithm without regrouping • Subtracting using the standard algorithm without regrouping • Adding and subtracting tens with regrouping I, e.g., $60+80$, $160-80$ • Adding and subtracting tens with regrouping II, e.g., $540+60$, $500-70$ • Adding and subtracting tens with regrouping III, e.g., $260+80$, $360-80$ • Adding within 1000 with regrouping • Subtracting within 1000 with regrouping • Adding using the standard algorithm • Subtracting using the standard algorithm I • Subtracting using the standard algorithm II • Adding using the standard algorithm, regrouping both ones and tens • Subtracting using the standard algorithm, regrouping both tens and hundreds • Measuring with feet and inches • Geometric shapes and their attributes • Partitioning rectangles into equal shares • Partitioning circles and rectangles into equal shares • Using clocks to tell time I • Using clocks to tell time II • Numbers 1000-1200 • Adding and subtracting within 1200 using expanded form • Comparing and ordering numbers within 1200 • Adding and subtracting 10 and 100 within 1200 • Saving and Spending; Deposit and Withdrawal • Producers and Consumers |

**STANDARDS OF LEARNING FOR VIRGINIA
PUBLIC SCHOOLS**

IMAGINE MATH

Grade 2

Lessons

2.6.c

create and solve single-step and two-step practical problems involving addition and subtraction.

- Adding and subtracting within 100, II
- Adding and subtracting within 100, III
- Adding and subtracting a two-digit number and a round number II
- Adding two-digit numbers without regrouping II
- Solving word problems I
- Solving word problems II
- Review: adding and subtracting without regrouping, word problems, bar graphs
- The making ten strategy for addition I
- Adding a two-digit number and a one-digit number with regrouping II
- Subtracting from a round number
- Subtracting a one-digit number from a two-digit number with regrouping I
- Subtracting a one-digit number from a two-digit number with regrouping II
- Adding and subtracting a one-digit and a two-digit number with regrouping I
- Adding and subtracting a one-digit and a two-digit number with regrouping II
- Adding and subtracting a one-digit and a two-digit number with regrouping III
- Finding an unknown addend II
- Adding two-digit numbers with regrouping I
- Adding two-digit numbers with regrouping II
- Solving word problems III
- Review: word problems, adding up to 4 numbers
- Subtracting two-digit numbers with regrouping II
- Solving word problems IV
- Expressions with parentheses II
- Review: adding and subtracting with regrouping, word problems, coins
- Centimeters and meters, measuring with rulers
- Solving problems with lengths I
- Solving problems with lengths II
- Measuring and estimating with measurement tools, a ruler as a number line
- Comparing hundreds
- Review: three-digit numbers, lengths, word problems
- Adding using expanded form, e.g., $500+40$, $500+5$
- Subtracting using expanded form, e.g., $540-40$, $505-5$
- Adding and subtracting using expanded form I, e.g., $500+40+7$, $547-40-7$

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|---|
| Grade 2 | | Lessons |
| | | <ul style="list-style-type: none"> • Adding and subtracting using expanded form II • Adding and subtracting 10 and 100 • Adding and subtracting three-digit numbers without regrouping I • Adding and subtracting three-digit numbers without regrouping III • Adding using the standard algorithm without regrouping • Subtracting using the standard algorithm without regrouping • Adding and subtracting tens with regrouping II, e.g., 540+60, 500-70 • Adding and subtracting tens with regrouping III, e.g., 260+80, 360-80 • Adding within 1000 with regrouping • Subtracting within 1000 with regrouping • Adding using the standard algorithm • Subtracting using the standard algorithm I • Subtracting using the standard algorithm II • Adding using the standard algorithm, regrouping both ones and tens • Measuring with feet and inches • Geometric shapes and their attributes • Using clocks to tell time I • Using clocks to tell time II • Saving and Spending; Deposit and Withdrawal • Borrowing and lending |
| 2.7 Measurement and Geometry | | |
| 2.7.a | count and compare a collection of pennies, nickels, dimes, and quarters whose total value is \$2.00 or less; and | <ul style="list-style-type: none"> • Adding and subtracting a one-digit and a two-digit number with regrouping III • Expressions with parentheses II • Review: adding and subtracting with regrouping, word problems, coins • Introduction to hundreds • Saving and Spending; Deposit and Withdrawal • Producers and Consumers |
| 2.7.b | use the cent symbol, dollar symbol, and decimal point to write a value of money. | <ul style="list-style-type: none"> • Adding and subtracting a one-digit and a two-digit number with regrouping III • Expressions with parentheses II • Review: adding and subtracting with regrouping, word problems, coins • Introduction to hundreds • Saving and Spending; Deposit and Withdrawal • Producers and Consumers |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|---|
| Grade 2 | | Lessons |
| 2.8 Measurement and Geometry | | |
| 2.8.a | length to the nearest inch; and | <ul style="list-style-type: none"> Centimeters and meters, measuring with rulers Solving problems with lengths I Relationships between metric units Solving problems with lengths II Measuring and estimating with measurement tools, a ruler as a number line Adding and subtracting using expanded form I, e.g., $500+40+7$, $547-40-7$ Measuring with feet and inches Geometric shapes and their attributes |
| 2.9 Measurement and Geometry | | |
| 2.9 | The student will tell time and write time to the nearest five minutes, using analog and digital clocks. | <ul style="list-style-type: none"> Using clocks to tell time I Using clocks to tell time II Adding and subtracting 10 and 100 within 1200 |
| 2.13 Measurement and Geometry | | |
| 2.13 | The student will identify, describe, compare, and contrast plane and solid figures (circles/spheres, squares/cubes, and rectangles/rectangular prisms). | <ul style="list-style-type: none"> Adding a two-digit number and a one-digit number with regrouping I Finding an unknown addend II Adding two-digit numbers with regrouping II Solving word problems IV Relationships between metric units Subtracting using the standard algorithm, regrouping both tens and hundreds Geometric shapes and their attributes Partitioning rectangles into equal shares Partitioning circles and rectangles into equal shares Using clocks to tell time II Adding and subtracting within 1200 using expanded form |
| 2.15 Probability and Statistics | | |
| 2.15.a | collect, organize, and represent data in pictographs and bar graphs; and | <ul style="list-style-type: none"> Subtracting a one-digit number from a two-digit number with regrouping I Subtracting using the standard algorithm without regrouping Adding using the standard algorithm |
| 2.15.b | read and interpret data represented in pictographs and bar graphs. | <ul style="list-style-type: none"> Review: adding and subtracting without regrouping, word problems, bar graphs The making ten strategy for addition II Subtracting a one-digit number from a two-digit number with regrouping I Subtracting a one-digit number from a two-digit number with regrouping II |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|---|
| Grade 2 | | Lessons |
| | | <ul style="list-style-type: none"> • Review: word problems, adding up to 4 numbers • Subtracting two-digit numbers with regrouping II • Subtracting using the standard algorithm without regrouping • Adding using the standard algorithm |
| 2.16 Patterns, Functions, and Algebra | | |
| 2.16 | The student will identify, describe, create, extend, and transfer patterns found in objects, pictures, and numbers. | <ul style="list-style-type: none"> • Numbers to 100, I • Adding and subtracting within 100, II • Adding and subtracting a two-digit number and a round number II • Adding two-digit numbers without regrouping I • Solving word problems I • The making ten strategy for addition II • Finding an unknown addend II • Using clocks to tell time I |
| 2.17 Patterns, Functions, and Algebra | | |
| 2.17 | The student will demonstrate an understanding of equality through the use of the equal symbol and the use of the not equal symbol. | <ul style="list-style-type: none"> • Subtracting two-digit numbers without regrouping I • Adding, subtracting, and comparing numbers using the number line • Adding and subtracting a one-digit and a two-digit number with regrouping II • Adding and subtracting a one-digit and a two-digit number with regrouping III • Finding an unknown addend I • Finding an unknown number in a subtraction equation • Solving word problems III • Review: adding and subtracting with regrouping, word problems, coins • Introduction to hundreds • Adding and subtracting using expanded form I, e.g., $500+40+7$, $547-40-7$ • Adding and subtracting tens with regrouping III, e.g., $260+80$, $360-80$ • Adding using the standard algorithm, regrouping both ones and tens |

Grade 3

Standards of Learning for Virginia Public Schools Aligned to Grade 3 Imagine Math Lessons

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|---|
| Grade 3 | | Lessons |
| 3 Number and Number Sense | | |
| 3.1.a | The student will a) read, write, and identify the place and value of each digit in a six-digit whole number, with and without models | <ul style="list-style-type: none"> Reasoning About Place Value and Rounding |
| 3.1.b | The student will b) round whole numbers, 9,999 or less, to the nearest ten, hundred, and thousand | <ul style="list-style-type: none"> Reasoning About Place Value and Rounding Rounding to the Nearest Ten and Hundred |
| 3.1.c | The student will c) compare and order whole numbers, each 9,999 or less. | <ul style="list-style-type: none"> Comparing Whole Numbers |
| 3.2.a | The student will a) name and write fractions and mixed numbers represented by a model | <ul style="list-style-type: none"> Unit Fractions on the Number Line Fractions on the Number Line Understanding Fractions - Equal Areas Understanding Fractions - Notation Whole Numbers as Fractions Whole Numbers as Fractions on the Number Line |
| 3.2.b | The student will b) represent fractions and mixed numbers with models and symbols | <ul style="list-style-type: none"> Unit Fractions on the Number Line Fractions on the Number Line Comparing Fractions with the Same Numerator or Denominator Understanding Fractions - Equal Areas Understanding Fractions - Notation Whole Numbers as Fractions Whole Numbers as Fractions on the Number Line |
| 3.2.c | The student will c) compare fractions having like and unlike denominators, using words and symbols ($>$, $<$, $=$, or \neq), with models. | <ul style="list-style-type: none"> Comparing Fractions with the Same Numerator or Denominator Recognizing Valid Fraction Comparisons I Comparing Fractions with Different Numerators and Different Denominators |
| 3 Computation and Estimation | | |
| 3.3.a | The student will a) estimate and determine the sum or difference of two whole numbers | <ul style="list-style-type: none"> Estimating Sums and Differences - Application Reasoning About Addition and Subtraction Within 1,000 Structuring Within 1,000 |
| 3.3.b | The student will b) create and solve single-step and multi-step practical problems involving sums or | <ul style="list-style-type: none"> Estimating Sums and Differences - Application Division as an Unknown-Factor Problem Solving Two-Step Word Problems |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|---|
| Grade 3 | | Lessons |
| | differences of two whole numbers, each 9,999 or less. | <ul style="list-style-type: none"> Modeling and Solving Two-Step Word Problems |
| 3.4.a | The student will a) represent multiplication and division through 10×10 , using a variety of approaches and models | <ul style="list-style-type: none"> Concept of Division Interpreting Division Problems Constructing Division Problems Concept of Multiplication - Grouping Concept of Multiplication - Word Problems Concept of Multiplication - Arrays Multiplication and Division Word Problems - Visual Models Multiplication and Division Word Problems - Equations Multiplication and Division Word Problems - Solutions Multiplication and Division Fact Families Relationship Between Multiplication and Division Using Visual Models to Understand the Distributive Property Solving Multiplication and Division Equations Solving Two-Step Word Problems Modeling and Solving Two-Step Word Problems |
| 3.4.b | The student will b) create and solve single-step practical problems that involve multiplication and division through 10×10 ; and | <ul style="list-style-type: none"> Constructing Division Problems Concept of Multiplication - Word Problems Multiplication and Division Word Problems - Equations Multiplication and Division Word Problems - Solutions Division as an Unknown-Factor Problem Solving Two-Step Word Problems Modeling and Solving Two-Step Word Problems |
| 3.4.c | The student will c) demonstrate fluency with multiplication facts of 0, 1, 2, 5, and 10. | <ul style="list-style-type: none"> Multiplying by Multiples of Ten Multiplication and Division Word Problems - Equations |
| 3.4.d | The student will d) solve single-step practical problems involving multiplication of whole numbers, where one factor is 99 or less and the second factor is 5 or less. | <ul style="list-style-type: none"> Concept of Multiplication - Word Problems |
| 3.5 | The student will solve practical problems that involve addition and subtraction with proper fractions having like denominators of 12 or less. | <ul style="list-style-type: none"> Adding and Subtracting Fractions with Like Denominators in Real-World Situations |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|---|
| Grade 3 | | Lessons |
| 3 Measurement and Geometry | | |
| 3.6.a | The student will a) determine the value of a collection of bills and coins whose total value is \$5.00 or less | • Introduction to Money Sense |
| 3.6.b | The student will b) compare the value of two sets of coins or two sets of coins and bills | • Introduction to Money Sense |
| 3.8.a | The student will estimate and a) measure the distance around a polygon in order to determine its perimeter using U.S. Customary and metric units | • Perimeter |
| 3.8.b | The student will estimate and b) count the number of square units needed to cover a given surface in order to determine its area. | • Unit Squares • Concept of Area • Area of Rectangles • Recognizing Area as Additive |
| 3.11 | The student will identify and draw representations of points, lines, line segments, rays, and angles. | • Identifying and Classifying Lines, Rays, and Segments |
| 3.12.b | The student will b) identify and name polygons with 10 or fewer sides | • Composition and Classification of Shapes |
| 3 Probability and Statistics | | |
| 3.15.b | The student will b) read and interpret data represented in pictographs and bar graphs. | • Introduction to Data Displays |
| 3 Patterns, Functions, and Algebra | | |
| 3.16 | The student will identify, describe, create, and extend patterns found in objects, pictures, numbers and tables. | • Additive and Multiplicative Patterns |
| 3.17 | The student will create equations to represent equivalent mathematical relationships. | • Properties of Addition and Multiplication |

Grade 4

Standards of Learning for Virginia Public Schools Aligned to Grade 4 Imagine Math Lessons

