



Core Curriculum

Grades 6–8

This Is Math that Matters!

*More Creativity. More Connection.
Made for California.*

6–8 Program Overview

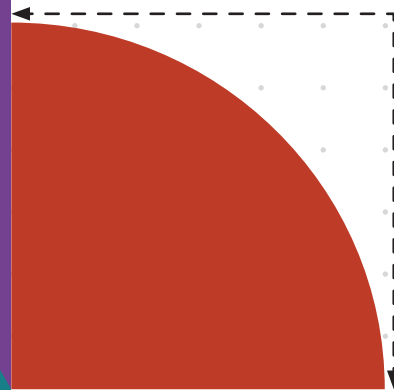
Authors, Research, and Certified Partnership

Illustrative Mathematics (IM®) 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® California incorporates the latest IM® v.360 curriculum update and has been optimized by Imagine Learning for engagement, accessibility, and usability.

Premium Certified Partnership

Imagine Learning is a premium IM-Certified® partner, a designation that confirms Imagine IM California adheres to IM's instructional model and has been reviewed and approved by Illustrative Mathematics. Imagine Learning worked closely with Illustrative Mathematics to ensure full alignment with its philosophy and research-based approach.

This partnership means schools get the best of both worlds: the rigor and coherence of the IM curriculum and Imagine Learning's enhancements and implementation support. It's a high-quality, evidence-based solution designed to help educators deliver meaningful, standards-aligned math instruction that works for all students.



Hey California!

Math engagement can be a challenge. Getting students to connect with concepts, stay motivated, and build lasting understanding isn't easy, especially when traditional instruction doesn't reflect how learners really think and grow. That's where Imagine IM California comes in.

Built on the proven Illustrative Mathematics IM v.360 curriculum and optimized for California classrooms, Imagine IM California brings problem-based learning to life for grades 6–8. Instead of memorizing steps, students explore real-world problems, talk through strategies, and make sense of math together. It's active, collaborative, and grounded in curiosity.

For educators, Imagine IM California offers ready-to-use supports, flexible print and digital resources, and tools that make instructional shifts more manageable. For students, it means math that feels relevant, connected, and worth engaging in.

This is **math that matters** for California.

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More Creativity

Math that makes space for imagination, curiosity, and real thinking.

Solving Problems with Math

In Imagine IM California, students explore ideas, test strategies, and find solutions in ways that make sense to them. A problem-based approach encourages flexible thinking and creative reasoning, embedding these habits into daily instruction and reinforcing them across all grade levels.

Multiple Ways of Thinking and Learning

Every lesson in Imagine IM California invites curiosity, with visual models, hands-on tools, and classroom discussion giving students space to approach problems from different angles and explain their thinking in their own words. Creativity isn't an add-on but core to how students understand, connect, and grow all the time they're using Imagine IM California.

More Connection

Bringing students closer to the math, each other, and the world around them.

Engaging with Math that Matters

Imagine IM California builds connection through relevant, real-world problems that encourage students to wonder, make sense, and stay engaged.

Learning Together, Thinking Together

Instructional routines promote student-to-student connection. Whether collaborating on a strategy or comparing models, students learn to reason, listen, and build understanding as a group.

Math with Real-World Relevance

From data sets to environmental topics, students explore math that connects to the world they live in, strengthening understanding and enriching math with a sense of purpose.

Made for California

Imagine IM California is designed to align with the state's math standards, priorities, and classroom needs.

Designed for California Schools and Districts

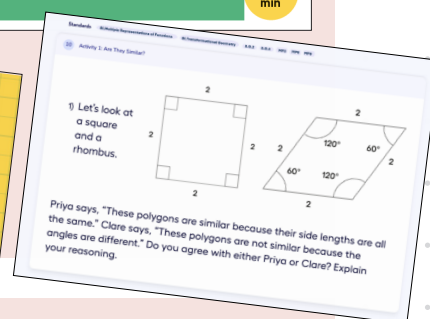
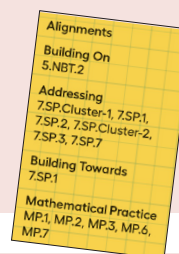
Imagine IM California supports educators in building student proficiency with the California Common Core State Standards for Mathematics (CA CCSSM) and the Standards for Mathematical Practice (MP).

