



# Program Overview

Grades K–5



## Authors, Research, and Certified Partnership

The high-quality Illustrative Mathematics (IM) curriculum was authored by Dr. Bill McCallum and a team of math leaders focused on improving student outcomes in mathematics. The problem-based instructional design is built on best practices and research principles from NCTM, National Research Council, Smith & Stein, and others. Imagine IM<sup>®</sup> incorporates the latest IM 360 curriculum update and has been optimized by Imagine Learning for engagement, accessibility, and usability.

## Premium Certified Partnership

Imagine Learning is a premier IM Certified Partner. The IM Certified designation assures that Imagine IM adheres to IM's philosophy and has been developed, reviewed, and approved by Illustrative Mathematics. The Imagine IM instructional experience aligns with the 2015 Every Student Succeeds Act (ESSA) Theory of Change for effective evidence-based programs. The goal is to deliver an engaging and easy-to-implement instructional solution that leverages the power of high-quality curricula. The result? Comprehensive support for teachers and positive learning outcomes for students.



*“As a premier partner, Imagine Learning embraces the rigor and coherence of the IM curriculum with a keen focus on effective classroom implementation. Imagine IM is the next step in achieving our mission of giving all students equitable access to grade-level mathematics.”*

••••

Dr. Bill McCallum,  
Co-Founder and CEO of  
Illustrative Mathematics



# Imagine IM for Grades K–5

The certified Illustrative Mathematics curriculum optimized for engagement, accessibility, and usability

- ✦ Students solve problems, share ideas, learn from mistakes, and thrive in a vibrant math community.
- ✦ Teachers hone their craft as master facilitators with classroom-ready print and digital resources.
- ✦ Imagine Learning partners with schools and districts for seamless integration, effective implementation, and sustainable professional learning.

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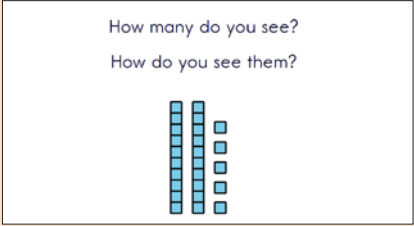

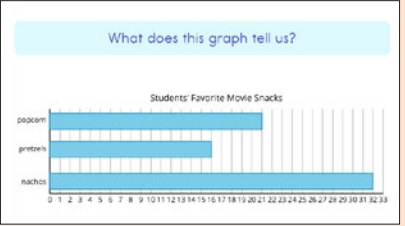
# Instructional Design

The instructional design of the materials supports all learners through a coherent progression of mathematics based on content standards, mathematical practices, and research-based learning trajectories. This model embraces a multidimensional approach that is framed by interweaving the why, how, and what of mathematics.

Each activity and lesson is part of a mathematical story across units and grade levels. This coherence allows students to view mathematics as a connected set of ideas that make sense together.

	Invitation to the mathematics	➤	Deep study of concepts and procedures	➤	Consolidating and applying
Unit Level	Introductory lesson	➤	Instructional lessons	➤	Culminating lesson
Lesson Level	Warm-up	➤	Classroom activities	➤	Synthesis and cool-down
Activity Level	Launch	➤	Work time	➤	Synthesis

The overarching design structure at each level is as follows:

Units	Lessons	Instructional Activities
<p>Each unit starts with an invitation to the mathematics. The first few lessons provide an accessible entry point for all students and offer teachers the opportunity to observe students' prior understandings.</p>	<p>Each lesson starts with a warm-up to activate prior knowledge and set up the day's work.</p>	<p>This is followed by instructional activities in which students are introduced to new concepts, procedures, contexts, or representations, or make connections between them.</p>
		



## Activities and Independent Work

Each activity starts with a **launch** that gives all students access to the task.

2) Later, Noah learned another way to record the multiplication, as shown here.

Step 1                      Step 2                      Step 3

$$\begin{array}{r} \times 124 \\ 28 \\ \hline \end{array} \quad 7 \times 4$$

$$\begin{array}{r} \times 124 \\ 28 \\ 140 \\ \hline \end{array} \quad \begin{array}{l} 7 \times 4 \\ 7 \times 20 \end{array}$$

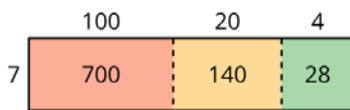
$$\begin{array}{r} \times 124 \\ 28 \\ 140 \\ 868 \\ \hline \end{array} \quad \begin{array}{l} 7 \times 4 \\ 7 \times 20 \\ 7 \times 100 \end{array}$$

Make sense of each step of the calculations and record your thoughts. Be prepared to explain Noah's steps to a partner.

Next, **independent work time** allows them to grapple with problems individually before working in small groups.

What do you notice?

What do you wonder?



$$700 + 140 + 28 = 868$$

The activity ends with a **synthesis** to ensure students have an opportunity to consolidate their learning by making connections between their work and the mathematical goals. Included in the independent work are two sets of practice problems that can be assigned by paper and pencil or digitally.

Priya's equations and Tyler's method are simply two ways to record partial quotients.

Tyler's vertical recording method is another type of algorithm.

Priya's Method

$$\begin{array}{l} 400 \div 5 = 80 \\ 60 \div 5 = 12 \\ 5 \div 5 = 1 \\ \hline 465 \div 5 = 93 \end{array}$$

Tyler's Method

$$\begin{array}{r} \overline{)93} \\ 12 \\ 80 \\ \hline 5 \overline{)65} \\ -40 \\ \hline 65 \\ -60 \\ \hline 5 \\ -5 \\ \hline 0 \end{array} \quad \begin{array}{l} 5 \times 80 \\ 5 \times 12 \\ 5 \times 1 \end{array}$$

## Synthesis and Cool-down

The lesson ends with a synthesis to consolidate understanding and make the learning goals of the lesson explicit, followed by a **cool-down** to apply what was learned.

What are some ways we used to describe and extend the patterns we saw?

5, 10, 15, 20, 25, 30



2) If Andre continues the pattern:

a. How many triangles will Andre use in the 15th house? Explain or show your reasoning.

b. How many squares will Andre use in the 15th house? Explain or show your reasoning.