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|---|---|--|
| Grade 4 | | Lessons |
| 4 Number and Number Sense | | |
| 4.1.a | The student will a) read, write, and identify the place and value of each digit in a nine-digit whole number | <ul style="list-style-type: none"> Place Value Relationships Within Whole Numbers and Decimals Understanding Place Value Relationships Place Value Concepts |
| 4.1.b | The student will b) compare and order whole numbers expressed through millions | <ul style="list-style-type: none"> Using Place Value Concepts to Compare Whole Numbers |
| 4.1.c | The student will c) round whole numbers expressed through millions to the nearest thousand, ten thousand, and hundred thousand. | <ul style="list-style-type: none"> Rounding Whole Numbers Using Rounding in Problem Solving |
| 4.2.a | The student will a) compare and order fractions and mixed numbers, with and without models | <ul style="list-style-type: none"> Comparing Decimal Fractions Comparing and Ordering Decimal Fractions Comparing Fractions with Different Numerators and Different Denominators Recognizing Valid Fraction Comparisons II Comparing Fractions - Visual Models |
| 4.2.b | The student will b) represent equivalent fractions | <ul style="list-style-type: none"> Visual Models of Equivalent Fractions Modeling Equivalent Fractions with Number Lines Decomposing Fractions and Mixed Numbers Writing Fractions as Mixed Numbers and Mixed Numbers as Fractions Modeling Equivalent Fractions Generating Equivalent Fractions Equivalent Fractions |
| 4.2.c | The student will c) identify the division statement that represents a fraction, with models and in context. | <ul style="list-style-type: none"> Understanding Fractions as Division |
| 4.3.a | The student will a) read, write, represent, and identify decimals expressed through thousandths | <ul style="list-style-type: none"> Place Value Relationships Within Whole Numbers and Decimals Decimals to Hundredths Decimal Notation I Decimal Notation II Decimals to Thousandths |
| 4.3.c | The student will c) compare and order decimals | <ul style="list-style-type: none"> Introduction to Comparing Decimals to Hundredths Comparing Decimals to Hundredths |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|--|
| Grade 4 | | Lessons |
| | | <ul style="list-style-type: none"> • Recognizing Valid Decimal Comparisons • Comparing Decimals to Thousandths |
| 4.3.d | The student will d) given a model, write the decimal and fraction equivalents. | <ul style="list-style-type: none"> • Understanding Fractions - Relationship Between Numerator and Denominator • Understanding Fractions with Denominators of 10 and 100 |
| 4 Computation and Estimation | | |
| 4.4.a | The student will a) demonstrate fluency with multiplication facts through 12×12 , and the corresponding division facts | <ul style="list-style-type: none"> • Multiplication and Division Fact Families |
| 4.4.b | The student will b) estimate and determine sums, differences, and products of whole numbers | <ul style="list-style-type: none"> • Using Halves and Doubles to Solve Multiplication Problems • Estimating Solutions to Multistep Word Problems |
| 4.4.c | The student will c) estimate and determine quotients of whole numbers, with and without remainders | <ul style="list-style-type: none"> • Using Equations to Model and Solve Multi-step Problems • Dividing by Tens • Dividing Whole Numbers - One-Digit Divisors • Interpreting Remainders • Estimating Solutions to Multistep Word Problems • Dividing Multiples of Ten |
| 4.4.d | The student will d) create and solve single-step and multi-step practical problems involving addition, subtraction, and multiplication, and single-step practical problems involving division with whole numbers. | <ul style="list-style-type: none"> • Developing Fluency Using 5 or 10 as a Factor • Using Halves and Doubles to Solve Multiplication Problems • Using Equations to Model and Solve Multi-step Problems • Multiplying 3-digit by 2-digit Whole Numbers Using the Standard Algorithm • Adding and Subtracting with the Standard Algorithm • Adding Whole Numbers • Multiplying Whole Numbers • Interpreting Remainders • Multiplying 2-Digit Numbers by 2-Digit Numbers • Developing Fluency Using 2 as a Factor |
| 4.5.a | The student will a) determine common multiples and factors, including least common multiple and greatest common factor | <ul style="list-style-type: none"> • Least Common Multiple • Relating Factors and Multiples I • Greatest Common Factor • Greatest Common Factor - Applications • Relating Factors and Multiples II |
| 4.5.b | The student will b) add and subtract fractions and mixed numbers having like and unlike denominators | <ul style="list-style-type: none"> • Adding and Subtracting Fractions with Like Denominators • Adding and Subtracting Fractions with Like Denominators in Real-World Situations |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|--|
| Grade 4 | | Lessons |
| | | • Adding Fractions with Denominators of 10 or 100 |
| 4.5.c | The student will c) solve single-step practical problems involving addition and subtraction with fractions and mixed numbers. | • Adding and Subtracting Fractions with Like Denominators in Real-World Situations |
| 4.6.a | The student will a) add and subtract with decimals | • Adding and Subtracting Decimals |
| 4.6.b | The student will b) solve single-step and multi-step practical problems involving addition and subtraction with decimals. | • Adding and Subtracting Decimals in Real-World Situations |
| 4 Measurement and Geometry | | |
| 4.7 | The student will solve practical problems that involve determining perimeter and area in U.S. Customary and metric units. | • Area of Basic Composite Figures |
| 4.8.c | The student will c) given the equivalent measure of one unit, identify equivalent measures of length, weight/mass, and liquid volume between units within the U.S. Customary system | • Units of Measure - Customary |
| 4.9 | The student will solve practical problems related to elapsed time in hours and minutes within a 12-hour period. | • Adding and Subtracting Time |
| 4.10.a | The student will a) identify and describe points, lines, line segments, rays, and angles, including endpoints and vertices | • Angles |
| 4.11 | The student will identify, describe, compare, and contrast plane and solid figures according to their characteristics (number of angles, vertices, edges, and the number and shape of faces) using concrete models and pictorial representations. | • Classifying Quadrilaterals I • Classifying 3-Dimensional Figures |
| 4.12 | The student will classify quadrilaterals as parallelograms, rectangles, squares, rhombi, and/or trapezoids. | • Classifying Quadrilaterals I |
| 4 Probability and Statistics | | |
| 4.13.a | The student will a) determine the likelihood of an outcome of a simple event | • Probability and Sample Spaces |
| 4.13.b | The student will b) represent probability as a number between 0 and 1, inclusive | • Probability and Sample Spaces |
| 4.13.c | The student will c) create a model or practical problem to represent a given probability. | • Probability and Sample Spaces |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|--|
| Grade 4 | | Lessons |
| 4 Patterns, Functions, and Algebra | | |
| 4.15 | The student will identify, describe, create, and extend patterns found in objects, pictures, numbers, and tables. | <ul style="list-style-type: none"> • Generating and Describing Number Patterns |
| 4.16 | The student will recognize and demonstrate the meaning of equality in an equation. | <ul style="list-style-type: none"> • Distinguishing Between Expressions and Equations |

Grade 5

Standards of Learning for Virginia Public Schools Aligned to Grade 5 Imagine Math Lessons

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|---|---|---|
| Grade 5 | | Lessons |
| 5 Number and Number Sense | | |
| 5.1 | The student, given a decimal through thousandths, will round to the nearest whole number, tenth, or hundredth. | <ul style="list-style-type: none"> • Rounding Decimals to the Nearest Tenth and Hundredth • Reasoning About Rounding Decimals |
| 5.2.a | The student will a) represent and identify equivalencies among fractions and decimals, with and without models | <ul style="list-style-type: none"> • Fraction and Decimal Equivalents |
| 5.2.b | The student will b) compare and order fractions, mixed numbers, and/or decimals in a given set, from least to greatest and greatest to least. | <ul style="list-style-type: none"> • Comparing Fractions and Decimals |
| 5.3.a | The student will a) identify and describe the characteristics of prime and composite numbers | <ul style="list-style-type: none"> • Factors |
| 5.3.b | The student will b) identify and describe the characteristics of even and odd numbers. | <ul style="list-style-type: none"> • Odd or Even II |
| 5 Computation and Estimation | | |
| 5.4 | The student will create and solve single-step and multi-step practical problems involving addition, subtraction, multiplication, and division of whole numbers. | <ul style="list-style-type: none"> • Multiplying Whole Numbers - Standard Algorithm • Operations with Whole Numbers - Mixed Practice • Dividing Whole Numbers - Standard Algorithm • Dividing Whole Numbers - Two-Digit Divisors |
| 5.5.a | The student will a) estimate and determine the product and quotient of two numbers involving decimals | <ul style="list-style-type: none"> • Dividing by Powers of Ten • Multiplying by Powers of Ten • Multiplying and Dividing by Powers of Ten • Using Reasoning and Estimation to Calculate with Decimals • Calculating with Decimals • Multiplying Decimals to Hundredths • Dividing Decimals to Hundredths |
| 5.5.b | The student will b) create and solve single-step and multi-step practical problems involving addition, subtraction, and multiplication of decimals, and create and solve single-step practical problems involving division of decimals. | <ul style="list-style-type: none"> • Adding and Subtracting Decimals in Real-World Situations |
| 5.6.a | The student will a) solve single-step and multi-step practical problems involving | <ul style="list-style-type: none"> • Adding and Subtracting Mixed Numbers with Like Denominators - Conceptual |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|--|
| Grade 5 | | Lessons |
| | addition and subtraction with fractions and mixed numbers | Strategies <ul style="list-style-type: none"> • Adding and Subtracting Mixed Numbers with Like Denominators • Word Problems with Fractions and Mixed Numbers - Visual Models • Word Problems with Fractions and Mixed Numbers - Estimation • Adding and Subtracting Fractions - Multistep Word Problems • Adding and Subtracting Fractions • Subtracting Fractions • Adding Fractions |
| 5.6.b | The student will b) solve single-step practical problems involving multiplication of a whole number, limited to 12 or less, and a proper fraction, with models. | <ul style="list-style-type: none"> • Solving Word Problems with Multiplication of Fractions by Whole Numbers |
| 5.7 | The student will simplify whole number numerical expressions using the order of operations. | <ul style="list-style-type: none"> • Evaluating Simple Expressions |
| 5 Measurement and Geometry | | |
| 5.8.a | The student will a) solve practical problems that involve perimeter, area, and volume in standard units of measure | <ul style="list-style-type: none"> • Area and Perimeter of Rectangles • Volume of Rectangular Prisms I |
| 5.8.b | The student will b) differentiate among perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation. | <ul style="list-style-type: none"> • Area and Perimeter of Rectangles |
| 5.9.a | The student will a) given the equivalent measure of one unit, identify equivalent measurements within the metric system | <ul style="list-style-type: none"> • Units of Measure - Metric |
| 5.11 | The student will solve practical problems related to elapsed time in hours and minutes within a 24-hour period. | <ul style="list-style-type: none"> • Adding and Subtracting Time |
| 5.12 | The student will classify and measure right, acute, obtuse, and straight angles. | <ul style="list-style-type: none"> • Angles • Angles 0 to 180 |
| 5.13.a | The student will a) classify triangles as right, acute, or obtuse and equilateral, scalene, or isosceles | <ul style="list-style-type: none"> • Classifying Triangles |
| 5 Probability and Statistics | | |
| 5.15 | The student will determine the probability of an outcome by constructing a sample space or using the Fundamental (Basic) Counting Principle. | <ul style="list-style-type: none"> • Probability and Sample Spaces |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|---|
| Grade 5 | | Lessons |
| 5.16.a | The student, given a practical problem, will a) represent data in line plots and stem-and-leaf plots | <ul style="list-style-type: none"> • Stem-and-Leaf Plots |
| 5.16.b | The student, given a practical problem, will b) interpret data represented in line plots and stem-and-leaf plots | <ul style="list-style-type: none"> • Line Plots • Stem-and-Leaf Plots |
| 5.17.a | The student, given a practical context, will a) describe mean, median, and mode as measures of center | <ul style="list-style-type: none"> • Measures of Center - Median • Measures of Center - Mean • Deviation from the Mean |
| 5.17.b | The student, given a practical context, will b) describe mean as fair share | <ul style="list-style-type: none"> • Deviation from the Mean |
| 5.17.c | The student, given a practical context, will c) describe the range of a set of data as a measure of spread | <ul style="list-style-type: none"> • Measures of Spread - Range |
| 5.17.d | The student, given a practical context, will d) determine the mean, median, mode, and range of a set of data. | <ul style="list-style-type: none"> • Measures of Center - Median • Measures of Center - Mean • Deviation from the Mean • Measures of Spread - Range |
| 5 Patterns, Functions, and Algebra | | |
| 5.18 | The student will identify, describe, create, express, and extend number patterns found in objects, pictures, numbers and tables. | <ul style="list-style-type: none"> • Generating and Describing Number Patterns |
| 5.19.b | The student will b) write an equation to represent a given mathematical relationship, using a variable | <ul style="list-style-type: none"> • Writing Simple Expressions • Writing and Interpreting Simple Expressions |

Grade 6

Standards of Learning for Virginia Public Schools Aligned to Grade 6 Imagine Math Lessons

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|---|--|--|
| Grade 6 | | Lessons |
| 6 Number and Number Sense | | |
| 6.1 | The student will represent relationships between quantities using ratios, and will use appropriate notations, such as a/b , a to b , and $a:b$. | <ul style="list-style-type: none"> Identifying Ratios Ratios |
| 6.2.a | The student will a) represent and determine equivalencies among fractions, mixed numbers, decimals, and percents | <ul style="list-style-type: none"> Fraction, Decimal, and Percent Equivalents Calculations with Percent Percent Concepts Using Division to Write Fractions as Decimals |
| 6.2.b | The student will b) compare and order positive rational numbers. | <ul style="list-style-type: none"> Classifying and Ordering Real Numbers Calculations with Percent Comparing Rational Numbers II Comparing Rational Numbers I Percent Concepts Reasoning with Percents |
| 6.3.a | The student will a) identify and represent integers | <ul style="list-style-type: none"> Integer Concepts Integer Concepts with a Number Line |
| 6.3.b | The student will b) compare and order integers | <ul style="list-style-type: none"> Classifying and Ordering Real Numbers Integer Concepts Integer Concepts with a Number Line Comparing Rational Numbers II Comparing Rational Numbers I |
| 6.3.c | The student will c) identify and describe absolute value of integers. | <ul style="list-style-type: none"> Absolute Value I Absolute Value II |
| 6.4 | The student will recognize and represent patterns with whole number exponents and perfect squares. | <ul style="list-style-type: none"> Understanding Exponents |
| 6 Computation and Estimation | | |
| 6.5.a | The student will a) multiply and divide fractions and mixed numbers | <ul style="list-style-type: none"> Multiplying Unit Fractions by Whole Numbers Dividing Unit Fractions by Whole Numbers Dividing Whole Numbers by Unit Fractions Multiplying Fractions by Whole Numbers Solving Word Problems with Multiplication of Fractions by Whole Numbers Using the Relationship Between Multiplication and Division to Divide Fractions |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|--|
| Grade 6 | | Lessons |
| | | <ul style="list-style-type: none"> • Dividing Fractions by Fractions • Adding and Subtracting Rational Numbers I • Multiplying Fractions by Whole Numbers to Solve Multistep Problems • Understanding Products with Fractions • Multiplying Fractions by Fractions • Multiplying with Fractions and Mixed Numbers • Understanding and Multiplying with Negative Mixed Numbers |
| 6.5.b | The student will b) solve single-step and multi-step practical problems involving addition, subtraction, multiplication, and division of fractions and mixed numbers | <ul style="list-style-type: none"> • Using Division of Fractions to Represent and Solve Problems • Adding and Subtracting Rational Numbers I • Operations with Fractions - Mixed Practice • Subtracting Fractions - Estimation Strategies • Adding Fractions - Estimation Strategies |
| 6.5.c | The student will c) solve multi-step practical problems involving addition, subtraction, multiplication, and division of decimals. | <ul style="list-style-type: none"> • Using Reasoning and Estimation to Calculate with Decimals • Calculating with Decimals • Adding and Subtracting Decimals • Adding and Subtracting Decimals in Real-World Situations |
| 6.6.a | The student will a) add, subtract, multiply, and divide integers | <ul style="list-style-type: none"> • Adding and Subtracting Rational Numbers II • Multiplying and Dividing Rational Numbers |
| 6.6.b | The student will b) solve practical problems involving operations with integers | <ul style="list-style-type: none"> • Adding and Subtracting Rational Numbers II |
| 6.6.c | The student will c) simplify numerical expressions involving integers. | <ul style="list-style-type: none"> • Evaluating Simple Expressions |
| 6 Measurement and Geometry | | |
| 6.7.b | The student will b) solve problems, including practical problems, involving circumference and area of a circle | <ul style="list-style-type: none"> • Circumference • Area of Circles |
| 6.7.c | The student will c) solve problems, including practical problems, involving area and perimeter of triangles and rectangles. | <ul style="list-style-type: none"> • Area of Parallelograms • Area of Triangles |
| 6.8.a | The student will a) identify the components of the coordinate plane | <ul style="list-style-type: none"> • Introduction to the Coordinate Plane • Representing Real-World Quantities in the First Quadrant • Rational Numbers in the Coordinate Plane |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|--|
| Grade 6 | | Lessons |
| | | <ul style="list-style-type: none"> • Rational Numbers in the Coordinate Plane II |
| 6.8.b | The student will b) identify the coordinates of a point and graph ordered pairs in a coordinate plane. | <ul style="list-style-type: none"> • Introduction to Scatter Plots • Introduction to the Coordinate Plane • Representing Real-World Quantities in the First Quadrant • Rational Numbers in the Coordinate Plane • Rational Numbers in the Coordinate Plane II • Integers in the Coordinate Plane I • Integers in the Coordinate Plane II • Distance on the Coordinate Plane I • Distance on the Coordinate Plane II |
| 6 Probability and Statistics | | |
| 6.10.a | The student, given a practical situation, will a) represent data in a circle graph | <ul style="list-style-type: none"> • Circle Graphs |
| 6.10.b | The student, given a practical situation, will b) make observations and inferences about data represented in a circle graph | <ul style="list-style-type: none"> • Circle Graphs |
| 6.11.a | The student will a) represent the mean of a data set graphically as the balance point | <ul style="list-style-type: none"> • Measures of Center - Mean |
| 6.11.b | The student will b) determine the effect on measures of center when a single value of a data set is added, removed, or changed. | <ul style="list-style-type: none"> • Measures of Center - Median • Measures of Spread - Range |
| 6 Patterns, Functions, and Algebra | | |
| 6.12.a | The student will a) represent a proportional relationship between two quantities, including those arising from practical situations | <ul style="list-style-type: none"> • Proportional Relationships in Tables and Equations |
| 6.12.b | The student will b) determine the unit rate of a proportional relationship and use it to find a missing value in a ratio table | <ul style="list-style-type: none"> • Interpreting Unit Rates on Graphs |
| 6.12.c | The student will c) determine whether a proportional relationship exists between two quantities | <ul style="list-style-type: none"> • Proportion Concepts • Proportional Relationships in Tables and Equations |
| 6.12.d | The student will d) make connections between and among representations of a proportional relationship between two quantities using verbal descriptions, ratio tables, and graphs. | <ul style="list-style-type: none"> • Proportional Relationships in Tables and Equations |
| 6.13 | The student will solve one-step linear equations in one variable, including | <ul style="list-style-type: none"> • Reasoning About One-Step Equations • Writing and Solving One-Step Equations |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|-----------------------------|
| Grade 6 | | Lessons |
| | practical problems that require the solution of a one-step linear equation in one variable. | |
| 6.14.a | The student will a) represent a practical situation with a linear inequality in one variable | • Concept of Inequalities I |
| 6.14.b | The student will b) solve one-step linear inequalities in one variable, involving addition or subtraction, and graph the solution on a number line. | • Concept of Inequalities I |

Grade 7

Standards of Learning for Virginia Public Schools Aligned to Grade 7 Imagine Math Lessons