Teacher and student resources reinforce the Big Ideas and principles in the Mathematics Framework, with a focus on engagement, accessibility, and ease of use.



Activity 2 Addressing **6.RP.1**
What Are Equivalent Ratios?

MP.6, MP.8
15 min



The California Framework's Big Ideas and Content Connections

The California Framework's Big Ideas in Mathematics organize grade-level content into a clear, connected structure. These concepts support focused instruction and help students build deep understanding through authentic, engaging investigations.

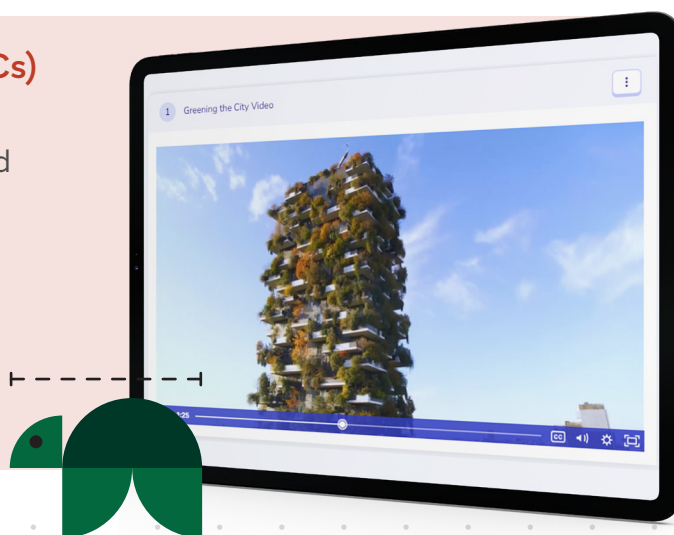
Each unit in Imagine IM California is anchored in these Big Ideas and Content Connections. Teacher and student materials — in both print and digital — highlight where and how instruction aligns at the course, unit, section, and lesson level.

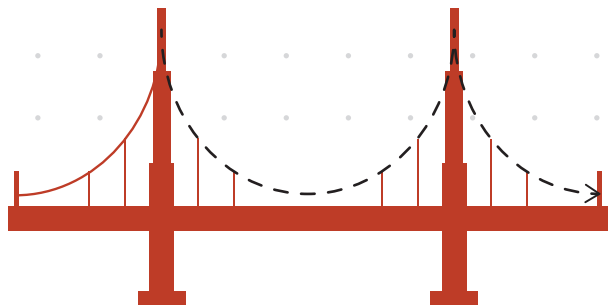
Imagine IM California Grade 6 Big Ideas in Mathematics Alignment									
Unit 8	Unit 8	Unit 2 Unit 4	Unit 2-3 Unit 7	Unit 2-3 Unit 6 Unit 9	Unit 3 Unit 5 Unit 9	Unit 4-5 Unit 7 Unit 9	Unit 1	Unit 7	Unit 1 Unit 7
Unit 8	Unit 8	Unit 2 Unit 4	Unit 2-3 Unit 7	Unit 2-3 Unit 6 Unit 9	Unit 3 Unit 5 Unit 9	Unit 4-5 Unit 7 Unit 9	Unit 1	Unit 7	Unit 1 Unit 7
Unit-Level Big Ideas in Mathematics Alignment									
Unit 6 Big Ideas	CA Standards	Unit 6 Big Ideas	Unit 6 Big Ideas	Unit 6 Big Ideas	Unit 6 Big Ideas	Unit 6 Big Ideas	Unit 6 Big Ideas	Unit 6 Big Ideas	Unit 6 Big Ideas
Generalizing with Multiple Representations Relationships Between Variables	6.RP.3	6.NS.3	6.EE.1 6.EE.2 6.EE.3 6.EE.4 6.EE.5 6.EE.6 6.EE.7 6.EE.9						MP.2 MP.3 MP.6 MP.7 MP.8

Environmental Principles and Concepts (EP&Cs)

Imagine IM California promotes environmental literacy by connecting math learning to real-world ecological concepts.