# Guiding Principles across Grades K–5

## Learning Mathematics by Doing Mathematics

A true problem-based instructional framework supports teachers in structuring lessons so students are the ones doing the heavy lifting to learn the mathematics. The activities and routines in Imagine IM are designed to give teachers opportunities to see what students already know — what they can notice and figure out — before having concepts and procedures explained to them.

## Balancing Rigor

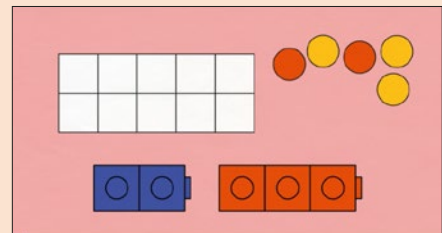
Three aspects of rigor are essential to mathematics: conceptual understanding, procedural fluency, and the ability to apply these concepts and skills to mathematical problems with and without real-world contexts. These aspects are developed together to support student understanding.

### Purposeful Representations

In the materials, mathematical representations are used:

- To help students develop an understanding of mathematical concepts and procedures
- To guide students in solving problems

Across lessons and units, students are systematically introduced to representations and encouraged to use ones that make sense to them. As their learning progresses, students make connections between different representations and the concepts or procedures they represent. Over time, they will see and understand more efficient methods of representation when solving problems, which supports the development of procedural fluency.



#### 2 Sums of 10

1 Write as many equations as you can to represent the cube trains.

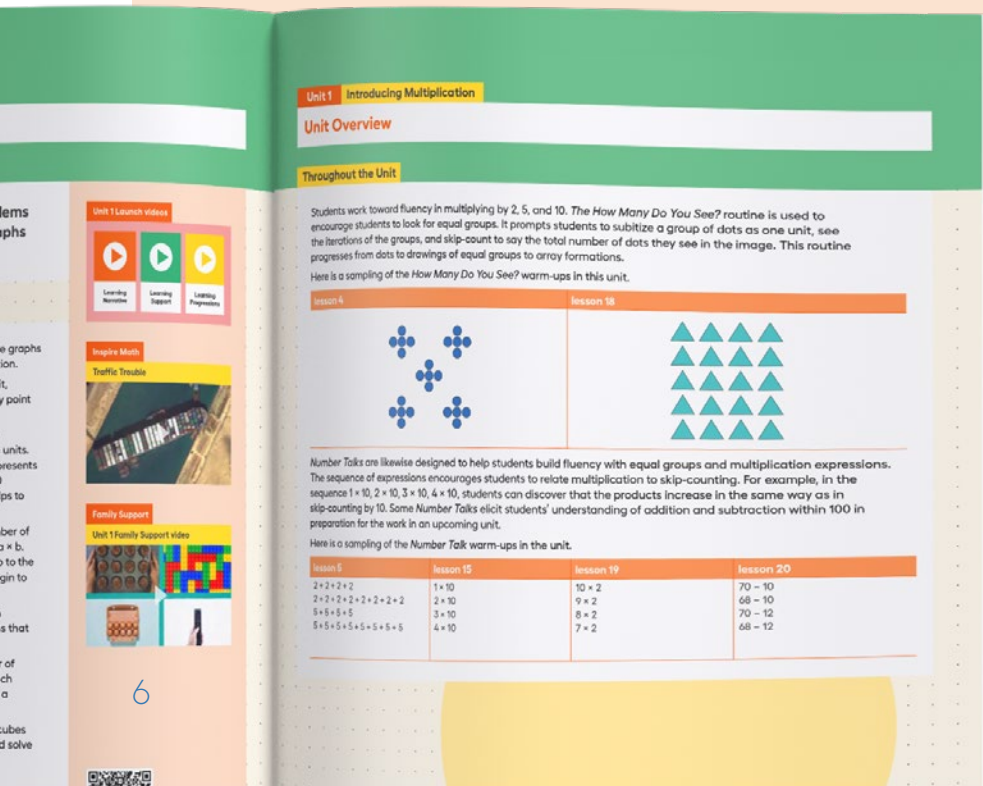
(A)

(B)

(C)

(D)

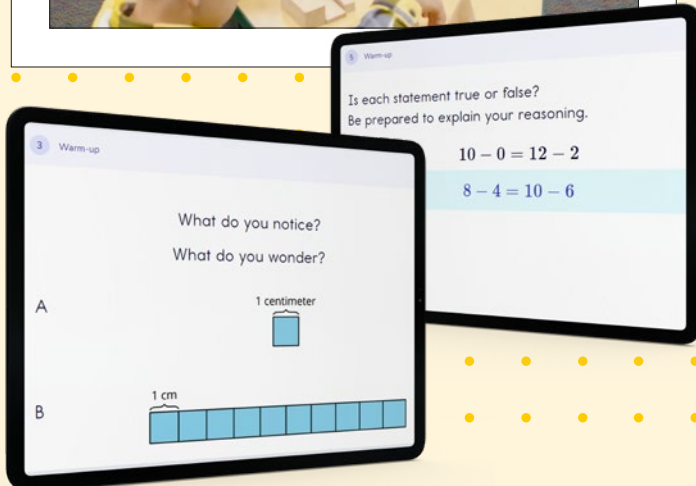
(E)





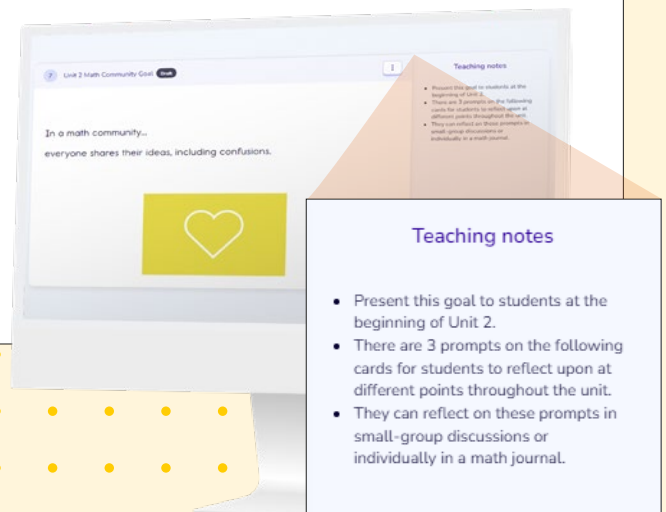
## Instructional Routines

Instructional routines create structures so that all students can engage in and contribute to mathematical conversations. Throughout the curriculum, routines are introduced in a purposeful way within and across grade levels, to build a collective understanding of their structure. Students learn to endure and persevere in their learning as these routines are developed.