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|---|---|--|
| Grade 7 | | Lessons |
| 7 Number and Number Sense | | |
| 7.1.a | The student will a) investigate and describe the concept of negative exponents for powers of ten | <ul style="list-style-type: none"> Interpreting Numbers Written in Scientific Notation |
| 7.1.b | The student will b) compare and order numbers greater than zero written in scientific notation | <ul style="list-style-type: none"> Interpreting Numbers Written in Scientific Notation |
| 7.1.c | The student will c) compare and order rational numbers | <ul style="list-style-type: none"> Comparing Rational Numbers II Comparing Rational Numbers I |
| 7.1.d | The student will d) determine square roots of perfect squares | <ul style="list-style-type: none"> Understanding Square and Cube Roots |
| 7.1.e | The student will e) identify and describe absolute value of rational numbers. | <ul style="list-style-type: none"> Absolute Value I Absolute Value II |
| 7 Computation and Estimation | | |
| 7.2 | The student will solve practical problems involving operations with rational numbers. | <ul style="list-style-type: none"> Operations with Rational Numbers I Operations with Rational Numbers II Writing and Interpreting Expressions with Rational Numbers Evaluating Expressions with Real Numbers Multiplying and Dividing Rational Numbers |
| 7.3 | The student will solve single-step and multi-step practical problems, using proportional reasoning. | <ul style="list-style-type: none"> Using Proportions to Solve Problems |
| 7 Measurement and Geometry | | |
| 7.4.a | The student will a) describe and determine the volume and surface area of rectangular prisms and cylinders | <ul style="list-style-type: none"> Volume of Cylinders Surface Area and Volume of Rectangular Prisms Volume of Rectangular Prisms I Volume of Rectangular Prisms II |
| 7.4.b | The student will b) solve problems, including practical problems, involving the volume and surface area of rectangular prisms and cylinders. | <ul style="list-style-type: none"> Volume of Cylinders Surface Area of Cylinders Surface Area and Volume of Rectangular Prisms Volume of Rectangular Prisms II |
| 7.5 | The student will solve problems, including practical problems, involving the relationship between corresponding sides and corresponding angles of similar quadrilaterals and triangles. | <ul style="list-style-type: none"> Introduction to Similar Figures Using Similar Figures to Solve Problems |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|---|
| Grade 7 | | Lessons |
| 7.6.a | The student will a) compare and contrast quadrilaterals based on their properties | <ul style="list-style-type: none"> Classifying Quadrilaterals II |
| 7.7 | The student will apply translations and reflections of right triangles or rectangles in the coordinate plane. | <ul style="list-style-type: none"> Reflections Translations |
| 7 Probability and Statistics | | |
| 7.8.a | The student will a) determine the theoretical and experimental probabilities of an event | <ul style="list-style-type: none"> Simple Probability |
| 7.9.a | The student, given data in a practical situation, will a) represent data in a histogram | <ul style="list-style-type: none"> Bar Graphs and Histograms |
| 7.9.b | The student, given data in a practical situation, will b) make observations and inferences about data represented in a histogram | <ul style="list-style-type: none"> Bar Graphs and Histograms |
| 7 Patterns, Functions, and Algebra | | |
| 7.10.e | The student will e) make connections between and among representations of a proportional or additive relationship between two quantities using verbal descriptions, tables, equations, and graphs. | <ul style="list-style-type: none"> Proportion Concepts Proportional Relationships in Tables and Equations Direct Variation Interpreting Points on Graphs of Proportional Relationships Interpreting Slope Solving Word Problems with Algebra |
| 7.11 | The student will evaluate algebraic expressions for given replacement values of the variables. | <ul style="list-style-type: none"> Combining Like Terms Evaluating Expressions with Two Operations |
| 7.12 | The student will solve two-step linear equations in one variable, including practical problems that require the solution of a two-step linear equation in one variable. | <ul style="list-style-type: none"> Distance, Rate, and Time Solving and Modeling Two-Step Problems Solving Two-Step Equations Solving Equations with the Distributive Property Solving Equations with the Distributive Property in Context Solving Word Problems with Algebra |
| 7.13 | The student will solve one- and two-step linear inequalities in one variable, including practical problems, involving addition, subtraction, multiplication, and division, and graph the solution on a number line. | <ul style="list-style-type: none"> Modeling, Evaluating, and Graphing Two-Step Inequalities in One Variable Concept of Inequalities II Solving Linear Inequalities in One Variable |

Grade 8

Standards of Learning for Virginia Public Schools Aligned to Grade 8 Imagine Math Lessons

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|--|
| Grade 8 | | Lessons |
| 8 Number and Number Sense | | |
| 8.1 | The student will compare and order real numbers. | <ul style="list-style-type: none"> Classifying and Ordering Real Numbers |
| 8.2 | The student will describe the relationships between the subsets of the real number system. | <ul style="list-style-type: none"> Classifying and Ordering Real Numbers |
| 8.3.a | The student will a) estimate and determine the two consecutive integers between which a square root lies | <ul style="list-style-type: none"> Understanding Square and Cube Roots Approximating Values of Irrational Numbers |
| 8 Computation and Estimation | | |
| 8.4 | The student will solve practical problems involving consumer applications. | <ul style="list-style-type: none"> Simple Interest Concept of Ratios and Rates Using Ratios to Solve Problems Identifying Unit Rates Solving Problems with Unit Rates Using Proportions to Solve Problems Proportions in Scale Drawings Converting Units of Measure I Converting Units of Measure II Percent and Percent Change Percent and Percent Error |
| 8 Measurement and Geometry | | |
| 8.5 | The student will use the relationships among pairs of angles that are vertical angles, adjacent angles, supplementary angles, and complementary angles to determine the measure of unknown angles. | <ul style="list-style-type: none"> Parallel Lines and Transversals Angle Pairs |
| 8.6.a | The student will a) solve problems, including practical problems, involving volume and surface area of cones and square-based pyramids | <ul style="list-style-type: none"> Surface Area of Pyramids Volume of Pyramids and Cones Surface Area of Cones |
| 8.7.a | The student will a) given a polygon, apply transformations, to include translations, reflections, and dilations, in the coordinate plane | <ul style="list-style-type: none"> Reflections Translations Composition of Transformations Dilations |
| 8.9.a | The student will a) verify the Pythagorean Theorem | <ul style="list-style-type: none"> Understanding the Pythagorean Theorem |
| 8.9.b | The student will b) apply the Pythagorean Theorem. | <ul style="list-style-type: none"> Pythagorean Theorem - Hypotenuse Pythagorean Theorem - Mixed Problems Pythagorean Theorem - Distance |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|---|
| Grade 8 | | Lessons |
| | | Formula • Pythagorean Theorem - Legs |
| 8.10 | The student will solve area and perimeter problems, including practical problems, involving composite plane figures. | • Area of Complex Composite Figures • Area of Parallelograms |
| 8 Probability and Statistics | | |
| 8.11.a | The student will a) compare and contrast the probability of independent and dependent events | • Compound Probability |
| 8.11.b | The student will b) determine probabilities for independent and dependent events. | • Simple Probability • Compound Probability |
| 8.12.a | The student will a) represent numerical data in box plots | • Box Plots |
| 8.12.b | The student will b) make observations and inferences about data represented in box plots | • Quartiles • Comparing Data • Box Plots |
| 8.12.c | The student will c) compare and analyze two data sets using box plots. | • Comparing Data • Box Plots |
| 8.13.a | The student will a) represent data in scatter plots | • Comparing Linear and Nonlinear Data |
| 8.13.b | The student will b) make observations about data represented in scatter plots | • Comparing Linear and Nonlinear Data • Introduction to Scatter Plots |
| 8.13.c | The student will c) use a drawing to estimate the line of best fit for data represented in a scatter plot. | • Introduction to Scatter Plots |
| 8 Patterns, Functions, and Algebra | | |
| 8.14.a | The student will a) evaluate an algebraic expression for given replacement values of the variables | • Evaluating Expressions and Equations with Exponents |
| 8.14.b | The student will b) simplify algebraic expressions in one variable. | • Simplifying, Multiplying, and Dividing Rational Expressions |
| 8.15.a | The student will a) determine whether a given relation is a function | • Function Notation II • Function Notation I |
| 8.15.b | The student will b) determine the domain and range of a function. | • Function Notation II • Understanding the Domain of a Function |
| 8.16.d | The student will d) graph a linear function given the equation in $y = mx + b$ form | • Writing and Graphing Linear Equations in Two or More Variables |
| 8.16.e | The student will e) make connections between and among representations of a linear function using verbal descriptions, tables, equations, and graphs. | • Introduction to Sketching Graphs of Real-World Situations • Interpreting Graphs of Real-World Situations |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|--|
| Grade 8 | | Lessons |
| | | <ul style="list-style-type: none"> • Introduction to Sketching Graphs of Linear Functions from Symbolic Representations |
| 8.17 | The student will solve multi-step linear equations in one variable with the variable on one or both sides of the equation, including practical problems that require the solution of a multi-step linear equation in one variable. | <ul style="list-style-type: none"> • Analyzing Solution Sets to Linear Equations with the Variable on Both Sides • Solving Equations with the Variable on Both Sides |
| 8.18 | The student will solve multi-step linear inequalities in one variable with the variable on one or both sides of the inequality symbol, including practical problems, and graph the solution on a number line. | <ul style="list-style-type: none"> • Modeling, Evaluating, and Graphing Two-Step Inequalities in One Variable |

Imagine Math Lessons Aligned to Virginia Foundation Blocks for Early Learning

Prekindergarten

Imagine Math Prekindergarten Lessons Aligned to Virginia Foundation Blocks for Early Learning

| IMAGINE MATH | | VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING |
|--------------|--|--|
| | Lesson | Prekindergarten |
| 1 | Introduction of colors | • PK.6a |
| 2 | Grouping by color | Supplemental |
| 3 | Location words: On, under, above, next to | • PK.4d • PK.6a |
| 4 | Location words: Behind, in front of, between | • PK.4d • PK.6a |
| 5 | Circles and polygons | • PK.3d • PK.4a • PK.4b • PK.4c • PK.4d • PK.6a |
| 6 | Grouping by color and shape | • PK.4a • PK.4b • PK.6a |
| 7 | Location words: above, below, up, down | • PK.4a • PK.4b • PK.4d • PK.6a |
| 8 | Size: big and small | • PK.4d • PK.6a |
| 9 | Comparing and ordering by size | • PK.6a |
| 10 | Triangles, rectangles, and squares | • PK.4a • PK.4c • PK.6a |
| 11 | Location words: Left and right | • PK.4a • PK.4b • PK.4d • PK.6a |
| 12 | Comparing and grouping objects by size, color, and shape | • PK.4a • PK.4b • PK.4c • PK.4d |
| 13 | Height: Tall and short | • PK.3a |

| IMAGINE MATH | | VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING |
|--------------|---|--|
| | Lesson | Prekindergarten |
| 14 | Comparing and ordering by height, I | • PK.3a |
| 15 | Comparing and ordering by height, II | • PK.3a • PK.4a |
| 16 | Length: Long and short | • PK.3a • PK.6a |
| 17 | Comparing and ordering by length, I | • PK.3a |
| 18 | Comparing and ordering by length, II | • PK.3a |
| 19 | Width: Wide and narrow | • PK.3a • PK.6a |
| 20 | Comparing and ordering by width, I | • PK.3a • PK.6a |
| 21 | Comparing and ordering by width, II | • PK.3a • PK.4a |
| 22 | Event sequences: First and next | Supplemental |
| 23 | Time of day: Morning, afternoon, evening, night | • PK.3d |
| 24 | Sequences: First and last | • PK.3d • PK.4a • PK.4c • PK.4d |
| 25 | Patterns | • PK.4d • PK.6b • PK.6c |
| 26 | Comparing quantities: One-Many | • PK.1d |
| 27 | Comparing quantities: Equality I | • PK.1d • PK.4a |
| 28 | Comparing quantities: Equality II | • PK.1d |
| 29 | Dividing into equal groups | • PK.1d • PK.4d • PK.6a • PK.6b • PK.6c |
| 30 | Comparing quantities: More-Fewer, I | • PK.1d • PK.4d |
| 31 | Comparing quantities: More-Fewer, II | • PK.1d • PK.6a |
| 32 | Comparing quantities: Inequality, I | • PK.1d • PK.4a • PK.4c • PK.6b • PK.6c |

| IMAGINE MATH | | VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING |
|--------------|---------------------------------------|---|
| | Lesson | Prekindergarten |
| 33 | Comparing quantities: Inequality, II | <ul style="list-style-type: none"> • PK.1d • PK.3a • PK.4d • PK.6b • PK.6c |
| 34 | Comparing quantities: Inequality, III | <ul style="list-style-type: none"> • PK.1d • PK.6a |
| 35 | Making equal by increasing, I | <ul style="list-style-type: none"> • PK.1d • PK.2a • PK.3a • PK.4a • PK.4b |
| 36 | Making equal by increasing, II | <ul style="list-style-type: none"> • PK.1d • PK.2a • PK.3a • PK.4a |
| 37 | Making equal by increasing, III | <ul style="list-style-type: none"> • PK.1d • PK.2a • PK.3a |
| 38 | Making equal by decreasing, I | <ul style="list-style-type: none"> • PK.1d • PK.6b • PK.6c |
| 39 | Making equal by decreasing, II | <ul style="list-style-type: none"> • PK.1d • PK.4a • PK.4d • PK.6b • PK.6c |
| 40 | Making equal by decreasing, III | <ul style="list-style-type: none"> • PK.2b • PK.3a • PK.4a • PK.4c • PK.4d • PK.6b • PK.6c |
| 41 | Addition with manipulatives, I | <ul style="list-style-type: none"> • PK.2a • PK.6a |
| 42 | Addition with manipulatives, II | <ul style="list-style-type: none"> • PK.2a • PK.6a |
| 43 | Addition with manipulatives, III | <ul style="list-style-type: none"> • PK.1e • PK.2a • PK.4a • PK.4b • PK.4c • PK.6a |

| IMAGINE MATH | | VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING |
|--------------|---|---|
| | Lesson | Prekindergarten |
| 44 | Addition with manipulatives, IV | <ul style="list-style-type: none"> • PK.2a • PK.6a |
| 45 | Subtraction with manipulatives, I | <ul style="list-style-type: none"> • PK.2b • PK.6a |
| 46 | Subtraction with manipulatives, II | <ul style="list-style-type: none"> • PK.2b • PK.3a • PK.6a • PK.6b • PK.6c |
| 47 | Subtraction with manipulatives, III | <ul style="list-style-type: none"> • PK.2b • PK.4a • PK.6a |
| 48 | Addition and subtraction with manipulatives | <ul style="list-style-type: none"> • PK.2a • PK.2b • PK.4a |
| 49 | The digit and number 1 | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.4a • PK.6a |
| 50 | First ordinal position | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.4a • PK.4c |
| 51 | Practice using the number 1 | <ul style="list-style-type: none"> • PK.6b • PK.6c |
| 52 | The digit and number 0 | <ul style="list-style-type: none"> • PK.1d • PK.4d • PK.6a |
| 53 | Practice using the numbers 0 and 1 | <ul style="list-style-type: none"> • PK.1d • PK.3a • PK.6a |
| 54 | Counting to two and the digit 2 | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d |
| 55 | Two and the concept of a pair | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.4a • PK.4c • PK.6a |
| 56 | Number composition of 2 | <ul style="list-style-type: none"> • PK.6a |

| IMAGINE MATH | | VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING |
|--------------|--|---|
| | Lesson | Prekindergarten |
| 57 | Ordinal counting up to two | <ul style="list-style-type: none"> • PK.1a • PK.1e • PK.6a • PK.6b • PK.6c |
| 58 | Comparing and grouping objects by two attributes | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.4a • PK.4b • PK.4c • PK.6a |
| 59 | Counting to three and the digit 3 | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d |
| 60 | Ordinal counting up to 3 | <ul style="list-style-type: none"> • PK.1a • PK.1d • PK.1e |
| 61 | Triangles: 3 sides, 3 angles | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.4a • PK.4b • PK.4c • PK.4d |
| 62 | Number composition of 3 | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.1e |
| 63 | Word problems: story with a question | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.2a • PK.2b • PK.4a • PK.4c |
| 64 | Solving word problems with the numbers 1, 2, 3 | <ul style="list-style-type: none"> • PK.3a |
| 65 | Counting to four and the digit 4 | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.2a |
| 66 | Ordinal counting up to 4 and comparison | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.1e |