Activities and Inspire Math videos are designed with the EP&Cs in mind, and each Teacher Guide includes clear correlations and integration questions organized by unit.





English Language Development (ELD) Standards

The problem-based design of Imagine IM California supports English language development for all learners. Aligned to California's ELD Mathematics Standards, the program helps students build academic language while deepening conceptual understanding.

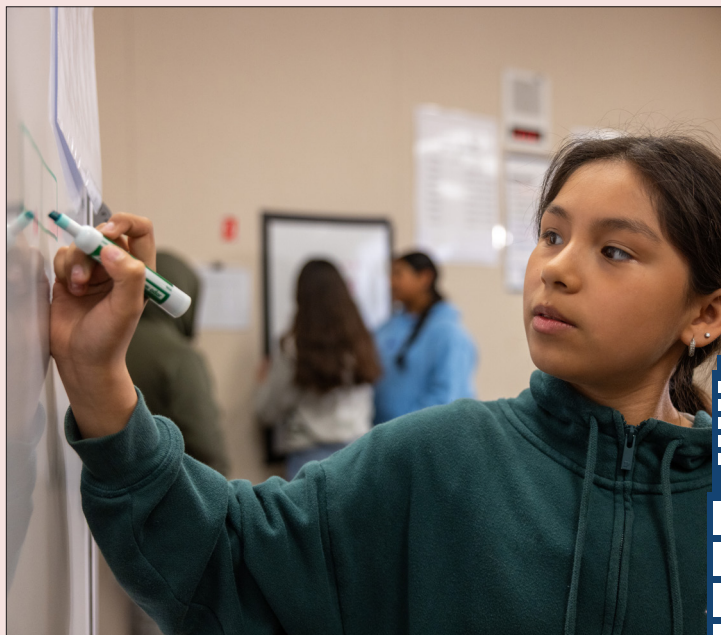
Each unit includes sentence frames and stems that scaffold instruction for Multilingual Learners (MLLs), aligned to key vocabulary and lesson goals in both print and digital formats.

ELD Standards	Sentence Frame(s) or Stem(s)
Section A	
PI.1. Exchanging information and ideas via oral communication and conversations: Students engage in conversations where they identify and explain types of data and the meaning of data points. This involves sharing ideas and discussing statistical concepts in oral communication.	<ul style="list-style-type: none"> _____ is an example of categorical/numerical data because ... In this context, the data point _____ means ...
PI.7. Evaluating how well writers and speakers use language to present or support ideas: Students evaluate the nature of a question (statistical or not) and explain their reasoning, requiring them to assess and justify how the language is used to categorize questions.	<ul style="list-style-type: none"> The question _____ is statistical/not statistical because ...
Section B	
PI.6. Reading closely and explaining interpretations and ideas from reading: Students interpret information from a data set or dot plot and explain their reasoning. They closely read the data and provide interpretations based on what they observe.	<ul style="list-style-type: none"> This dot plot tells me that the spread of data is _____ because ... I think the data point _____ is the center of the distribution because ...
PI.11. Supporting opinions or justifying arguments and evaluating others' opinions or arguments: Students support their opinions or justify their choices of data representation and explain how frequency and distributions inform their conclusions.	<ul style="list-style-type: none"> The frequency of _____ is _____. The data point _____ has the greatest/least number of dots. This tells me ... I would use a _____ rather than a _____ to represent the data because ...
Section C	
PI.7. Evaluating how well writers and speakers use language to present or support ideas: Students evaluate statistical measures and explain how they are used to present data, ensuring that they can articulate whether the language and calculations effectively communicate the meaning of the data.	<ul style="list-style-type: none"> The mean of the data is _____ and the mean absolute deviation (MAD) is _____.

A Proven Partner in California

Districts from Los Angeles to Ceres to Poway already use Imagine IM California, reporting success with both students and teachers. By partnering with Imagine Learning, they benefit from seamless implementation of California's leading HQIM solution for rigorous, equitable, student-centered math.