## Community Building

To support students in developing a productive disposition toward mathematics and to help them engage in mathematical practices, it is important for teachers to begin the school year by establishing norms and building a mathematical community. In a mathematical community, all students can express their mathematical ideas and discuss them with others, which encourages collective learning.





# Teacher Experience

Imagine IM's enhanced resources are specially tuned to support teachers in planning and facilitating lessons across the various instructional environments. Imagine IM offers a premium classroom solution you won't find anywhere else.

## Implementation that Fits Teachers' Needs

Teachers can better hone their craft as master facilitators when they have high-quality, point-of-use supports that save them time and offer implementation guidance.

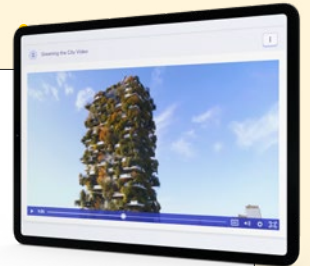
### Print

Exclusive print versions of Teacher Guides and Student Workbooks connect directly to the digital components, ensuring that the integrity of the rich IM content is maintained in any classroom implementation model.




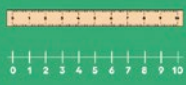

### Digital

A comprehensive digital platform with interactive tools and features for multi-dimensional teaching.



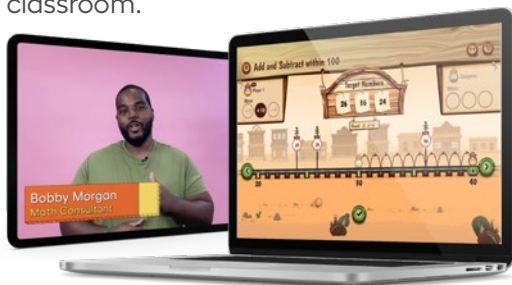
### Professional Learning

Embedded professional learning with Learning Narrative, Learning Progression, and Lesson Supports videos accessible directly from both the print Teacher Guides and in the digital platform. Lesson Example Videos from real IM classrooms are also available.

		
<b>2.4 Learning Narrative Video</b> The Unit Launch Learning Narrative video for Grade 2, Unit 4 gives insight into the unit objectives, models and representations, possible student errors and...	<b>2.4 Learning Progressions Video</b> The Unit Launch Learning Progressions video for Grade 2, Unit 4 details how the content of a unit builds upon prior knowledge, and how the understanding of...	<b>2.4 Learning Supports Video</b> The Unit Launch Learning Supports video for Grade 2, Unit 4 gives an in-depth look into the models and representations used in this unit to help support...
ILLUSTRATIVE MATHEMATICS	ILLUSTRATIVE MATHEMATICS	ILLUSTRATIVE MATHEMATICS

### Multimedia

Engaging media content with Inspire Math videos, Family Support videos, and digital centers, bringing concepts to life beyond the classroom.



### Kits

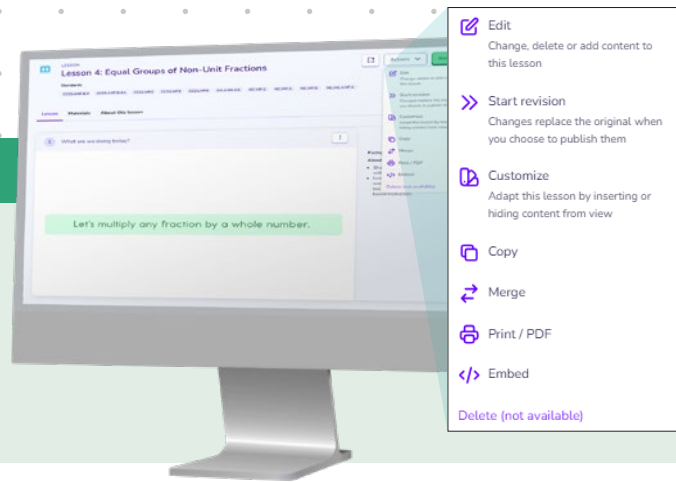
Ready-to-go manipulative kits, virtual manipulatives, and resource packs to reduce planning and prep time.





## Flexibility and Personalization

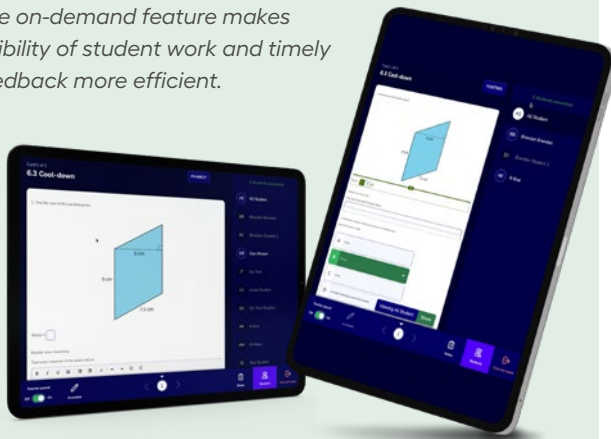
Editable digital lesson cards can be projected or assigned to students, which allows options to meet the needs of all students. Lessons can be copied, edited, and customized as needed.