| IMAGINE MATH | | VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING |
|--------------|--|--|
| | Lesson | Prekindergarten |
| 67 | Number composition of 4, I | <ul style="list-style-type: none"> • PK.1d • PK.4a • PK.4b • PK.4c |
| 68 | Number composition of 4, II | <ul style="list-style-type: none"> • PK.4a • PK.4b • PK.4c • PK.4d |
| 69 | Counting to five and the digit 5 | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.2a • PK.6b • PK.6c |
| 70 | Ordinal counting and comparison up to 5 | <ul style="list-style-type: none"> • PK.1a • PK.1e |
| 71 | Number composition of 5 | <ul style="list-style-type: none"> • PK.1a • PK.1e • PK.4a • PK.4c |
| 72 | Review of number composition and counting | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.1e • PK.4a • PK.4c • PK.6b • PK.6c |
| 73 | Review of comparison and introduction of counting down | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.3a |
| 74 | Word problems with numbers up to 5 | <ul style="list-style-type: none"> • PK.1a • PK.1c |
| 75 | Counting to six and the digit 6 | <ul style="list-style-type: none"> • PK.1a • PK.1b • PK.1c • PK.1d • PK.2a • PK.3a • PK.4a |
| 76 | Ordinal counting and comparison up to 6 | <ul style="list-style-type: none"> • PK.1a • PK.1b • PK.1c |

| IMAGINE MATH | | VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING |
|--------------|---|--|
| | Lesson | Prekindergarten |
| | | <ul style="list-style-type: none"> • PK.1e • PK.3a |
| 77 | Word problems with numbers up to 6 | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1e • PK.3a • PK.4d |
| 78 | Counting to seven and the digit 7 | <ul style="list-style-type: none"> • PK.1a • PK.1b • PK.1c • PK.1d • PK.2a • PK.6a |
| 79 | Ordinal counting and comparison up to 7 | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.1e |
| 80 | Word problems with numbers up to 7 | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1e • PK.6a |
| 81 | Counting to eight and the digit 8 | <ul style="list-style-type: none"> • PK.1a • PK.1b • PK.1c • PK.1d • PK.2a • PK.6a |
| 82 | Ordinal counting and comparison up to 8 | <ul style="list-style-type: none"> • PK.1a • PK.1b • PK.1c • PK.1d • PK.1e |
| 83 | Word problems with numbers up to 8 | <ul style="list-style-type: none"> • PK.1a • PK.1b • PK.1c • PK.1e • PK.4a • PK.4b |
| 84 | Counting to nine and the digit 9 | <ul style="list-style-type: none"> • PK.1a • PK.1b • PK.1c • PK.1d • PK.2a • PK.4a • PK.4b • PK.4c |

| IMAGINE MATH | | VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING |
|--------------|---|---|
| | Lesson | Prekindergarten |
| | | <ul style="list-style-type: none"> • PK.4d • PK.6a |
| 85 | Ordinal counting and comparison up to 9 | <ul style="list-style-type: none"> • PK.1a • PK.1b • PK.1c • PK.1d • PK.1e • PK.4d |
| 86 | Word problems with numbers up to 9 | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1e |
| 87 | Counting to 10 and representing 10 | <ul style="list-style-type: none"> • PK.1a • PK.1b • PK.1c • PK.1d • PK.4a • PK.4c |
| 88 | Ordinal counting and comparison up to 10 | <ul style="list-style-type: none"> • PK.1a • PK.1e • PK.4d |
| 89 | Word problems with numbers up to 10 | <ul style="list-style-type: none"> • PK.1a • PK.1b • PK.1c • PK.1d |
| 90 | Using a ruler to compare numbers | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.4a • PK.4b • PK.6a |
| 91 | Addition and subtraction with a ruler, I | <ul style="list-style-type: none"> • PK.1a • PK.4d |
| 92 | Addition and subtraction with a ruler, II | <ul style="list-style-type: none"> • PK.1a |
| 93 | Review, I | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1e • PK.4a • PK.4c • PK.4d • PK.6a • PK.6b • PK.6c |
| 94 | Review, II | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d |

| IMAGINE MATH | | VIRGINIA FOUNDATION BLOCKS FOR EARLY LEARNING |
|--------------|-------------|--|
| | Lesson | Prekindergarten |
| 95 | Review, III | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.2a • PK.2b • PK.3d |
| 96 | Review, IV | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.4a • PK.4c • PK.4d |
| 97 | Review, V | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1d • PK.4a • PK.4c |
| 98 | Review, VI | Supplemental |
| 99 | Review, VII | <ul style="list-style-type: none"> • PK.1a • PK.1c • PK.1e • PK.4d |

Imagine Math Lessons Aligned to Standards of Learning for Virginia Public Schools

Kindergarten

Imagine Math Kindergarten Lessons Aligned to Standards of Learning for Virginia Public Schools

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
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| | Lesson | Kindergarten |
| 1 | Comparing, matching, and grouping by various attributes, I | <ul style="list-style-type: none"> • K.9 • K.10b |
| 2 | Comparing, matching, and grouping by various attributes, II | <ul style="list-style-type: none"> • K.10a • K.10b • K.13 |
| 3 | Comparing, matching, and grouping by various attributes, III | <ul style="list-style-type: none"> • K.10a • K.10b |
| 4 | Length and width; comparing and ordering objects by these attributes | <ul style="list-style-type: none"> • K.9 • K.10a |
| 5 | Volume; comparing and ordering objects by volume | <ul style="list-style-type: none"> • K.9 |
| 6 | Weight | <ul style="list-style-type: none"> • K.9 • K.10b |
| 7 | As many as, more, and less | <ul style="list-style-type: none"> • K.2a • K.13 |
| 8 | Equality and inequality: Equal and not equal signs | <ul style="list-style-type: none"> • K.2a • K.9 • K.10c • K.12 |
| 9 | Greater than and less than: > and < signs | <ul style="list-style-type: none"> • K.2a • K.10a • K.10c • K.12 |
| 10 | Review comparing object quantities | <ul style="list-style-type: none"> • K.9 • K.12 |
| 11 | Operations with numbers 0 to 5 | <ul style="list-style-type: none"> • K.1b • K.4a |
| 12 | Introduction of part-part-whole | <ul style="list-style-type: none"> • K.4a • K.4b • K.6 |
| 13 | Segment models for part-part-whole | <ul style="list-style-type: none"> • K.4a • K.4b • K.6 |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|-----------------------------------|--|
| | Lesson | Kindergarten |
| 14 | Commutative property of addition | <ul style="list-style-type: none"> • K.4a • K.4b • K.6 |
| 15 | Comparing numbers within 10 | <ul style="list-style-type: none"> • K.1b • K.3c |
| 16 | Number composition of 6 | <ul style="list-style-type: none"> • K.1b • K.4a • K.4b |
| 17 | Number composition of 7 | <ul style="list-style-type: none"> • K.1b • K.4a • K.4b • K.6 • K.9 |
| 18 | Number composition of 8 | <ul style="list-style-type: none"> • K.1b • K.4a • K.4b • K.9 • K.10a • K.12 |
| 19 | Number composition of 9 | <ul style="list-style-type: none"> • K.1b • K.4a • K.4b • K.6 |
| 20 | Addition and subtraction | <ul style="list-style-type: none"> • K.1b • K.4a • K.4b • K.6 |
| 21 | Two-digit numbers and place value | <ul style="list-style-type: none"> • K.1b • K.3b • K.3c • K.13 |
| 22 | Number composition of 10 | <ul style="list-style-type: none"> • K.1b • K.4a • K.4b • K.6 |
| 23 | Comparing numbers using a ruler | <ul style="list-style-type: none"> • K.1b • K.2a • K.2b • K.3c • K.6 • K.9 |
| 24 | Properties of 0 | <ul style="list-style-type: none"> • K.4a • K.4b • K.12 |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|--|
| | Lesson | Kindergarten |
| 25 | Operations with 0 to 10 | <ul style="list-style-type: none"> • K.1b • K.3b • K.3c • K.4a • K.6 • K.10a |
| 26 | Using segment models for part-part-whole | <ul style="list-style-type: none"> • K.1b • K.4a • K.4b • K.9 • K.12 |
| 27 | Operations and word problems with 0 to 10 | <ul style="list-style-type: none"> • K.1b • K.4a • K.4b • K.6 • K.11a |
| 28 | Identifying the bigger quantity, smaller quantity, and difference | <ul style="list-style-type: none"> • K.1b • K.2a |
| 29 | Finding the difference | <ul style="list-style-type: none"> • K.1b • K.2a • K.4a • K.4b • K.12 |
| 30 | Finding the bigger quantity | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a • K.4a • K.4b • K.9 • K.10c |
| 31 | Practice finding the difference and the bigger quantity | <ul style="list-style-type: none"> • K.1b |
| 32 | Finding the smaller quantity | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a |
| 33 | Solving comparison problems | <ul style="list-style-type: none"> • K.1b • K.13 |
| 34 | Problems with two operations, I | <ul style="list-style-type: none"> • K.1a • K.3a • K.3c |
| 35 | Problems with two operations, II | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|---|
| | Lesson | Kindergarten |
| 36 | Counting, ordering, and place value decomposition up to 13 | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a |
| 37 | Comparing numbers up to 13 | <ul style="list-style-type: none"> • K.1b • K.12 |
| 38 | Finding the previous and the next number up to 13 | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a |
| 39 | Writing numbers up to 13 in expanded form | <ul style="list-style-type: none"> • K.3a • K.4a • K.4b • K.9 • K.12 |
| 40 | Addition and subtraction based on place value decomposition up to 13 | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a • K.4a • K.4b |
| 41 | Review of part, part, whole and bigger quantity, smaller quantity, difference | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a • K.4a • K.4b • K.6 |
| 42 | Counting, ordering, and place value decomposition up to 19 | <ul style="list-style-type: none"> • K.1b • K.3a • K.12 |
| 43 | Comparing numbers up to 19 | <ul style="list-style-type: none"> • K.1b |
| 44 | Addition and subtraction based on place value decomposition up to 19 | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a • K.3c • K.4a • K.4b • K.11a |
| 45 | Writing numbers up to 19 in expanded form | <ul style="list-style-type: none"> • K.1a • K.3a • K.12 |
| 46 | Practice counting, comparing, and place value decomposition up to 19 | <ul style="list-style-type: none"> • K.1b • K.4a • K.4b • K.6 |
| 47 | Addition and subtraction with a one- and a two-digit numbers up to 19 | Supplemental |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|--|
| | Lesson | Kindergarten |
| 48 | Practice addition and subtraction up to 19 | <ul style="list-style-type: none"> • K.3a • K.4a • K.4b |
| 49 | Practice word problems and addition/subtraction up to 19 | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a • K.6 |
| 50 | Introduction to the number 20 | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a • K.4a • K.4b |
| 51 | Ordinals, addition, and subtraction | <ul style="list-style-type: none"> • K.6 |
| 52 | Comparing numbers and finding the difference | <ul style="list-style-type: none"> • K.1b • K.6 • K.10b • K.12 |
| 53 | Counting, comparing, and ordering up to 20 | <ul style="list-style-type: none"> • K.1b • K.13 |
| 54 | Part, part, whole and bigger quantity, smaller quantity, difference | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a • K.4a • K.4b • K.6 • K.9 |
| 55 | Addition of two numbers to get 20 | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a |
| 56 | Review addition, subtraction, and bigger quantity, smaller quantity, difference | <ul style="list-style-type: none"> • K.1b • K.6 |
| 57 | Review ordering, place value decomposition, addition, and subtraction | <ul style="list-style-type: none"> • K.10a • K.10c |
| 58 | Subtraction of a one-digit number from 20 | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a • K.4a • K.4b • K.11a |
| 59 | Addition and subtraction up to 20 | <ul style="list-style-type: none"> • K.1a • K.3a • K.4a • K.4b • K.9 |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|---|
| | Lesson | Kindergarten |
| 60 | Review addition, subtraction, ordering, and two-step calculations | <ul style="list-style-type: none"> • K.1b • K.6 |
| 61 | Review: Operations within 20 and shapes | <ul style="list-style-type: none"> • K.1b • K.10a • K.10b • K.11a |
| 62 | Points, straight lines, and curved lines | Supplemental |
| 63 | Rays and segments | <ul style="list-style-type: none"> • K.1b • K.6 |
| 64 | Closed and open curves | <ul style="list-style-type: none"> • K.1b • K.10a • K.12 • K.13 |
| 65 | Polygons | <ul style="list-style-type: none"> • K.12 • K.13 |
| 66 | Circles and spheres, I | <ul style="list-style-type: none"> • K.10a • K.12 • K.13 |
| 67 | Circles and spheres, II | <ul style="list-style-type: none"> • K.1b • K.4a • K.4b • K.10a • K.12 |
| 68 | Squares and cubes, I | <ul style="list-style-type: none"> • K.1b • K.4a • K.6 • K.10a • K.12 |
| 69 | Squares and cubes, II | <ul style="list-style-type: none"> • K.1b • K.10a • K.12 |
| 70 | Triangles, circles, and cones, I | <ul style="list-style-type: none"> • K.10a • K.13 |
| 71 | Triangles, circles, and cones, II | Supplemental |
| 72 | Circles, rectangles, and cylinders, I | <ul style="list-style-type: none"> • K.1a • K.3a • K.12 • K.13 |
| 73 | Circles, rectangles, and cylinders, II | • K.12 |
| 74 | 2D and 3D shapes: Review | <ul style="list-style-type: none"> • K.1b • K.4a |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|---|
| | Lesson | Kindergarten |
| | | <ul style="list-style-type: none"> • K.4b • K.12 |
| 75 | Review: Operations within 20, I | <ul style="list-style-type: none"> • K.4a • K.4b • K.6 |
| 76 | Review: Operations within 20, II | <ul style="list-style-type: none"> • K.1a • K.1b • K.3a |
| 77 | Counting and comparison | <ul style="list-style-type: none"> • K.1b • K.3a • K.4a • K.4b • K.6 • K.12 |
| 78 | Counting, comparison, and expressions with two operations | <ul style="list-style-type: none"> • K.1a • K.3a |
| 79 | Place value composition | <ul style="list-style-type: none"> • K.1b • K.6 |
| 80 | Round numbers within 100 | <ul style="list-style-type: none"> • K.1b • K.3d • K.6 |
| 81 | Identifying and comparing round numbers | <ul style="list-style-type: none"> • K.3d |
| 82 | Counting by tens | <ul style="list-style-type: none"> • K.3d |
| 83 | Two-digit numbers above 20, I | <ul style="list-style-type: none"> • K.1b • K.6 • K.12 |
| 84 | Two-digit numbers above 20, II | <ul style="list-style-type: none"> • K.1a • K.3a • K.3c • K.4a • K.12 |
| 85 | Two-digit numbers above 20, III | <ul style="list-style-type: none"> • K.3c • K.6 |
| 86 | Measurement, I | <ul style="list-style-type: none"> • K.9 • K.12 |
| 87 | Measurement, II | <ul style="list-style-type: none"> • K.1b • K.9 • K.12 |
| 88 | Money | <ul style="list-style-type: none"> • K.1b • K.2b • K.6 |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
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| | Lesson | Kindergarten |
| | | <ul style="list-style-type: none"> • K.7 • K.12 |

Grade 1

Imagine Math Grade 1 Lessons Aligned to Standards of Learning for Virginia Public Schools