Across grade levels and districts, Imagine IM California is helping California students connect, collaborate, and grow in math, while giving teachers the tools and structure to support deeper learning.



"You walk into our classrooms and you see a level of engagement that I haven't seen before... Kids are up on their seats, they're moving, they're talking... having academic discourse."

Rogelio Adame, Principal, Cesar Chavez Junior High, Ceres USD



Exploring Imagine IM California

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

Teacher Components*

*Also available in Spanish

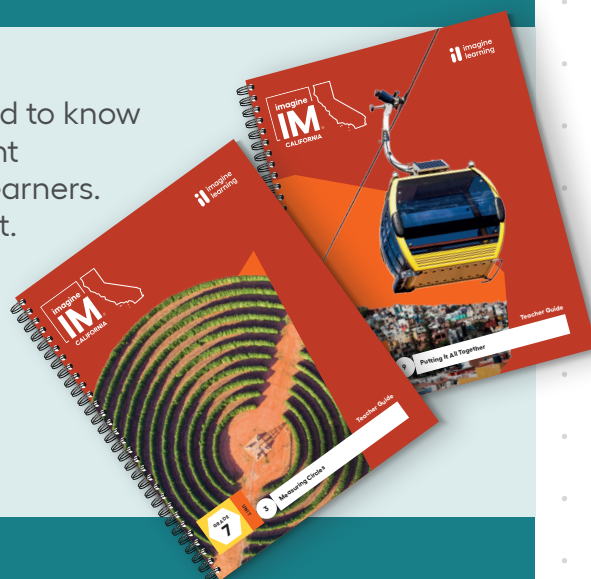
Print

Teacher Course Guide

The Teacher Course Guide includes everything you need to know about the program: the instructional design, assessment structures, design principles, and supports for diverse learners. It also includes a pacing guide and standards alignment.

Teacher Guides — 9 spiral-bound per grade

Full lesson plans with teaching supports, student page reduses, and QR codes linking to digital resources at the unit, section, and lesson level. Teacher Guides are available in Spanish for TK–8, Algebra 1, and Integrated Math 1.



Digital

The Imagine IM California digital platform supports planning, teaching, and blended learning through tools such as:

- **Planning and Instruction:** Unit Launch videos, assignable digital lessons, embedded teaching notes, and unit maps
- **Lesson Delivery:** Editable lesson cards, Live Learn, and the annotation tool
- **Home Connections:** Family letters and Family Support videos
- **Data and Reporting:** Dashboards, performance reports, and monitoring tools



Kits

Hands-on manipulative kits for grades TK–8, packaged in organized storage tubs. Kits support a classroom of 30 students.



Student Components*

*Also available in Spanish

Print

Consumable Full-Color Workbooks (Units 1–9)

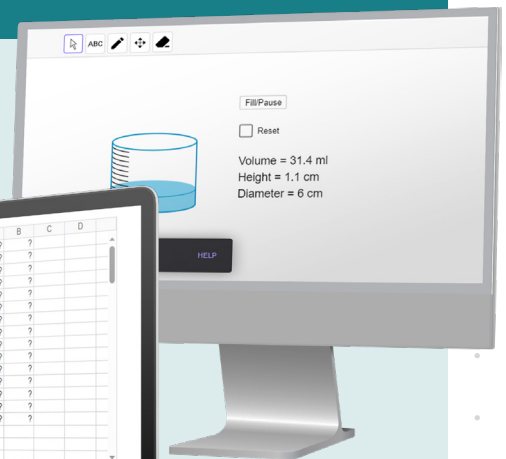
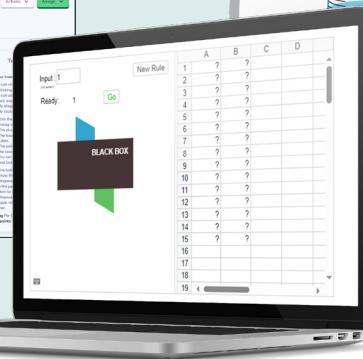
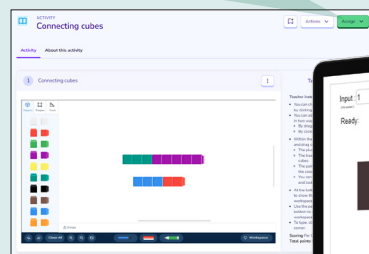
Available in English and Spanish, each workbook includes complete lessons with space for student thinking and work and QR codes linking to family resources throughout.