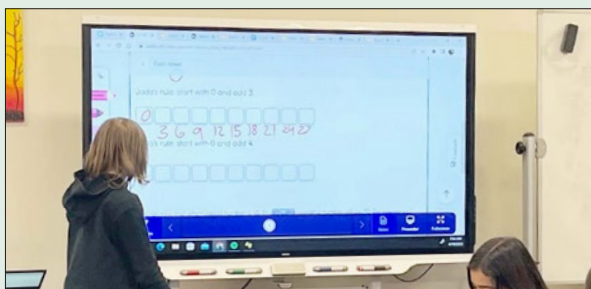
## Interactive Teaching Tools

**Live Learn** allows for synchronous instruction virtually within the platform. Teachers can transition from asynchronous work time to a live session with one click. Student progress is visible in the moment.

*The on-demand feature makes visibility of student work and timely feedback more efficient.*

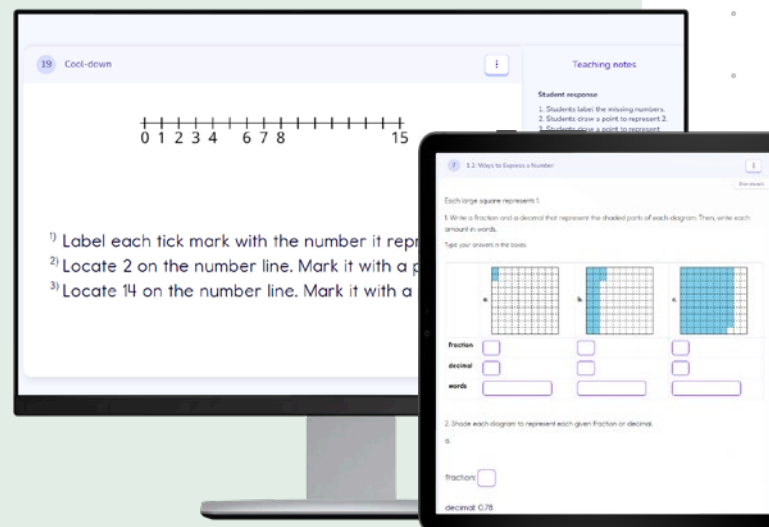


**Annotation Tool** — daily instruction comes alive through the ability to write, draw, model, and share student work directly on the lesson cards. Teachers can annotate in lesson plan and full-screen views.



## Formative Assessment Opportunities

Teachers are equipped to monitor student progress through digital task statements, innovative staged centers, digital centers feedback, section checkpoints, and cool-downs. These provide real-time feedback and data to inform instructional decisions.



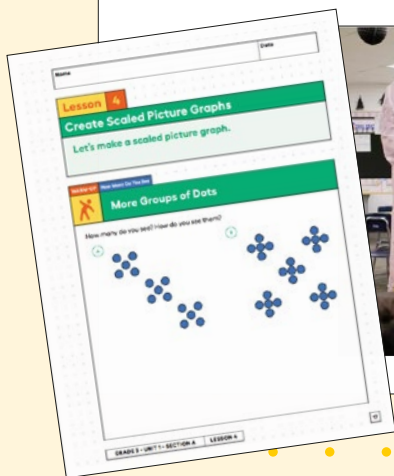
# Student Experience

Through a rigorous problem-based design and engaging resources, Imagine IM builds a community where all students can develop confidence and become empowered with skills to apply throughout college, careers, and beyond.

Students are immersed in the curriculum through digital, print, and interactive materials, including virtual manipulatives and digital centers.

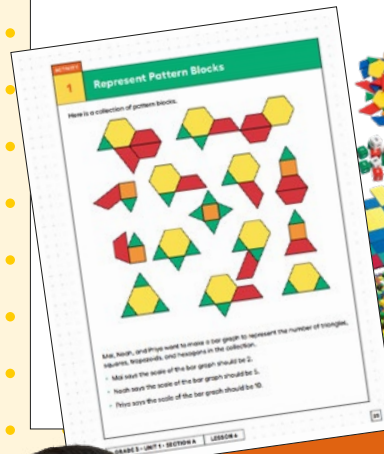
## Make mathematics meaningful and relevant

Students are natural mathematicians: good at thinking about problems, sharing ideas, learning from mistakes, and being curious about others' thinking. Imagine IM is full of such opportunities — valuing and inspiring students and encouraging them to be more productive.



## Deep focus on conceptual understanding, procedural fluency, and application

Instructional routines, representations, and math tools are carefully utilized to help students develop an understanding of concepts and procedures.

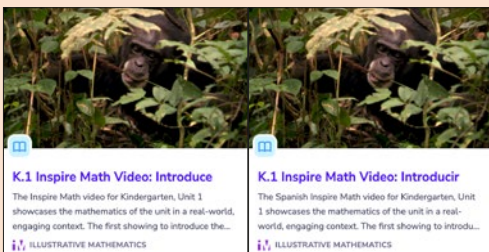




## Embedded opportunities provide active discussion and reflection and foster the mathematical practices

### Inspire Math Videos

Inspire Math videos are short, engaging videos that showcase the math for each unit in a relevant and often unexpected real-world context to help spark curiosity. The chronological viewing structure in each unit consists of an introduction to the context, followed by reinforce and review opportunities later in the unit, following a similar structure to that of the overall instructional design.



*Inspire Math videos are available in both English and Spanish.*

### Centers

Centers play an integral role in building fluency across the program. Centers are available in print or digitally. Digital centers are a fun and engaging way to play games against each other or the computer, all while reducing teacher prep and giving immediate feedback on student progress.



# Classroom Resources in Action

Through a rich and comprehensive blend of digital, print, and hands-on materials, Imagine IM makes the curriculum come alive in every classroom.

Each unit begins with an Inspire Math video to introduce the content. These provide an opportunity to preview what students will learn through an authentic context.

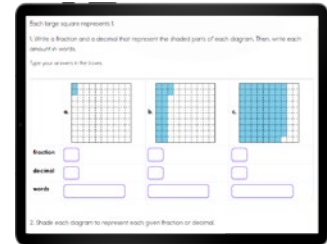


Inclusive warm-ups build on students' lived experiences and cultures. Open-ended instructional routines invite all students into the math conversation. Teachers can facilitate whole-group, small-group, and partner pairs for the discussion.