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|--|
| | Lesson | Grade 1 |
| 1 | Comparing and grouping objects | <ul style="list-style-type: none"> • 1.1a • 1.1b • 1.11b • 1.14 |
| 2 | Comparing, ordering, and number composition | <ul style="list-style-type: none"> • 1.7a • 1.11b • 1.14 |
| 3 | 2D shapes, counting, and number composition | <ul style="list-style-type: none"> • 1.1a • 1.1b • 1.1c • 1.3 • 1.7a • 1.12a |
| 4 | Counting forward and backward | <ul style="list-style-type: none"> • 1.1a • 1.1b • 1.7a • 1.7b • 1.15 |
| 5 | Addition and subtraction as inverse operations | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b • 1.15 |
| 6 | Part, part, whole | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b • 1.14 • 1.15 |
| 7 | Addends and sums | <ul style="list-style-type: none"> • 1.3 • 1.6 • 1.7b • 1.15 |
| 8 | Continue solving addition problems | <ul style="list-style-type: none"> • 1.1a • 1.1b • 1.6 • 1.7a • 1.7b • 1.15 |
| 9 | Lines, rays, and segments | <ul style="list-style-type: none"> • 1.6 • 1.7b • 1.15 |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
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| | Lesson | Grade 1 |
| 10 | Commutative property of addition | <ul style="list-style-type: none"> • 1.6 • 1.7b • 1.15 |
| 11 | Bigger quantity, smaller quantity, difference | <ul style="list-style-type: none"> • 1.1a • 1.1b • 1.1c • 1.6 • 1.7a • 1.7b • 1.15 |
| 12 | Minuend, subtrahend, difference | <ul style="list-style-type: none"> • 1.6 • 1.7b • 1.15 |
| 13 | Finding the minuend, subtrahend, or difference given the other two | <ul style="list-style-type: none"> • 1.6 • 1.7b • 1.15 |
| 14 | Practice addition and subtraction | <ul style="list-style-type: none"> • 1.6 • 1.15 |
| 15 | Properties of 0 | <ul style="list-style-type: none"> • 1.6 • 1.7b • 1.15 |
| 16 | Place value decomposition | <ul style="list-style-type: none"> • 1.6 |
| 17 | Practice place value decomposition | <ul style="list-style-type: none"> • 1.1a • 1.1b • 1.1c • 1.6 • 1.15 |
| 18 | Expressions with two operations | <ul style="list-style-type: none"> • 1.6 • 1.7b • 1.14 |
| 19 | Commutative property and expressions with two operations | <ul style="list-style-type: none"> • 1.1a • 1.1b • 1.6 • 1.7b • 1.15 |
| 20 | Review: Expressions with two operations | <ul style="list-style-type: none"> • 1.6 • 1.7b • 1.11b • 1.14 |
| 21 | The making ten strategy for addition | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b • 1.15 |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
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| | Lesson | Grade 1 |
| 22 | Adding one-digit numbers by making ten: Adding 2, 3 | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b |
| 23 | Adding one-digit numbers by making ten: Adding 4 | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b • 1.14 |
| 24 | Adding one-digit numbers by making ten: Adding 5 | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b • 1.15 |
| 25 | Adding one-digit numbers by making ten: Adding 6 | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b |
| 26 | Adding one-digit numbers by making ten: Adding 7 | <ul style="list-style-type: none"> • 1.1a • 1.1b • 1.6 • 1.7a • 1.7b • 1.11b |
| 27 | Adding one-digit numbers by making ten: Adding 8, 9 | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b • 1.14 • 1.15 |
| 28 | Review all cases of addition with making ten | <ul style="list-style-type: none"> • 1.6 • 1.7b • 1.11b |
| 29 | The making ten strategy for subtraction | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b • 1.15 |
| 30 | Subtraction from 11 using making ten | <ul style="list-style-type: none"> • 1.1a • 1.1b • 1.7a • 1.7b • 1.11b |
| 31 | Subtraction from 12 using making ten | <ul style="list-style-type: none"> • 1.1a • 1.1b • 1.6 • 1.7a • 1.7b |
| 32 | Subtraction from 13 using making ten | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
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| | Lesson | Grade 1 |
| | | <ul style="list-style-type: none"> • 1.11b • 1.15 |
| 33 | Subtraction from 14 using making ten | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b |
| 34 | Subtraction from 15 using making ten | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b • 1.11b |
| 35 | Subtraction from 16 using making ten | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b • 1.14 |
| 36 | Subtraction from 17 and 18 using making ten | <ul style="list-style-type: none"> • 1.6 • 1.7b • 1.14 |
| 37 | Review all cases of subtraction with making ten | <ul style="list-style-type: none"> • 1.6 |
| 38 | Review addition and subtraction with making ten | <ul style="list-style-type: none"> • 1.6 • 1.7b • 1.11b |
| 39 | Review evaluating expressions with two operations | <ul style="list-style-type: none"> • 1.6 • 1.7b |
| 40 | Prepare to solve two-step word problems, I | <ul style="list-style-type: none"> • 1.6 • 1.7b |
| 41 | Prepare to solve two-step word problems, II | Supplemental |
| 42 | Round numbers up to 100, I | <ul style="list-style-type: none"> • 1.1d • 1.7b |
| 43 | Round numbers up to 100, II | <ul style="list-style-type: none"> • 1.1d • 1.7b |
| 44 | Addition of round numbers | <ul style="list-style-type: none"> • 1.7a • 1.11b |
| 45 | Subtraction of round numbers | <ul style="list-style-type: none"> • 1.1d • 1.7b • 1.11b |
| 46 | Addition and subtraction of round numbers, I | <ul style="list-style-type: none"> • 1.11b |
| 47 | Addition and subtraction of round numbers, II | <ul style="list-style-type: none"> • 1.7b |
| 48 | Solving two-step word problems, I | <ul style="list-style-type: none"> • 1.6 |
| 49 | Solving two-step word problems, II | <ul style="list-style-type: none"> • 1.6 • 1.7b • 1.11b |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
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| | Lesson | Grade 1 |
| 50 | Solving two-step word problems, III | <ul style="list-style-type: none"> • 1.11b • 1.15 |
| 51 | Numbers 21-99 | <ul style="list-style-type: none"> • 1.1a • 1.1b |
| 52 | Place value decomposition, ordering, and comparison up to 99, I | <ul style="list-style-type: none"> • 1.1a • 1.1b |
| 53 | Place value decomposition, ordering, and comparison up to 99, II | <ul style="list-style-type: none"> • 1.1a • 1.1b • 1.13 |
| 54 | Addition based on place value | <ul style="list-style-type: none"> • 1.7b • 1.14 |
| 55 | Subtraction based on place value | <ul style="list-style-type: none"> • 1.7b • 1.14 |
| 56 | Addition and subtraction based on place value | Supplemental |
| 57 | Review addition and subtraction based on place value | Supplemental |
| 58 | Addition of a one- and a two-digit number, I | <ul style="list-style-type: none"> • 1.6 • 1.7b |
| 59 | Addition of a one- and a two-digit number, II | Supplemental |
| 60 | Subtraction of a one-digit number from a two-digit number, I | <ul style="list-style-type: none"> • 1.6 • 1.7b |
| 61 | Subtraction of a one-digit number from a two-digit number, II | Supplemental |
| 62 | Addition and subtraction with a one- and a two-digit number | • 1.11b |
| 63 | Review addition and subtraction with a one- and a two-digit number | Supplemental |
| 64 | The number 100 | • 1.1d |
| 65 | Addition and subtraction up to 100 | <ul style="list-style-type: none"> • 1.1a • 1.1b |
| 66 | Points, lines, rays, and segments, I | Supplemental |
| 67 | Points, lines, rays, and segments, II | <ul style="list-style-type: none"> • 1.6 • 1.7b • 1.15 |
| 68 | Measuring length with different units, I | • 1.10 |
| 69 | Measuring length with different units, II | <ul style="list-style-type: none"> • 1.10 • 1.14 |
| 70 | Measuring length with different units, III | <ul style="list-style-type: none"> • 1.6 • 1.10 |
| 71 | Review: Lines, rays, segments, and measurement | <ul style="list-style-type: none"> • 1.10 • 1.15 |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
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| | Lesson | Grade 1 |
| 72 | Halves and quarters | <ul style="list-style-type: none"> • 1.4b • 1.7b • 1.11a |
| 73 | Review measurement | <ul style="list-style-type: none"> • 1.10 |
| 74 | Triangles, quadrilaterals, and pentagons | <ul style="list-style-type: none"> • 1.4b • 1.6 • 1.11a |
| 75 | Review: Addition, subtraction, measurement, and word problems, I | <ul style="list-style-type: none"> • 1.4b |
| 76 | Review: Addition, subtraction, measurement, and word problems, II | <ul style="list-style-type: none"> • 1.1d • 1.10 • 1.14 |
| 77 | Review: Addition, subtraction, measurement, and word problems, III | Supplemental |
| 78 | 2D and 3D shapes, I | <ul style="list-style-type: none"> • 1.1a • 1.1b |
| 79 | 2D and 3D shapes, II | <ul style="list-style-type: none"> • 1.10 |
| 80 | 2D and 3D shapes, III | <ul style="list-style-type: none"> • 1.14 |
| 81 | 2D and 3D shapes, IV | <ul style="list-style-type: none"> • 1.10 |
| 82 | 2D and 3D shapes, V | <ul style="list-style-type: none"> • 1.1a • 1.1b • 1.7b |
| 83 | Telling time, I | <ul style="list-style-type: none"> • 1.9a |
| 84 | Telling time, II | <ul style="list-style-type: none"> • 1.9a |
| 85 | Telling time, III | <ul style="list-style-type: none"> • 1.9a |
| 86 | Review: Time and 3D shapes | <ul style="list-style-type: none"> • 1.9a • 1.15 |
| 87 | Finding an unknown part in addition problems | <ul style="list-style-type: none"> • 1.7a • 1.7b |
| 88 | Finding an unknown part in subtraction problems | <ul style="list-style-type: none"> • 1.7a • 1.7b • 1.9a • 1.10 • 1.11b |
| 89 | Review: Expressions with two operations | <ul style="list-style-type: none"> • 1.7b • 1.9a |
| 90 | Introduction to parentheses | <ul style="list-style-type: none"> • 1.7b |
| 91 | Order of operations with and without parentheses, I | <ul style="list-style-type: none"> • 1.7b |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|---|
| | Lesson | Grade 1 |
| 92 | Order of operations with and without parentheses, II | <ul style="list-style-type: none"> • 1.1a • 1.1b • 1.7b |
| 93 | Order of operations with and without parentheses, III | Supplemental |
| 94 | Review: Finding an unknown and expressions with parentheses | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.7b • 1.14 |
| 95 | Introduction to algebraic expressions | <ul style="list-style-type: none"> • 1.7a • 1.7b • 1.11a |
| 96 | Introduction to algebraic equations | <ul style="list-style-type: none"> • 1.6 • 1.7a • 1.14 |
| 97 | Solving equations: Unknown addend, I | <ul style="list-style-type: none"> • 1.7a • 1.7b |
| 98 | Solving equations: Unknown addend, II | <ul style="list-style-type: none"> • 1.7a • 1.7b • 1.14 |
| 99 | Solving equations: Unknown minuend, I | <ul style="list-style-type: none"> • 1.6 • 1.7a |
| 100 | Solving equations: Unknown minuend, II | <ul style="list-style-type: none"> • 1.7a • 1.7b |
| 101 | Solving equations: Unknown subtrahend, I | <ul style="list-style-type: none"> • 1.7a • 1.7b • 1.11b |
| 102 | Solving equations: Unknown subtrahend, II | <ul style="list-style-type: none"> • 1.7a • 1.7b |
| 103 | Numbers 101-120, I | <ul style="list-style-type: none"> • 1.1b • 1.1d • 1.7a |
| 104 | Numbers 101-120, II | <ul style="list-style-type: none"> • 1.7a • 1.15 |
| 105 | Numbers 101-120, III | Supplemental |
| 106 | Counting by twos, fives, and tens | <ul style="list-style-type: none"> • 1.1d • 1.6 • 1.14 |
| 107 | Review | <ul style="list-style-type: none"> • 1.1d • 1.7a |
| 108 | Money I | <ul style="list-style-type: none"> • 1.1a • 1.1b |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|----------|---|
| | Lesson | Grade 1 |
| | | <ul style="list-style-type: none"> • 1.1d • 1.7b • 1.8 • 1.12a • 1.12b |
| 109 | Money II | <ul style="list-style-type: none"> • 1.6 • 1.7b • 1.8 |

Grade 2

Imagine Math Grade 2 Lessons Aligned to Standards of Learning for Virginia Public Schools

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|---|
| | Lesson | Grade 2 |
| 1 | Numbers to 100, I | <ul style="list-style-type: none"> • 2.1.a • 2.16 |
| 2 | Numbers to 100, II | <ul style="list-style-type: none"> • 2.1.a • 2.1.c • 2.5.b |
| 3 | Adding and subtracting within 100, I | <ul style="list-style-type: none"> • 2.1.a • 2.1.c • 2.5.b • 2.6.b |
| 4 | Adding and subtracting within 100, II | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.16 |
| 5 | Adding and subtracting within 100, III | <ul style="list-style-type: none"> • 2.1.b • 2.1.c • 2.5.b • 2.6.b • 2.6.c |
| 6 | Adding and subtracting a two-digit number and a round number I | <ul style="list-style-type: none"> • 2.6.b |
| 7 | Adding and subtracting a two-digit number and a round number II | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.16 |
| 8 | The commutative property of addition | <ul style="list-style-type: none"> • 2.5.a • 2.6.b |
| 9 | Adding two-digit numbers without regrouping I | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.16 |
| 10 | Adding two-digit numbers without regrouping II | <ul style="list-style-type: none"> • 2.6.b • 2.6.c |
| 11 | Solving word problems I | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.16 |
| 12 | Subtracting two-digit numbers without regrouping I | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.17 |
| 13 | Subtracting two-digit numbers without regrouping II | <ul style="list-style-type: none"> • 2.6.b |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|---|
| | Lesson | Grade 2 |
| 14 | Solving word problems II | <ul style="list-style-type: none"> • 2.6.b • 2.6.c |
| 15 | Review: adding and subtracting without regrouping, word problems, bar graphs | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.15.b |
| 16 | Adding, subtracting, and comparing numbers using the number line | <ul style="list-style-type: none"> • 2.1.c • 2.5.b • 2.6.b • 2.17 |
| 17 | Even and odd numbers | <ul style="list-style-type: none"> • 2.1.c • 2.2.c • 2.5.b |
| 18 | The making ten strategy for addition I | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c |
| 19 | The making ten strategy for addition II | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.15.b • 2.16 |
| 20 | Adding a two-digit number and a one-digit number with regrouping I | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.13 |
| 21 | Adding a two-digit number and a one-digit number with regrouping II | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c |
| 22 | Subtracting from a round number | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c |
| 23 | Subtracting a one-digit number from a two-digit number with regrouping I | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.15.a • 2.15.b |
| 24 | Subtracting a one-digit number from a two-digit number with regrouping II | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.15.b |
| 25 | Adding and subtracting a one-digit and a two-digit number with regrouping I | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|---|
| | Lesson | Grade 2 |
| 26 | Adding and subtracting a one-digit and a two-digit number with regrouping II | <ul style="list-style-type: none"> • 2.6.b • 2.6.c • 2.17 |
| 27 | Adding and subtracting a one-digit and a two-digit number with regrouping III | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.7.a • 2.7.b • 2.17 |
| 28 | Finding an unknown addend I | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.17 |
| 29 | Finding an unknown addend II | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.13 • 2.16 |
| 30 | Finding an unknown number in a subtraction equation | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.17 |
| 31 | Adding two-digit numbers with regrouping I | <ul style="list-style-type: none"> • 2.5.a • 2.5.b • 2.6.b • 2.6.c |
| 32 | Adding two-digit numbers with regrouping II | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.13 |
| 33 | Solving word problems III | <ul style="list-style-type: none"> • 2.6.b • 2.6.c • 2.17 |
| 34 | Review: word problems, adding up to 4 numbers | <ul style="list-style-type: none"> • 2.6.b • 2.6.c • 2.15.b |
| 35 | Subtracting two-digit numbers with regrouping I | <ul style="list-style-type: none"> • 2.5.b • 2.6.b |
| 36 | Subtracting two-digit numbers with regrouping II | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.15.b |
| 37 | Solving word problems IV | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.13 |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|---|
| | Lesson | Grade 2 |
| 38 | Expressions with parentheses I | <ul style="list-style-type: none"> • 2.5.b • 2.6.b |
| 39 | Expressions with parentheses II | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.7.a • 2.7.b |
| 40 | Review: adding and subtracting with regrouping, word problems, coins | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.7.a • 2.7.b • 2.17 |
| 41 | The associative property of addition | <ul style="list-style-type: none"> • 2.5.b • 2.6.b |
| 42 | Centimeters and meters, measuring with rulers | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.8.a |
| 43 | Solving problems with lengths I | <ul style="list-style-type: none"> • 2.6.b • 2.6.c • 2.8.a |
| 44 | Relationships between metric units | <ul style="list-style-type: none"> • 2.6.b • 2.8.a • 2.13 |
| 45 | Solving problems with lengths II | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.8.a |
| 46 | Measuring and estimating with measurement tools, a ruler as a number line | <ul style="list-style-type: none"> • 2.6.b • 2.6.c • 2.8.a |
| 47 | Introduction to hundreds | <ul style="list-style-type: none"> • 2.1.a • 2.1.c • 2.6.b • 2.7.a • 2.7.b • 2.17 |
| 48 | Adding and subtracting hundreds | <ul style="list-style-type: none"> • 2.1.a • 2.1.b • 2.1.c • 2.6.b |
| 49 | Comparing hundreds | <ul style="list-style-type: none"> • 2.1.a • 2.1.c |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|---|
| | Lesson | Grade 2 |
| | | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c |
| 50 | Three-digit numbers and place value I | <ul style="list-style-type: none"> • 2.1.a • 2.6.b |
| 51 | Three-digit numbers and place value II | <ul style="list-style-type: none"> • 2.1.a • 2.1.c • 2.6.b |
| 52 | Review: three-digit numbers, lengths, word problems | <ul style="list-style-type: none"> • 2.1.a • 2.6.b • 2.6.c |
| 53 | Counting within 1000 | <ul style="list-style-type: none"> • 2.1.a • 2.1.c • 2.6.b |
| 54 | Comparing three-digit numbers I | <ul style="list-style-type: none"> • 2.1.a • 2.1.c • 2.6.b |
| 55 | Comparing three-digit numbers II | <ul style="list-style-type: none"> • 2.1.a • 2.1.c • 2.5.b • 2.6.b |
| 56 | Review: numbers to 1000 | <ul style="list-style-type: none"> • 2.1.a • 2.1.c • 2.2.c • 2.5.b • 2.6.b |
| 57 | Adding using expanded form, e.g., $500+40$, $500+5$ | <ul style="list-style-type: none"> • 2.1.a • 2.6.b • 2.6.c |
| 58 | Subtracting using expanded form, e.g., $540-40$, $505-5$ | <ul style="list-style-type: none"> • 2.6.b • 2.6.c |
| 59 | Adding and subtracting using expanded form I, e.g., $500+40+7$, $547-40-7$ | <ul style="list-style-type: none"> • 2.1.a • 2.6.b • 2.6.c • 2.8.a • 2.17 |
| 60 | Adding and subtracting using expanded form II | <ul style="list-style-type: none"> • 2.1.a • 2.6.b • 2.6.c |
| 61 | Adding and subtracting 10 and 100 | <ul style="list-style-type: none"> • 2.1.a • 2.1.b • 2.1.c • 2.6.b • 2.6.c |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|---|
| | Lesson | Grade 2 |
| 62 | Adding and subtracting three-digit numbers without regrouping I | <ul style="list-style-type: none"> • 2.1.b • 2.6.b • 2.6.c |
| 63 | Adding and subtracting three-digit numbers without regrouping II | <ul style="list-style-type: none"> • 2.1.b • 2.6.b |
| 64 | Adding and subtracting three-digit numbers without regrouping III | <ul style="list-style-type: none"> • 2.1.b • 2.6.b • 2.6.c |
| 65 | Adding using the standard algorithm without regrouping | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c |
| 66 | Subtracting using the standard algorithm without regrouping | <ul style="list-style-type: none"> • 2.1.a • 2.1.b • 2.5.b • 2.6.b • 2.6.c • 2.15.a • 2.15.b |
| 67 | Adding and subtracting tens with regrouping I, e.g., $60+80$, $160-80$ | <ul style="list-style-type: none"> • 2.1.a • 2.1.b • 2.5.b • 2.6.b |
| 68 | Adding and subtracting tens with regrouping II, e.g., $540+60$, $500-70$ | <ul style="list-style-type: none"> • 2.1.a • 2.6.b • 2.6.c |
| 69 | Adding and subtracting tens with regrouping III, e.g., $260+80$, $360-80$ | <ul style="list-style-type: none"> • 2.1.a • 2.1.c • 2.6.b • 2.6.c • 2.17 |
| 70 | Adding within 1000 with regrouping | <ul style="list-style-type: none"> • 2.1.a • 2.5.b • 2.6.b • 2.6.c |
| 71 | Subtracting within 1000 with regrouping | <ul style="list-style-type: none"> • 2.1.a • 2.1.c • 2.6.b • 2.6.c |
| 72 | Adding using the standard algorithm | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c • 2.15.a • 2.15.b |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|---|
| | Lesson | Grade 2 |
| 73 | Subtracting using the standard algorithm I | <ul style="list-style-type: none"> • 2.5.b • 2.6.b • 2.6.c |
| 74 | Subtracting using the standard algorithm II | <ul style="list-style-type: none"> • 2.1.b • 2.1.c • 2.6.b • 2.6.c |
| 75 | Adding using the standard algorithm, regrouping both ones and tens | <ul style="list-style-type: none"> • 2.1.b • 2.1.c • 2.6.b • 2.6.c • 2.17 |
| 76 | Subtracting using the standard algorithm, regrouping both tens and hundreds | <ul style="list-style-type: none"> • 2.6.b • 2.13 |
| 77 | Measuring with feet and inches | <ul style="list-style-type: none"> • 2.1.a • 2.6.b • 2.6.c • 2.8.a |
| 78 | Geometric shapes and their attributes | <ul style="list-style-type: none"> • 2.6.b • 2.6.c • 2.8.a • 2.13 |
| 79 | Partitioning rectangles into equal shares | <ul style="list-style-type: none"> • 2.4.a • 2.4.b • 2.4.c • 2.6.b • 2.13 |
| 80 | Partitioning circles and rectangles into equal shares | <ul style="list-style-type: none"> • 2.4.a • 2.4.b • 2.4.c • 2.5.b • 2.6.b • 2.13 |
| 81 | Using clocks to tell time I | <ul style="list-style-type: none"> • 2.6.b • 2.6.c • 2.9 • 2.16 |
| 82 | Using clocks to tell time II | <ul style="list-style-type: none"> • 2.6.b • 2.6.c • 2.9 • 2.13 |
| 83 | Numbers 1000-1200 | <ul style="list-style-type: none"> • 2.1.a • 2.6.b |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|--|
| | Lesson | Grade 2 |
| 84 | Adding and subtracting within 1200 using expanded form | <ul style="list-style-type: none"> • 2.1.b • 2.1.c • 2.6.b • 2.13 |
| 85 | Comparing and ordering numbers within 1200 | <ul style="list-style-type: none"> • 2.6.b |
| 86 | Adding and subtracting 10 and 100 within 1200 | <ul style="list-style-type: none"> • 2.6.b • 2.9 |
| 87 | Saving and Spending; Deposit and Withdrawal | <ul style="list-style-type: none"> • 2.1.c • 2.5.b • 2.6.b • 2.6.c • 2.7.a • 2.7.b |
| 88 | Borrowing and lending | <ul style="list-style-type: none"> • 2.6.c |
| 89 | Producers and Consumers | <ul style="list-style-type: none"> • 2.1.b • 2.5.b • 2.6.b • 2.7.a • 2.7.b |