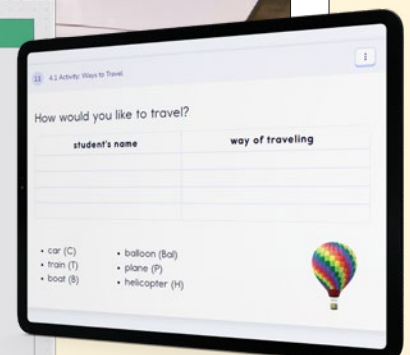
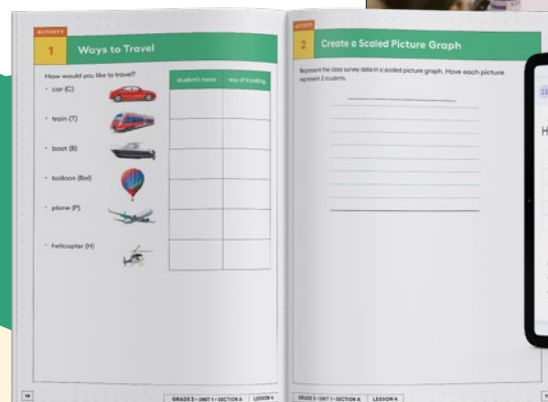
Teaching support is provided in both the print and digital resources for guiding questions, language development, advancing student thinking, and synthesizing understanding.

Teachers can use a combination of both print and online resources to meet the needs of their classrooms.



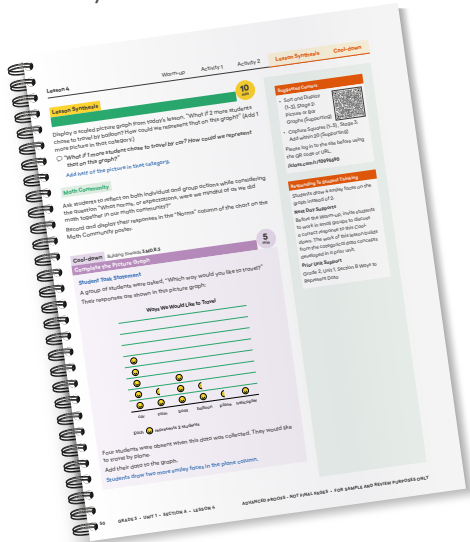
Teachers can assign digital task statements for activities.

Each activity in Imagine IM encourages further exploration and discovery. Activities invite student questions and conjectures via small groups. They make work and thinking a visual process through a variety of representations and examples. The Activity Synthesis consolidates all of the student thinking.





Cool-downs provide teachers with valuable formative assessment information for student progress toward learning goals. Teacher supports are available to remediate as necessary.



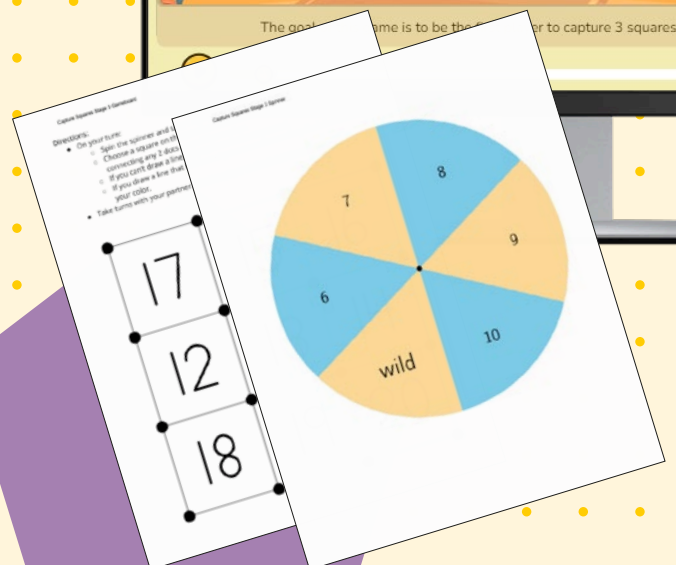
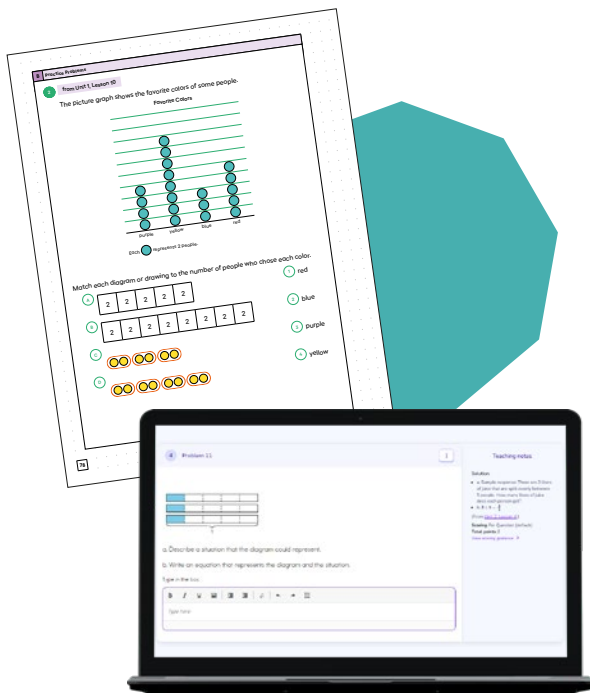
Teachers can administer digital cool-downs and see student data.



Centers, which are usually activities or games, are designed in stages. The stages are often broken down by number ranges, so teachers can systematically support students based on the level they are at.

Centers are included as part of the lesson instructional time in grades K and 1. Centers can be incorporated flexibly throughout lessons in grades 2–5. Hands-on and digital centers offer a variety of implementation options for all classroom environments.

Practice problems for independent work are available in print or they can be assigned digitally for each student.



# Equity and Access

There are three major design principles to support all learners:

- Provide access for all
- Presume competence
- Provide a strength-based approach

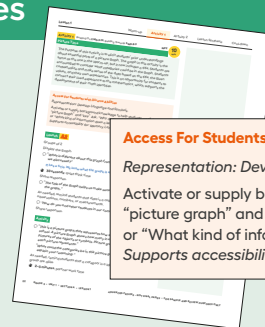
## Embedded Structures for Endurance and Perseverance

In Imagine IM, careful attention is given to the complexity of contexts, numbers, and required computation, as well as to students' potential familiarity with given contexts and representations.



## Access for Students with Diverse Abilities

Embedded supports for students with diverse abilities are found in the teaching notes of each lesson. These supports are designed using the Universal Design for Learning (UDL) guidelines and align to one of the three principles of UDL: engagement, representation, and action and expression.



### Access For Students with Diverse Abilities

**Representation: Develop Language and Symbols.**

Activate or supply background knowledge to help students recall the terms "picture graph" and "key." Ask, "Why do we call this graph a picture graph?" or "What kind of information does a key show?"

*Supports accessibility for: Memory, Language*

## Multilingual Learners

Embedded supports for multilingual learners are also found in the teaching notes. Mathematical Language Routines (MLR) are based on the UL/SCALE framework developed at Stanford University. The eight consistent routines simultaneously support students' learning of mathematical practices, content, and language.



### Access For English Learners

**MLR8 Discussion Supports.**

Use multimodal examples to show the meaning of a symbol. Use verbal descriptions along with gestures, drawings, or concrete objects to show how each flower on the graph is a symbol that represents 5 flowers that were seen on the way home.

*Advances: Listening, Representing Representation: Internalize Comprehension.*

**Synthesis:** Invite students to identify which details were needed to solve the problem. Display the sentence frame, "The next time I read a scaled picture graph I will pay attention to ..."

*Supports accessibility for: Conceptual Processing*

## Advanced Learners

Lessons include specific practice problems called explorations designed for students who are ready for more of a challenge.



### Advancing Student Thinking

If students count the students in the scaled picture graph and get a total other than 65, consider asking:

*"How did you find the total number of students represented in the graph?"*


*"How could you use counting by 5 to find the total number of students represented in the graph?"*

## Culturally Responsive Teaching and Learning

The materials are inclusive of various cultures and ethnicities and are free from bias in portraying ethnic groups, gender, age, class, cultures, religion, and people with disabilities. Imagine IM addresses racial, cultural, and religious bias in the following ways:

- The materials contain a racial and ethnic balance in main characters and illustrations.
- A variety of racial, ethnic, and cultural groups are central figures in texts and illustrations.
- Figures within various racial, ethnic, and cultural groups reflect qualities such as leadership, intelligence, imagination, and courage.
- The materials provide an opportunity for a variety of racial, ethnic, and cultural perspectives.
- Biographical or historical content includes figures from various racial, ethnic, and cultural groups and their discoveries and contributions to society.

1 Maasai Beads



**Teaching notes**

**Materials:**


- Video: Maasai Beads
- Video: An Inuit: Meet an important & interesting indigenous


**Instruction:**


- "We are going to watch a video about a person's tradition for the Maasai people in Africa. As you watch, think about what you notice and what you wonder!"
- Show the video Maasai Beads.
- "What did you wonder? What do you wonder?" (They are bringing colored beads to create jewelry. The wedding tradition uses complex designs with different colors and numbers of colored beads. It can take 2 days to complete a necklace. How many total beads do they need to make a necklace? How many people work on completing the necklace? What does it cost to make a necklace?)
- Give students access to bean ten blocks.
- Return to 2:07 in the video.
- "Repeat the number of beads in the video."


3 Warm-up

Which Three Go Together?

**A** 

**B** 

**C** 

**D** 

**Teaching notes**

**Inclusion/Strand/Model:** [Link to the Inclusion/Strand/Model](#)

**Launch:**

- Groups of 3
- Discuss the images.
- "Pick one that doesn't belong. Be ready to share why it doesn't belong."
- 1 minute quiet think time.

**Activity:**

- "Discuss your thinking with your partner."
- 2-3 minutes partner discussion.
- Share and record responses.

**Student response:**

- Sample response:
  - "A. It's like rice and that's not whole. It is divided into smaller pieces and the rest are whole."
  - "B. It's the only one that isn't on a plate or tray. It is floating and that's not any cooking or something."
  - "C. It's the only one that has not a vegetable. The rest have bread."

## Home Connections

Each unit includes a guide that explains the key ideas and concepts in family-friendly language. These pages are meant to create a stronger school-home connection and empower parents and guardians to support students at home. Additionally, parents and caregivers have access to family support videos that include prior learning, vocabulary explanations, math in pictures, and an easy-to-implement activity.

Family Support videos provide the background a family may need to help their child, as well as access to key concepts and ideas in both English and Spanish. Additionally, they include prior learning, vocabulary explanations, math in pictures, and an easy-to-implement activity.

Home Connection

**2.1 Unit Launch: Family Support Video**

The Unit Launch: Family Support video for Grade 2, Unit 1 provides the background a family could need to support student learning throughout the unit. The Family Support video includes prior learning, vocabulary explanations, math in pictures, and an easy-to-implement activity.

**2.1 Family Support Material**

Print or share this guide to help families support their students with the key concepts and ideas in Grade 2, Unit 1. The guide also includes a Spanish language version.

**2.1 English Family Support Materials (PDF)**

Print or share this guide to help families support their students with the key concepts and ideas in Grade 2, Unit 1 in English.

**2.1 Spanish Family Support Materials (PDF)**

Print or share this guide to help families support their students with the key concepts and ideas in Grade 2, Unit 1.

Mascotas favoritas



**Sección C: Diagramas para comparar**

En esta sección, los estudiantes resuelven problemas-historia que involucran sumas y restas hasta 100. Se presentan los diagramas de cinta para apoyar a los estudiantes a darle sentido a los problemas y a comprender la relación entre la suma y la resta. Antes de empezar a usar los diagramas de cinta, se da a los estudiantes la oportunidad de que entiendan su estructura y la conecten con problemas-historia. Por ejemplo, el siguiente problema se puede representar con un diagrama de cinta.