Grade 3

Imagine Math Grade 3 Lessons Aligned to Standards of Learning for Virginia Public Schools

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|--|
| | Lesson | Grade 3 |
| 1 | Visualizing Whole Numbers | Review |
| 2 | Visualizing Place Value | Review |
| 3 | Visualizing Addition | Review |
| 4 | Visualizing Subtraction | Review |
| 5 | Structuring Within 5 and Composing 10 | Review |
| 6 | Structuring Within 10 | Review |
| 7 | Structuring Within 20 | Review |
| 8 | Structuring Within 100 | Review |
| 9 | Structuring Within 1,000 | • 3.3.a |
| 10 | Reasoning About Place Value and Rounding | • 3.1.a • 3.1.b |
| 11 | Rounding to the Nearest Ten and Hundred | • 3.1.b |
| 12 | Comparing Whole Numbers | • 3.1.c |
| 13 | Estimating Sums and Differences - Application | • 3.3.a • 3.3.b |
| 14 | Reasoning About Addition and Subtraction Within 1,000 | • 3.3.a |
| 15 | Concept of Multiplication - Grouping | • 3.4.a |
| 16 | Concept of Multiplication - Word Problems | • 3.4.a • 3.4.b • 3.4.d |
| 17 | Concept of Multiplication - Arrays | • 3.4.a |
| 18 | Properties of Addition and Multiplication | • 3.17 |
| 19 | Using Visual Models to Understand the Distributive Property | • 3.4.a |
| 20 | Concept of Division | • 3.4.a |
| 21 | Interpreting Division Problems | • 3.4.a |
| 22 | Constructing Division Problems | • 3.4.a • 3.4.b |
| 23 | Relationship Between Multiplication and Division | • 3.4.a |
| 24 | Multiplication and Division Fact Families | • 3.4.a |
| 25 | Solving Multiplication and Division Equations | • 3.4.a |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|---|
| | Lesson | Grade 3 |
| 26 | Division as an Unknown-Factor Problem | <ul style="list-style-type: none"> • 3.3.b • 3.4.b |
| 27 | Multiplication and Division Word Problems - Visual Models | <ul style="list-style-type: none"> • 3.4.a |
| 28 | Multiplication and Division Word Problems - Equations | <ul style="list-style-type: none"> • 3.4.a • 3.4.b • 3.4.c |
| 29 | Multiplication and Division Word Problems - Solutions | <ul style="list-style-type: none"> • 3.4.a • 3.4.b |
| 30 | Multiplying by Multiples of Ten | <ul style="list-style-type: none"> • 3.4.c |
| 31 | Solving Two-Step Word Problems | <ul style="list-style-type: none"> • 3.3.b • 3.4.a • 3.4.b |
| 32 | Modeling and Solving Two-Step Word Problems | <ul style="list-style-type: none"> • 3.3.b • 3.4.a • 3.4.b |
| 33 | Understanding Fractions - Equal Areas | <ul style="list-style-type: none"> • 3.2.a • 3.2.b |
| 34 | Understanding Fractions - Notation | <ul style="list-style-type: none"> • 3.2.a • 3.2.b |
| 35 | Unit Fractions on the Number Line | <ul style="list-style-type: none"> • 3.2.a • 3.2.b |
| 36 | Fractions on the Number Line | <ul style="list-style-type: none"> • 3.2.a • 3.2.b |
| 37 | Whole Numbers as Fractions | <ul style="list-style-type: none"> • 3.2.a • 3.2.b |
| 38 | Whole Numbers as Fractions on the Number Line | <ul style="list-style-type: none"> • 3.2.a • 3.2.b |
| 39 | Comparing Fractions with the Same Numerator or Denominator | <ul style="list-style-type: none"> • 3.2.b • 3.2.c |
| 40 | Adding and Subtracting Fractions with Like Denominators in Real-World Situations | <ul style="list-style-type: none"> • 3.5 |
| 41 | Recognizing Valid Fraction Comparisons I | <ul style="list-style-type: none"> • 3.2.c |
| 42 | Comparing Fractions with Different Numerators and Different Denominators | <ul style="list-style-type: none"> • 3.2.c |
| 43 | Unit Squares | <ul style="list-style-type: none"> • 3.8.b |
| 44 | Concept of Area | <ul style="list-style-type: none"> • 3.8.b |
| 45 | Area of Rectangles | <ul style="list-style-type: none"> • 3.8.b |
| 46 | Recognizing Area as Additive | <ul style="list-style-type: none"> • 3.8.b |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|--|
| | Lesson | Grade 3 |
| 47 | Perimeter | • 3.8.a |
| 48 | Identifying and Classifying Lines, Rays, and Segments | • 3.11 |
| 49 | Introduction to Money Sense | • 3.6.a • 3.6.b |
| 50 | Introduction to Data Displays | • 3.15.b |
| 51 | Composition and Classification of Shapes | • 3.12.b |
| 52 | Additive and Multiplicative Patterns | • 3.16 |

Grade 4

Imagine Math Grade 4 Lessons Aligned to Standards of Learning for Virginia Public Schools

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|--|
| | Lesson | Grade 4 |
| 1 | Visualizing Place Value Relationships | Review |
| 2 | Visualizing Rounding | Review |
| 3 | Visualizing Addition and Subtraction | Review |
| 4 | Visualizing Multiplication and Division | Review |
| 5 | Developing Fluency Using 2 as a Factor | • 4.4.d |
| 6 | Developing Fluency Using 5 or 10 as a Factor | • 4.4.d |
| 7 | Using Halves and Doubles to Solve Multiplication Problems | • 4.4.b • 4.4.d |
| 8 | Place Value Concepts | • 4.1.a |
| 9 | Using Place Value Concepts to Compare Whole Numbers | • 4.1.b |
| 10 | Understanding Place Value Relationships | • 4.1.a |
| 11 | Place Value Relationships Within Whole Numbers and Decimals | • 4.1.a • 4.3.a |
| 12 | Rounding Whole Numbers | • 4.1.c |
| 13 | Using Rounding in Problem Solving | • 4.1.c |
| 14 | Estimating Solutions to Multistep Word Problems | • 4.4.b • 4.4.c |
| 15 | Adding Whole Numbers | • 4.4.d |
| 16 | Adding and Subtracting with the Standard Algorithm | • 4.4.d |
| 17 | Multiplying Whole Numbers | • 4.4.d |
| 18 | Multiplying 2-Digit Numbers by 2-Digit Numbers | • 4.4.d |
| 19 | Multiplying 3-digit by 2-digit Whole Numbers Using the Standard Algorithm | • 4.4.d |
| 20 | Multiplication and Division Fact Families | • 4.4.a |
| 21 | Dividing Multiples of Ten | • 4.4.c |
| 22 | Dividing by Tens | • 4.4.c |
| 23 | Dividing Whole Numbers - One-Digit Divisors | • 4.4.c |
| 24 | Interpreting Remainders | • 4.4.c • 4.4.d |
| 25 | Using Equations to Model and Solve Multi-step Problems | • 4.4.c • 4.4.d |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|--|
| | Lesson | Grade 4 |
| 26 | Relating Factors and Multiples I | • 4.5.a |
| 27 | Relating Factors and Multiples II | • 4.5.a |
| 28 | Greatest Common Factor | • 4.5.a |
| 29 | Greatest Common Factor - Applications | • 4.5.a |
| 30 | Least Common Multiple | • 4.5.a |
| 31 | Modeling Equivalent Fractions with Number Lines | • 4.2.b |
| 32 | Visual Models of Equivalent Fractions | • 4.2.b |
| 33 | Modeling Equivalent Fractions | • 4.2.b |
| 34 | Generating Equivalent Fractions | • 4.2.b |
| 35 | Equivalent Fractions | • 4.2.b |
| 36 | Understanding Fractions as Division | • 4.2.c |
| 37 | Comparing Fractions - Visual Models | • 4.2.a |
| 38 | Comparing Fractions with Different Numerators and Different Denominators | • 4.2.a |
| 39 | Recognizing Valid Fraction Comparisons II | • 4.2.a |
| 40 | Decomposing Fractions and Mixed Numbers | • 4.2.b |
| 41 | Writing Fractions as Mixed Numbers and Mixed Numbers as Fractions | • 4.2.b |
| 42 | Understanding Fractions - Relationship Between Numerator and Denominator | • 4.3.d |
| 43 | Adding and Subtracting Fractions with Like Denominators | • 4.5.b |
| 44 | Adding and Subtracting Fractions with Like Denominators in Real-World Situations | • 4.5.b • 4.5.c |
| 45 | Comparing Decimal Fractions | • 4.2.a |
| 46 | Comparing and Ordering Decimal Fractions | • 4.2.a |
| 47 | Decimal Notation I | • 4.3.a |
| 48 | Decimal Notation II | • 4.3.a |
| 49 | Decimals to Hundredths | • 4.3.a |
| 50 | Introduction to Comparing Decimals to Hundredths | • 4.3.c |
| 51 | Comparing Decimals to Hundredths | • 4.3.c |
| 52 | Decimals to Thousandths | • 4.3.a |
| 53 | Comparing Decimals to Thousandths | • 4.3.c |
| 54 | Recognizing Valid Decimal Comparisons | • 4.3.c |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|--|
| | Lesson | Grade 4 |
| 55 | Classifying Quadrilaterals I | <ul style="list-style-type: none"> • 4.11 • 4.12 |
| 56 | Adding and Subtracting Decimals | <ul style="list-style-type: none"> • 4.6.a |
| 57 | Adding and Subtracting Decimals in Real-World Situations | <ul style="list-style-type: none"> • 4.6.b |
| 58 | Understanding Fractions with Denominators of 10 and 100 | <ul style="list-style-type: none"> • 4.3.d |
| 59 | Adding Fractions with Denominators of 10 or 100 | <ul style="list-style-type: none"> • 4.5.b |
| 60 | Distinguishing Between Expressions and Equations | <ul style="list-style-type: none"> • 4.16 |
| 61 | Adding and Subtracting Time | <ul style="list-style-type: none"> • 4.9 |
| 62 | Angles | <ul style="list-style-type: none"> • 4.10.a |
| 63 | Area of Basic Composite Figures | <ul style="list-style-type: none"> • 4.7 |
| 64 | Classifying 3-Dimensional Figures | <ul style="list-style-type: none"> • 4.11 |
| 65 | Units of Measure - Customary | <ul style="list-style-type: none"> • 4.8.c |
| 66 | Probability and Sample Spaces | <ul style="list-style-type: none"> • 4.13.a • 4.13.b • 4.13.c |
| 67 | Generating and Describing Number Patterns | <ul style="list-style-type: none"> • 4.15 |

Grade 5

Imagine Math Grade 5 Lessons Aligned to Standards of Learning for Virginia Public Schools

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|--|
| | Lesson | Grade 5 |
| 1 | Odd or Even II | • 5.3.b |
| 2 | Multiplying Whole Numbers - Standard Algorithm | • 5.4 |
| 3 | Solving Word Problems with Multiplication of Fractions by Whole Numbers | • 5.6.b |
| 4 | Dividing Whole Numbers - Two-Digit Divisors | • 5.4 |
| 5 | Dividing Whole Numbers - Standard Algorithm | • 5.4 |
| 6 | Operations with Whole Numbers - Mixed Practice | • 5.4 |
| 7 | Factors | • 5.3.a |
| 8 | Adding and Subtracting Mixed Numbers with Like Denominators - Conceptual Strategies | • 5.6.a |
| 9 | Adding and Subtracting Mixed Numbers with Like Denominators | • 5.6.a |
| 10 | Word Problems with Fractions and Mixed Numbers - Visual Models | • 5.6.a |
| 11 | Word Problems with Fractions and Mixed Numbers - Estimation | • 5.6.a |
| 12 | Adding Fractions | • 5.6.a |
| 13 | Subtracting Fractions | • 5.6.a |
| 14 | Adding and Subtracting Fractions | • 5.6.a |
| 15 | Adding and Subtracting Fractions - Multistep Word Problems | • 5.6.a |
| 16 | Fraction and Decimal Equivalents | • 5.2.a |
| 17 | Comparing Fractions and Decimals | • 5.2.b |
| 18 | Rounding Decimals to the Nearest Tenth and Hundredth | • 5.1 |
| 19 | Reasoning About Rounding Decimals | • 5.1 |
| 20 | Adding and Subtracting Decimals in Real-World Situations | • 5.5.b |
| 21 | Multiplying by Powers of Ten | • 5.5.a |
| 22 | Dividing by Powers of Ten | • 5.5.a |
| 23 | Multiplying and Dividing by Powers of Ten | • 5.5.a |
| 24 | Multiplying Decimals to Hundredths | • 5.5.a |
| 25 | Dividing Decimals to Hundredths | • 5.5.a |
| 26 | Using Reasoning and Estimation to Calculate with Decimals | • 5.5.a |
| 27 | Calculating with Decimals | • 5.5.a |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|--|
| | Lesson | Grade 5 |
| 28 | Evaluating Simple Expressions | • 5.7 |
| 29 | Writing Simple Expressions | • 5.19.b |
| 30 | Writing and Interpreting Simple Expressions | • 5.19.b |
| 31 | Adding and Subtracting Time | • 5.11 |
| 32 | Area and Perimeter of Rectangles | • 5.8.a • 5.8.b |
| 33 | Angles 0 to 180 | • 5.12 |
| 34 | Angles | • 5.12 |
| 35 | Units of Measure - Metric | • 5.9.a |
| 36 | Classifying Triangles | • 5.13.a |
| 37 | Volume of Rectangular Prisms I | • 5.8.a |
| 38 | Line Plots | • 5.16.b |
| 39 | Measures of Spread - Range | • 5.17.c • 5.17.d |
| 40 | Measures of Center - Median | • 5.17.a • 5.17.d |
| 41 | Measures of Center - Mean | • 5.17.a • 5.17.d |
| 42 | Deviation from the Mean | • 5.17.a • 5.17.b • 5.17.d |
| 43 | Stem-and-Leaf Plots | • 5.16.a • 5.16.b |
| 44 | Probability and Sample Spaces | • 5.15 |
| 45 | Generating and Describing Number Patterns | • 5.18 |

Grade 6

Imagine Math Grade 6 Lessons Aligned to Standards of Learning for Virginia Public Schools

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|--|
| | Lesson | Grade 6 |
| 1 | Adding and Subtracting Decimals | • 6.5.c |
| 2 | Adding and Subtracting Decimals in Real-World Situations | • 6.5.c |
| 3 | Using Reasoning and Estimation to Calculate with Decimals | • 6.5.c |
| 4 | Calculating with Decimals | • 6.5.c |
| 5 | Adding Fractions - Estimation Strategies | • 6.5.b |
| 6 | Subtracting Fractions - Estimation Strategies | • 6.5.b |
| 7 | Understanding Products with Fractions | • 6.5.a |
| 8 | Multiplying Unit Fractions by Whole Numbers | • 6.5.a |
| 9 | Multiplying Fractions by Whole Numbers | • 6.5.a |
| 10 | Solving Word Problems with Multiplication of Fractions by Whole Numbers | • 6.5.a |
| 11 | Multiplying Fractions by Whole Numbers to Solve Multistep Problems | • 6.5.a |
| 12 | Multiplying Fractions by Fractions | • 6.5.a |
| 13 | Multiplying with Fractions and Mixed Numbers | • 6.5.a |
| 14 | Understanding and Multiplying with Negative Mixed Numbers | • 6.5.a |
| 15 | Dividing Unit Fractions by Whole Numbers | • 6.5.a |
| 16 | Dividing Whole Numbers by Unit Fractions | • 6.5.a |
| 17 | Using the Relationship Between Multiplication and Division to Divide Fractions | • 6.5.a |
| 18 | Dividing Fractions by Fractions | • 6.5.a |
| 19 | Using Division of Fractions to Represent and Solve Problems | • 6.5.b |
| 20 | Using Division to Write Fractions as Decimals | • 6.2.a |
| 21 | Operations with Fractions - Mixed Practice | • 6.5.b |
| 22 | Proportion Concepts | • 6.12.c |
| 23 | Identifying Ratios | • 6.1 |
| 24 | Proportional Relationships in Tables and Equations | • 6.12.a • 6.12.c • 6.12.d |
| 25 | Interpreting Unit Rates on Graphs | • 6.12.b |
| 26 | Ratios | • 6.1 |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|--|
| | Lesson | Grade 6 |
| 27 | Percent Concepts | <ul style="list-style-type: none"> • 6.2.a • 6.2.b |
| 28 | Fraction, Decimal, and Percent Equivalents | <ul style="list-style-type: none"> • 6.2.a |
| 29 | Reasoning with Percents | <ul style="list-style-type: none"> • 6.2.b |
| 30 | Calculations with Percent | <ul style="list-style-type: none"> • 6.2.a • 6.2.b |
| 31 | Integer Concepts | <ul style="list-style-type: none"> • 6.3.a • 6.3.b |
| 32 | Integer Concepts with a Number Line | <ul style="list-style-type: none"> • 6.3.a • 6.3.b |
| 33 | Absolute Value I | <ul style="list-style-type: none"> • 6.3.c |
| 34 | Absolute Value II | <ul style="list-style-type: none"> • 6.3.c |
| 35 | Comparing Rational Numbers I | <ul style="list-style-type: none"> • 6.2.b • 6.3.b |
| 36 | Comparing Rational Numbers II | <ul style="list-style-type: none"> • 6.2.b • 6.3.b |
| 37 | Classifying and Ordering Real Numbers | <ul style="list-style-type: none"> • 6.2.b • 6.3.b |
| 38 | Evaluating Simple Expressions | <ul style="list-style-type: none"> • 6.6.c |
| 39 | Reasoning About One-Step Equations | <ul style="list-style-type: none"> • 6.13 |
| 40 | Writing and Solving One-Step Equations | <ul style="list-style-type: none"> • 6.13 |
| 41 | Area of Parallelograms | <ul style="list-style-type: none"> • 6.7.c |
| 42 | Area of Triangles | <ul style="list-style-type: none"> • 6.7.c |
| 43 | Circumference | <ul style="list-style-type: none"> • 6.7.b |
| 44 | Area of Circles | <ul style="list-style-type: none"> • 6.7.b |
| 45 | Introduction to the Coordinate Plane | <ul style="list-style-type: none"> • 6.8.a • 6.8.b |
| 46 | Representing Real-World Quantities in the First Quadrant | <ul style="list-style-type: none"> • 6.8.a • 6.8.b |
| 47 | Introduction to Scatter Plots | <ul style="list-style-type: none"> • 6.8.b |
| 48 | Integers in the Coordinate Plane I | <ul style="list-style-type: none"> • 6.8.b |
| 49 | Integers in the Coordinate Plane II | <ul style="list-style-type: none"> • 6.8.b |
| 50 | Rational Numbers in the Coordinate Plane | <ul style="list-style-type: none"> • 6.8.a • 6.8.b |
| 51 | Rational Numbers in the Coordinate Plane II | <ul style="list-style-type: none"> • 6.8.a • 6.8.b |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|--|
| | Lesson | Grade 6 |
| 52 | Distance on the Coordinate Plane I | • 6.8.b |
| 53 | Distance on the Coordinate Plane II | • 6.8.b |
| 54 | Understanding Exponents | • 6.4 |
| 55 | Measures of Spread - Range | • 6.11.b |
| 56 | Measures of Center - Median | • 6.11.b |
| 57 | Measures of Center - Mean | • 6.11.a |
| 58 | Circle Graphs | • 6.10.a • 6.10.b |
| 59 | Concept of Inequalities I | • 6.14.a • 6.14.b |
| 60 | Adding and Subtracting Rational Numbers I | • 6.5.a • 6.5.b |
| 61 | Adding and Subtracting Rational Numbers II | • 6.6.a • 6.6.b |
| 62 | Multiplying and Dividing Rational Numbers | • 6.6.a |

Grade 7

Imagine Math Grade 7 Lessons Aligned to Standards of Learning for Virginia Public Schools

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|--|
| | Lesson | Grade 7 |
| 1 | Evaluating Expressions with Two Operations | • 7.11 |
| 2 | Evaluating Expressions with Real Numbers | • 7.2 |
| 3 | Solving and Modeling Two-Step Problems | • 7.12 |
| 4 | Solving Equations with the Distributive Property | • 7.12 |
| 5 | Solving Equations with the Distributive Property in Context | • 7.12 |
| 6 | Solving Two-Step Equations | • 7.12 |
| 7 | Proportion Concepts | • 7.10.e |
| 8 | Proportional Relationships in Tables and Equations | • 7.10.e |
| 9 | Interpreting Points on Graphs of Proportional Relationships | • 7.10.e |
| 10 | Using Proportions to Solve Problems | • 7.3 |
| 11 | Distance, Rate, and Time | • 7.12 |
| 12 | Introduction to Similar Figures | • 7.5 |
| 13 | Using Similar Figures to Solve Problems | • 7.5 |
| 14 | Absolute Value I | • 7.1.e |
| 15 | Absolute Value II | • 7.1.e |
| 16 | Multiplying and Dividing Rational Numbers | • 7.2 |
| 17 | Writing and Interpreting Expressions with Rational Numbers | • 7.2 |
| 18 | Comparing Rational Numbers I | • 7.1.c |
| 19 | Comparing Rational Numbers II | • 7.1.c |
| 20 | Operations with Rational Numbers I | • 7.2 |
| 21 | Operations with Rational Numbers II | • 7.2 |
| 22 | Classifying Quadrilaterals II | • 7.6.a |
| 23 | Surface Area and Volume of Rectangular Prisms | • 7.4.a • 7.4.b |
| 24 | Surface Area of Cylinders | • 7.4.b |
| 25 | Volume of Rectangular Prisms I | • 7.4.a |
| 26 | Volume of Rectangular Prisms II | • 7.4.a • 7.4.b |
| 27 | Volume of Cylinders | • 7.4.a • 7.4.b |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|--|
| | Lesson | Grade 7 |
| 28 | Translations | • 7.7 |
| 29 | Reflections | • 7.7 |
| 30 | Bar Graphs and Histograms | • 7.9.a • 7.9.b |
| 31 | Solving Word Problems with Algebra | • 7.10.e • 7.12 |
| 32 | Modeling, Evaluating, and Graphing Two-Step Inequalities in One Variable | • 7.13 |
| 33 | Interpreting Slope | • 7.10.e |
| 34 | Direct Variation | • 7.10.e |
| 35 | Understanding Square and Cube Roots | • 7.1.d |
| 36 | Interpreting Numbers Written in Scientific Notation | • 7.1.a • 7.1.b |
| 37 | Combining Like Terms | • 7.11 |
| 38 | Concept of Inequalities II | • 7.13 |
| 39 | Solving Linear Inequalities in One Variable | • 7.13 |
| 40 | Simple Probability | • 7.8.a |

Grade 8

Imagine Math Grade 8 Lessons Aligned to Standards of Learning for Virginia Public Schools

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|--|
| | Lesson | Grade 8 |
| 1 | Concept of Ratios and Rates | • 8.4 |
| 2 | Using Ratios to Solve Problems | • 8.4 |
| 3 | Identifying Unit Rates | • 8.4 |
| 4 | Solving Problems with Unit Rates | • 8.4 |
| 5 | Converting Units of Measure I | • 8.4 |
| 6 | Converting Units of Measure II | • 8.4 |
| 7 | Using Proportions to Solve Problems | • 8.4 |
| 8 | Proportions in Scale Drawings | • 8.4 |
| 9 | Percent and Percent Change | • 8.4 |
| 10 | Percent and Percent Error | • 8.4 |
| 11 | Simple Interest | • 8.4 |
| 12 | Evaluating Expressions and Equations with Exponents | • 8.14.a |
| 13 | Simplifying, Multiplying, and Dividing Rational Expressions | • 8.14.b |
| 14 | Interpreting Graphs of Real-World Situations | • 8.16.e |
| 15 | Introduction to Sketching Graphs of Real-World Situations | • 8.16.e |
| 16 | Introduction to Sketching Graphs of Linear Functions from Symbolic Representations | • 8.16.e |
| 17 | Analyzing Solution Sets to Linear Equations with the Variable on Both Sides | • 8.17 |
| 18 | Solving Equations with the Variable on Both Sides | • 8.17 |
| 19 | Modeling, Evaluating, and Graphing Two-Step Inequalities in One Variable | • 8.18 |
| 20 | Understanding Square and Cube Roots | • 8.3.a |
| 21 | Classifying and Ordering Real Numbers | • 8.1 • 8.2 |
| 22 | Approximating Values of Irrational Numbers | • 8.3.a |
| 23 | Writing and Graphing Linear Equations in Two or More Variables | • 8.16.d |
| 24 | Understanding the Domain of a Function | • 8.15.b |
| 25 | Introduction to Scatter Plots | • 8.13.b • 8.13.c |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|--|
| | Lesson | Grade 8 |
| 26 | Comparing Data | <ul style="list-style-type: none"> • 8.12.b • 8.12.c |
| 27 | Comparing Linear and Nonlinear Data | <ul style="list-style-type: none"> • 8.13.a • 8.13.b |
| 28 | Area of Parallelograms | • 8.10 |
| 29 | Area of Complex Composite Figures | • 8.10 |
| 30 | Surface Area of Pyramids | • 8.6.a |
| 31 | Surface Area of Cones | • 8.6.a |
| 32 | Volume of Pyramids and Cones | • 8.6.a |
| 33 | Angle Pairs | • 8.5 |
| 34 | Parallel Lines and Transversals | • 8.5 |
| 35 | Function Notation I | • 8.15.a |
| 36 | Function Notation II | <ul style="list-style-type: none"> • 8.15.a • 8.15.b |
| 37 | Understanding the Pythagorean Theorem | • 8.9.a |
| 38 | Pythagorean Theorem - Hypotenuse | • 8.9.b |
| 39 | Pythagorean Theorem - Legs | • 8.9.b |
| 40 | Pythagorean Theorem - Mixed Problems | • 8.9.b |
| 41 | Pythagorean Theorem - Distance Formula | • 8.9.b |
| 42 | Translations | • 8.7.a |
| 43 | Reflections | • 8.7.a |
| 44 | Composition of Transformations | • 8.7.a |
| 45 | Dilations | • 8.7.a |
| 46 | Quartiles | • 8.12.b |
| 47 | Box Plots | <ul style="list-style-type: none"> • 8.12.a • 8.12.b • 8.12.c |
| 48 | Simple Probability | • 8.11.b |
| 49 | Compound Probability | <ul style="list-style-type: none"> • 8.11.a • 8.11.b |



VIRGINIA



Imagine Math Standards Alignment for High School



Mathematical Practices and Processes in Imagine Math

For more than fifteen years, our foundation has been helping students acquire, develop, and strengthen the language skills necessary to fully participate in academic settings and prepare for college and careers. At Imagine Learning, we believe that language is at the center of how students develop and demonstrate mathematical understanding.

In addition to grade-level standards focused on mastering specific skills over time, each state's standards articulate a series of practice and process standards that span all grade levels. These practices and processes emphasize key mathematical paradigms, including perseverance in problem solving, critical thinking, mathematical modeling, and communication. These habits of strong mathematical thinkers are developed over many years. They require that students be provided with an abundance of opportunities to think deeply about mathematics in settings where they can safely explore new ideas and synthesize mathematical concepts within their current grade and across school years.

Imagine Math was intentionally designed to provide students with a welcoming environment to develop these powerful habits throughout their mathematical journey, from Prekindergarten through high school. We believe that meaningful opportunities in our personalized software prepare students for mathematical discourse, and ultimately for success in college and careers.