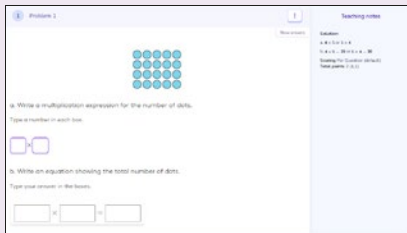


# Assessment

## In Each Unit

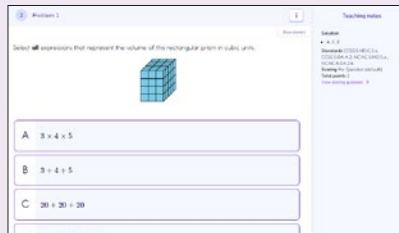
### Pre-Unit Practice

These problems address prerequisite concepts and skills for the unit. Teachers can use them as formative assessment to identify unfinished learning that can be carefully addressed during the unit.



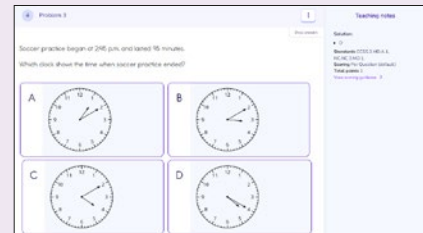
### End-of-Unit Assessment

Each unit\* includes a summative end-of-unit assessment to evaluate what students have learned at the conclusion of the unit. Problems vary in difficulty and depth of knowledge. Technology-enhanced item types are used in the digital versions.



### End-of-Course Assessment

All grade levels include an end-of-course assessment to evaluate student performance over the year. This can be administered digitally or as a written assessment.



\*starting in grade K, unit 2

## In Each Section

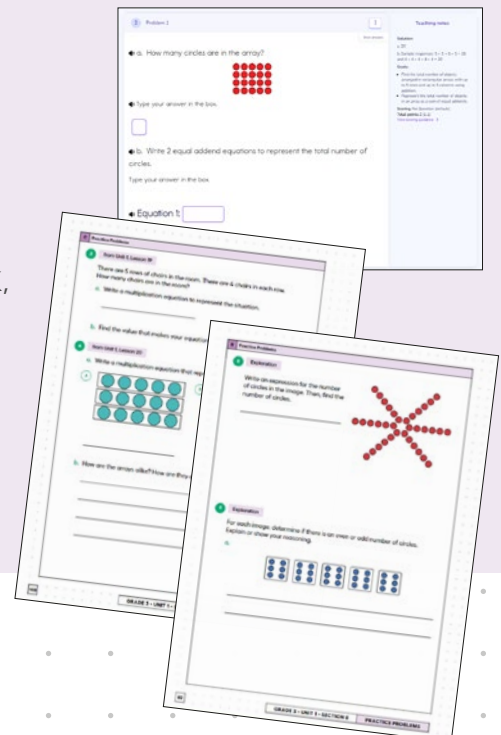
### Section Checkpoints

Grades K and 1 include a checklist of indicators for teachers to determine if students are meeting section-level learning goals. Grades 2–5 offer problem checkpoints to assess section level learning goals.

### Practice Problems

**Practice problems** are available for each lesson (starting in grade K, unit 4). These can be used for in-class practice or homework, or to assess learning, and contain two sets for additional practice opportunities.

Each section contains two or more explorations, designed to engage students in thinking creatively about the mathematics of the unit at school or at home.





## In Each Lesson

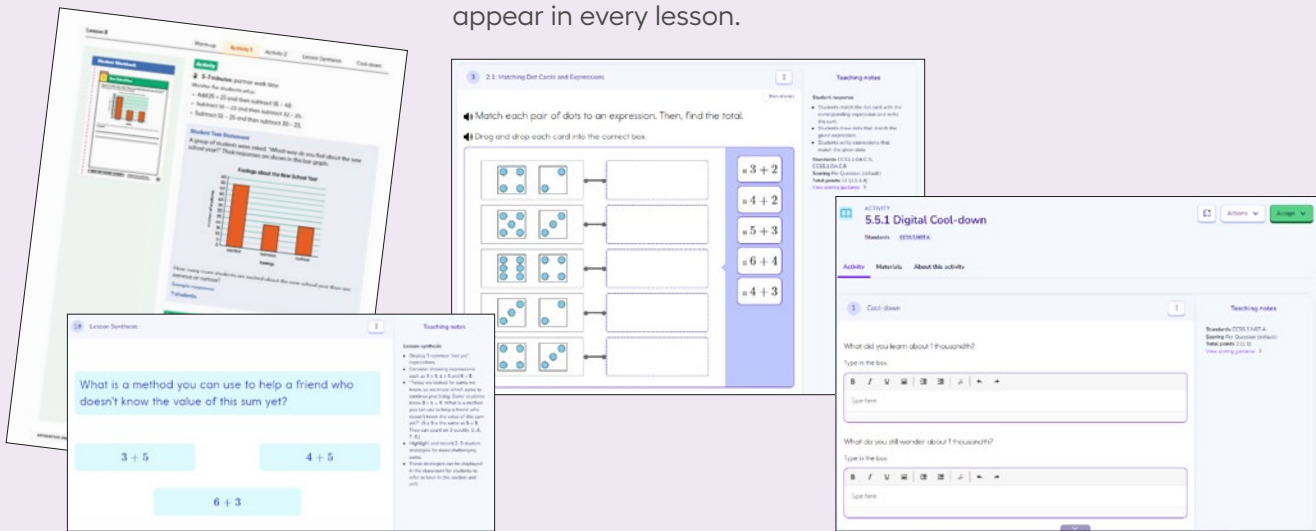
### Instructional Tasks

Each **instructional task** is accompanied by commentary about expected student responses and teacher guidance to enrich discourse and discussion.