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Standards of Learning for Virginia Public Schools Aligned to Imagine Math Lessons

Algebra I

Standards of Learning for Virginia Public Schools Aligned to Algebra I Imagine Math Lessons

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|--|
| Algebra I | | Lessons |
| Algebra I Expressions and Operations | | |
| A.2.a | The student will perform operations on polynomials, including a) applying the laws of exponents to perform operations on expressions | <ul style="list-style-type: none"> • Understanding Properties of Integer Exponents • Applying Properties of Integer Exponents • Adding and Subtracting Polynomials • Multiplying Polynomials |
| A.2.b | The student will perform operations on polynomials, including b) adding, subtracting, multiplying, and dividing polynomials | <ul style="list-style-type: none"> • Adding and Subtracting Polynomials • Multiplying Polynomials |
| A.2.c | The student will perform operations on polynomials, including c) factoring completely first- and second-degree binomials and trinomials in one variable. | <ul style="list-style-type: none"> • Factoring Polynomials • Common Factors in Polynomials • Using Rational Exponents to Rewrite Expressions • Factoring Expressions |
| A.3.a | The student will simplify a) square roots of whole numbers and monomial algebraic expressions | <ul style="list-style-type: none"> • Understanding Square and Cube Roots |
| A.3.b | The student will simplify b) cube roots of integers | <ul style="list-style-type: none"> • Understanding Square and Cube Roots |
| A.3.c | The student will simplify c) numerical expressions containing square or cube roots. | <ul style="list-style-type: none"> • Understanding Square and Cube Roots |
| Algebra I Equations and Inequalities | | |
| A.4.a | The student will solve a) multi-step linear equations in one variable algebraically | <ul style="list-style-type: none"> • Writing and Solving Linear Equations in One Variable |
| A.4.b | The student will solve b) quadratic equations in one variable algebraically | <ul style="list-style-type: none"> • Solving Quadratics - Completing the Square • Problem Solving with Quadratic Functions • Using the Quadratic Formula |
| A.4.c | The student will solve c) literal equations for a specified variable | <ul style="list-style-type: none"> • Solving Literal Equations |
| A.4.d | The student will solve d) systems of two linear equations in two variables algebraically and graphically | <ul style="list-style-type: none"> • Solving Linear Equations Graphically • Solving Systems of Linear Equations |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|---|---|
| Algebra I | | Lessons |
| A.4.e | The student will solve e) practical problems involving equations and systems of equations. | • Writing and Solving Linear Equations in One Variable |
| A.5.a | The student will a) solve multi-step linear inequalities in one variable algebraically and represent the solution graphically | • Graphing Linear Inequalities and Systems of Linear Inequalities in Real-World Situations |
| A.5.b | The student will b) represent the solution of linear inequalities in two variables graphically | • Graphing Linear Inequalities and Systems of Linear Inequalities in Real-World Situations |
| A.5.c | The student will c) solve practical problems involving inequalities | • Graphing Linear Inequalities and Systems of Linear Inequalities in Real-World Situations |
| A.5.d | The student will d) represent the solution to a system of inequalities graphically | • Graphing Linear Inequalities and Systems of Linear Inequalities in Real-World Situations |
| A.6.a | The student will a) determine the slope of a line when given an equation of the line, the graph of the line, or two points on the line | • Slope |
| A.6.b | The student will b) write the equation of a line when given the graph of the line, two points on the line, or the slope and a point on the line | • Point-Slope Form • Slope-Intercept Form • Writing and Graphing Linear Equations in Two or More Variables |
| A.6.c | The student will c) graph linear equations in two variables. | • Writing and Graphing Linear Equations in Two or More Variables |
| Algebra I Functions | | |
| A.7.a | The student will investigate and analyze linear and quadratic function families and their characteristics both algebraically and graphically, including a) determining whether a relation is a function | • Function Notation II |
| A.7.b | The student will investigate and analyze linear and quadratic function families and their characteristics both algebraically and graphically, including b) domain and range | • Function Notation II • Understanding the Domain of a Function • Sketching Graphs of Quadratic Functions in Context |
| A.7.c | The student will investigate and analyze linear and quadratic function families and their characteristics both algebraically and graphically, including c) zeros | • Sketching Graphs of Quadratic Functions in Context • Rewriting Quadratics to Reveal Their Structure • Factoring Quadratic Expressions |
| A.7.d | The student will investigate and analyze linear and quadratic function families and their characteristics both algebraically and graphically, including d) intercepts | • Sketching Graphs of Quadratic Functions in Context |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|--|
| Algebra I | | Lessons |
| A.7.e | The student will investigate and analyze linear and quadratic function families and their characteristics both algebraically and graphically, including e) values of a function for elements in its domain | <ul style="list-style-type: none"> • Understanding the Domain of a Function |
| A.7.f | The student will investigate and analyze linear and quadratic function families and their characteristics both algebraically and graphically, including f) connections between and among multiple representations of functions using verbal descriptions, tables, equations, and graphs. | <ul style="list-style-type: none"> • Modeling Quadratic Relationships with Equations, Inequalities, and Graphs • Writing and Graphing Linear Equations in Two or More Variables • Function Notation I • Writing Quadratic Functions from a Context • Sketching Graphs of Quadratic Functions in Context |
| Algebra I Statistics | | |
| A.9 | The student will collect and analyze data, determine the equation of the curve of best fit in order to make predictions, and solve practical problems, using mathematical models of linear and quadratic functions. | <ul style="list-style-type: none"> • Fitting Functions to Data |

Geometry

Standards of Learning for Virginia Public Schools Aligned to Geometry Imagine Math Lessons

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|---|--|---|
| Geometry | | Lessons |
| Geometry Reasoning, Lines, and Transformations | | |
| G.2.b | The student will use the relationships between angles formed by two lines intersected by a transversal to b) solve problems, including practical problems, involving angles formed when parallel lines are intersected by a transversal. | <ul style="list-style-type: none"> • Parallel Lines and Transversals • Proving Theorems About Lines and Angles |
| G.3.a | The student will solve problems involving symmetry and transformation. This will include a) investigating and using formulas for determining distance, midpoint, and slope | <ul style="list-style-type: none"> • Exploring Slopes of Parallel and Perpendicular Lines |
| G.3.b | The student will solve problems involving symmetry and transformation. This will include b) applying slope to verify and determine whether lines are parallel or perpendicular | <ul style="list-style-type: none"> • Coordinates of Parallel and Perpendicular Lines • Problem Solving with Coordinates of Parallel and Perpendicular Lines |
| G.3.c | The student will solve problems involving symmetry and transformation. This will include c) investigating symmetry and determining whether a figure is symmetric with respect to a line or a point | <ul style="list-style-type: none"> • Rotational and Reflectional Symmetry |
| G.3.d | The student will solve problems involving symmetry and transformation. This will include d) determining whether a figure has been translated, reflected, rotated, or dilated, using coordinate methods. | <ul style="list-style-type: none"> • Rotations • Defining Transformations • Rigid Motion and Congruence |
| G.4.a | The student will construct and justify the constructions of a) a line segment congruent to a given line segment | <ul style="list-style-type: none"> • Constructing Angles and Special Line Segments |
| G.4.b | The student will construct and justify the constructions of b) the perpendicular bisector of a line segment | <ul style="list-style-type: none"> • Constructing Angles and Special Line Segments |
| G.4.e | The student will construct and justify the constructions of e) the bisector of a given angle | <ul style="list-style-type: none"> • Constructing Angles and Special Line Segments |
| G.4.f | The student will construct and justify the constructions of f) an angle congruent to a given angle | <ul style="list-style-type: none"> • Constructing Angles and Special Line Segments |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
|--|--|--|
| Geometry | | Lessons |
| G.4.g | The student will construct and justify the constructions of g) a line parallel to a given line through a point not on the line | <ul style="list-style-type: none"> Constructing Angles and Special Line Segments |
| G.4.h | The student will construct and justify the constructions of h) an equilateral triangle, a square, and a regular hexagon inscribed in a circle. | <ul style="list-style-type: none"> Constructing Inscribed Figures |
| Geometry Triangles | | |
| G.5.c | The student, given information concerning the lengths of sides and/or measures of angles in triangles, will solve problems, including practical problems. This will include c) determining whether a triangle exists | <ul style="list-style-type: none"> Using Line Segments and Angles to Make Triangles |
| G.5.d | The student, given information concerning the lengths of sides and/or measures of angles in triangles, will solve problems, including practical problems. This will include d) determining the range in which the length of the third side must lie. | <ul style="list-style-type: none"> Using Line Segments and Angles to Make Triangles |
| G.6 | The student, given information in the form of a figure or statement, will prove two triangles are congruent. | <ul style="list-style-type: none"> Rigid Motion and Congruence What Is Proof? Proving Theorems About Congruent Triangles Problem Solving with Congruent Triangles |
| G.7 | The student, given information in the form of a figure or statement, will prove two triangles are similar. | <ul style="list-style-type: none"> Transformations and Similarity Proving Theorems About Similar Triangles |
| G.8.a | The student will solve problems, including practical problems, involving right triangles. This will include applying a) the Pythagorean Theorem and its converse | <ul style="list-style-type: none"> Pythagorean Theorem - Hypotenuse Pythagorean Theorem - Mixed Problems Pythagorean Theorem - Distance Formula Pythagorean Theorem - Legs |
| G.8.c | The student will solve problems, including practical problems, involving right triangles. This will include applying c) trigonometric ratios. | <ul style="list-style-type: none"> Similarity and Trigonometric Ratios Problem Solving with Similarity and Trigonometric Ratios Sine and Cosine of Complementary Angles |
| Geometry Polygons and Circles | | |
| G.9 | The student will verify and use properties of quadrilaterals to solve problems, including practical problems. | <ul style="list-style-type: none"> Proving Theorems About Parallelograms |
| G.10.a | The student will solve problems, including practical problems, involving angles of | <ul style="list-style-type: none"> Angles in a Polygon |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
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| Geometry | | Lessons |
| | convex polygons. This will include determining the a) sum of the interior and/or exterior angles | |
| G.10.b | The student will solve problems, including practical problems, involving angles of convex polygons. This will include determining the b) measure of an interior and/or exterior angle | <ul style="list-style-type: none"> Angles in a Polygon |
| G.10.c | The student will solve problems, including practical problems, involving angles of convex polygons. This will include determining the c) number of sides of a regular polygon. | <ul style="list-style-type: none"> Angles in a Polygon |
| G.11.a | The student will solve problems, including practical problems, by applying properties of circles. This will include determining a) angle measures formed by intersecting chords, secants, and/or tangents | <ul style="list-style-type: none"> Tangents, Chords, Radii, and Angles in Circles |
| G.11.b | The student will solve problems, including practical problems, by applying properties of circles. This will include determining b) lengths of segments formed by intersecting chords, secants, and/or tangents | <ul style="list-style-type: none"> Tangents, Chords, Radii, and Angles in Circles |
| G.11.c | The student will solve problems, including practical problems, by applying properties of circles. This will include determining c) arc length | <ul style="list-style-type: none"> Radians and Area of Sectors |
| G.11.d | The student will solve problems, including practical problems, by applying properties of circles. This will include determining d) area of a sector | <ul style="list-style-type: none"> Radians and Area of Sectors |
| G.12 | The student will solve problems involving equations of circles. | <ul style="list-style-type: none"> Equation of a Circle |
| Geometry Three-Dimensional Figures | | |
| G.13 | The student will use surface area and volume of three-dimensional objects to solve practical problems. | <ul style="list-style-type: none"> Surface Area of Spheres Volume of Cylinders Volume of Pyramids and Cones Volume of Spheres Surface Area of Composite Solids Using Geometric Relationships to Solve Design Problems |
| G.14.a | The student will apply the concepts of similarity to two- or three-dimensional geometric figures. This will include a) comparing ratios between lengths, | <ul style="list-style-type: none"> Problem Solving with Transformations and Similarity |

| STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS | | IMAGINE MATH |
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| Geometry | | Lessons |
| | perimeters, areas, and volumes of similar figures | |

Imagine Math Lessons Aligned to Standards of Learning for Virginia Public Schools

Algebra I

Imagine Math Algebra I Lessons Aligned to Standards of Learning for Virginia Public Schools

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|---|
| | Lesson | Algebra I |
| 1 | Slope | • A.6.a |
| 2 | Slope-Intercept Form | • A.6.b |
| 3 | Point-Slope Form | • A.6.b |
| 4 | Writing and Solving Linear Equations in One Variable | • A.4.a • A.4.e |
| 5 | Writing and Graphing Linear Equations in Two or More Variables | • A.6.b • A.6.c • A.7.f |
| 6 | Solving Literal Equations | • A.4.c |
| 7 | Solving Systems of Linear Equations | • A.4.d |
| 8 | Solving Linear Equations Graphically | • A.4.d |
| 9 | Graphing Linear Inequalities and Systems of Linear Inequalities in Real-World Situations | • A.5.a • A.5.b • A.5.c • A.5.d |
| 10 | Function Notation I | • A.7.f |
| 11 | Function Notation II | • A.7.a • A.7.b |
| 12 | Understanding the Domain of a Function | • A.7.b • A.7.e |
| 13 | Fitting Functions to Data | • A.9 |
| 14 | Understanding Properties of Integer Exponents | • A.2.a |
| 15 | Applying Properties of Integer Exponents | • A.2.a |
| 16 | Understanding Square and Cube Roots | • A.3.a • A.3.b • A.3.c |
| 17 | Factoring Expressions | • A.2.c |
| 18 | Adding and Subtracting Polynomials | • A.2.a • A.2.b |
| 19 | Using Rational Exponents to Rewrite Expressions | • A.2.c |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|---|--|
| | Lesson | Algebra I |
| 20 | Common Factors in Polynomials | • A.2.c |
| 21 | Multiplying Polynomials | • A.2.a • A.2.b |
| 22 | Factoring Polynomials | • A.2.c |
| 23 | Modeling Quadratic Relationships with Equations, Inequalities, and Graphs | • A.7.f |
| 24 | Writing Quadratic Functions from a Context | • A.7.f |
| 25 | Factoring Quadratic Expressions | • A.7.c |
| 26 | Sketching Graphs of Quadratic Functions in Context | • A.7.b • A.7.c • A.7.d • A.7.f |
| 27 | Solving Quadratics - Completing the Square | • A.4.b |
| 28 | Rewriting Quadratics to Reveal Their Structure | • A.7.c |
| 29 | Problem Solving with Quadratic Functions | • A.4.b |
| 30 | Using the Quadratic Formula | • A.4.b |

Geometry

Imagine Math Geometry Lessons Aligned to Standards of Learning for Virginia Public Schools

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
|--------------|--|--|
| | Lesson | Geometry |
| 1 | Defining Transformations | • G.3.d |
| 2 | Rotational and Reflectional Symmetry | • G.3.c |
| 3 | Rigid Motion and Congruence | • G.3.d • G.6 |
| 4 | Rotations | • G.3.d |
| 5 | What Is Proof? | • G.6 |
| 6 | Parallel Lines and Transversals | • G.2.b |
| 7 | Angles in a Polygon | • G.10.a • G.10.b • G.10.c |
| 8 | Using Line Segments and Angles to Make Triangles | • G.5.c • G.5.d |
| 9 | Proving Theorems About Lines and Angles | • G.2.b |
| 10 | Proving Theorems About Congruent Triangles | • G.6 |
| 11 | Problem Solving with Congruent Triangles | • G.6 |
| 12 | Proving Theorems About Parallelograms | • G.9 |
| 13 | Constructing Angles and Special Line Segments | • G.4.a • G.4.b • G.4.e • G.4.f • G.4.g |
| 14 | Constructing Inscribed Figures | • G.4.h |
| 15 | Using Geometric Relationships to Solve Design Problems | • G.13 |
| 16 | Transformations and Similarity | • G.7 |
| 17 | Problem Solving with Transformations and Similarity | • G.14.a |
| 18 | Pythagorean Theorem - Hypotenuse | • G.8.a |
| 19 | Pythagorean Theorem - Legs | • G.8.a |
| 20 | Pythagorean Theorem - Mixed Problems | • G.8.a |
| 21 | Pythagorean Theorem - Distance Formula | • G.8.a |
| 22 | Proving Theorems About Similar Triangles | • G.7 |
| 23 | Similarity and Trigonometric Ratios | • G.8.c |
| 24 | Problem Solving with Similarity and Trigonometric Ratios | • G.8.c |

| IMAGINE MATH | | STANDARDS OF LEARNING FOR VIRGINIA PUBLIC SCHOOLS |
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| | Lesson | Geometry |
| 25 | Sine and Cosine of Complementary Angles | • G.8.c |
| 26 | Surface Area of Spheres | • G.13 |
| 27 | Surface Area of Composite Solids | • G.13 |
| 28 | Volume of Cylinders | • G.13 |
| 29 | Volume of Pyramids and Cones | • G.13 |
| 30 | Volume of Spheres | • G.13 |
| 31 | Exploring Slopes of Parallel and Perpendicular Lines | • G.3.a |
| 32 | Coordinates of Parallel and Perpendicular Lines | • G.3.b |
| 33 | Problem Solving with Coordinates of Parallel and Perpendicular Lines | • G.3.b |
| 34 | Tangents, Chords, Radii, and Angles in Circles | • G.11.a • G.11.b |
| 35 | Radians and Area of Sectors | • G.11.c • G.11.d |
| 36 | Equation of a Circle | • G.12 |