### Digital task statements

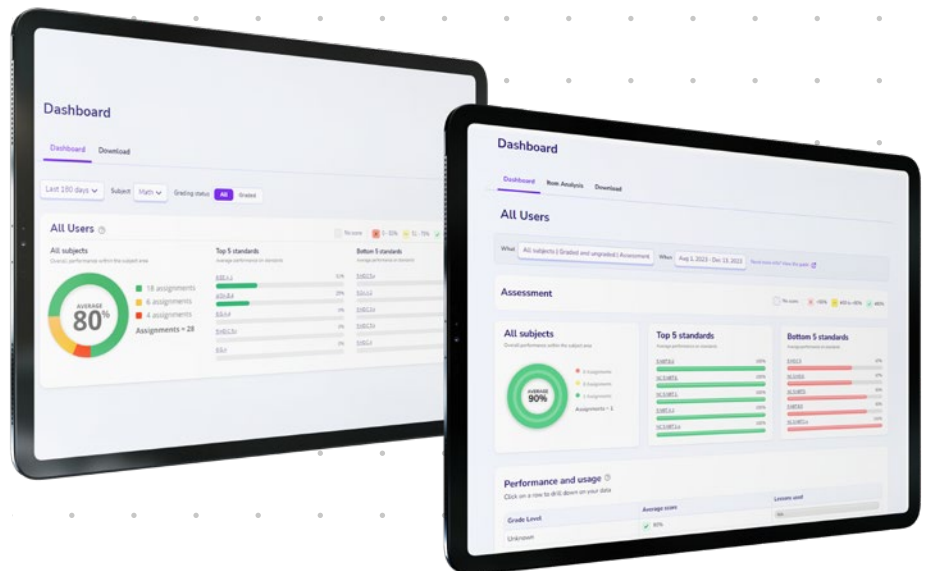
**Digital task statements** within the platform allow participation with lesson activities whether students are in class, hybrid, or distance learning models.

Each lesson in grades 2–5 includes a **cool-down** (similar to an exit ticket) to gauge student understanding of that day's lesson. Grades K and 1 have them throughout each section, but they may not appear in every lesson.



## Data and Reporting

The **data dashboard** provides a view of aggregated digital assessment and lesson use data. It enables educators to identify areas that may need support, provides quick callouts for standards that may require further investigation based on digital assessment results, and gives educators insight on individual student performance across assessments.



# Program Components

Imagine IM offers a full suite of print, digital, and hands-on components that are ready to go and designed to meet the needs of educators and students.

## Teacher Components\*

### Print

#### Teacher Course Guide

Includes grade-level curriculum information about the instructional design, guiding principles, meeting the needs of all learners, and assessment. This component highlights pacing and coherence across the year.

#### Teacher Guides — 4 spiral-bound volumes

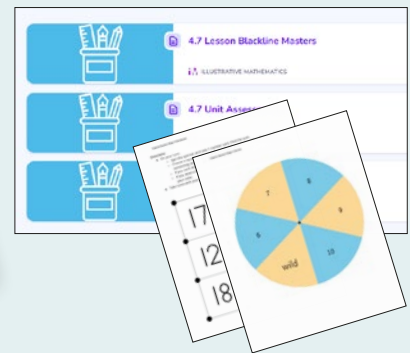
Includes full lessons with teaching support and student page reduses. Provides QR codes to digital resources at point of use in each unit, section, and lesson.



#### Teacher Resource Packs

— each unit include  
reproducibles for:

- Family support material
- Black line masters
- Assessments (including cool-downs)
- Center materials



### Digital

The Imagine IM digital experience offers tools to enhance instruction and incorporate blended learning. These embedded features improve usability:

- For planning and instruction: Unit Launch videos, assignable digital lessons and assessments, embedded teaching notes, unit planning maps, and more!
- For lesson delivery: a lesson player with editable lesson cards, Live Learn, and the annotation tool
- For home connections: family letters and Family Support videos
- Data and reporting: data dashboard, performance and item analysis reports, and monitoring sheets
- Student engagement: digital centers, virtual manipulatives, digital tasks and practice problems, and more!

### Kits

Classroom manipulative kits for each grade level complete with storage tub.



\* Spanish translations available

## Student Components\*

### Print

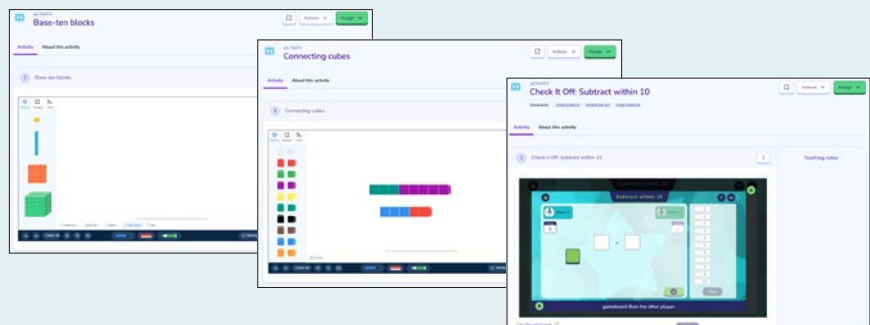
Consumable full-color Student Workbooks (units 1–8 or 9 depending on grade level) — available in English and Spanish

Include full lessons with learning goals, warm-ups, activities, and practice problems with space for student thinking and work. Provides QR codes to digital family resources at point of use.



### Digital

The Imagine IM digital student experience includes access to Student Workbook content, interactive lessons, videos, virtual manipulatives, digital centers, digital task statements, digital practice sets, digital cool-downs, digital assessments, and more!



\* Spanish translations available

## Professional Learning

Imagine IM professional learning offerings support teachers, coaches, and administrators in effectively implementing the curriculum and platform with integrity throughout their program adoption.

There are virtual and in-person options to support the unique needs of your school or district. The workshop modules allow participants to learn, apply, and synthesize their understandings.

Ongoing and self-directed professional development is also available within the digital platform for use by teachers. Included are learning narrative videos that give teachers insight into the unit objectives, models, and possible student errors and misconceptions, plus lesson example videos that show authentic Imagine IM classrooms, teachers, and students in action.





Imagine IM is the certified Illustrative Mathematics curriculum optimized for engagement, accessibility, and usability.