Digital

Students can access all materials online, including interactive lesson materials, Desmos activities, assessments, and more. Digital content is available in English and Spanish in TK–8.

Assign ▼



Professional Learning

Imagine IM California offers flexible professional learning for teachers, coaches, and administrators, available in both virtual and in-person formats.

Workshop modules are designed for hands-on learning and application, while self-directed training is embedded in the platform for ongoing support, including:

- **Learning Narrative** videos covering unit goals, models, and common student misconceptions
- **Unit Videos** from real Imagine IM California classrooms

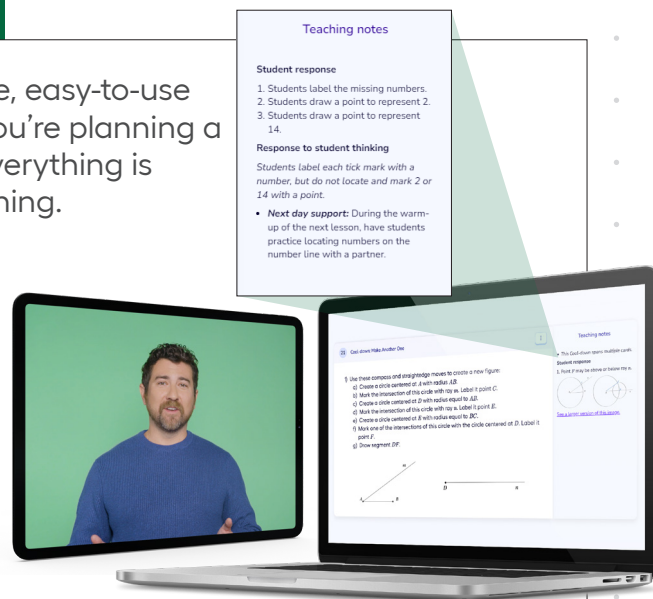


Teacher Experience

Imagine IM California supports teachers with flexible, easy-to-use tools created to work in real classrooms. Whether you're planning a lesson, leading instruction, or adapting on the fly, everything is designed to save time and support meaningful learning.

Implementation that Fits Teachers' Needs

Strong math instruction starts with strong support. Imagine IM California offers point-of-use guidance to help teachers plan, adjust, and facilitate lessons confidently across classroom models. Teachers can access Learning Narrative and Lesson Supports videos from the Teacher Guide or digital platform, with real classroom examples providing clear, practical models of problem-based instruction.



Flexible Instructional Tools

Teachers have the tools to teach in ways their students learn best.

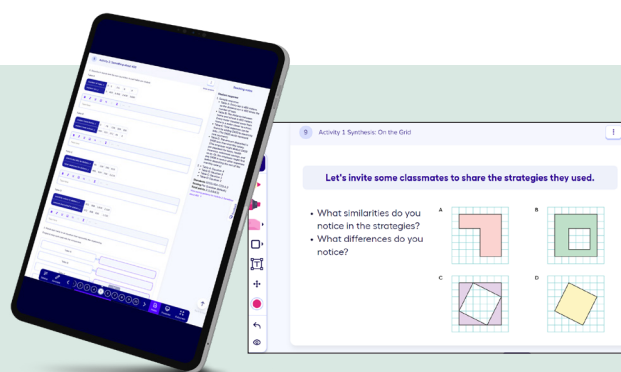
- **Print and Digital:** Teacher Guides and Student Workbooks connect directly to digital components to maintain lesson integrity across formats.
- **Editable Lessons:** Digital lesson cards can be copied, assigned, or customized to support every learner.
- **Projection-Ready:** Lessons are easily shareable in class or online.



Live and Interactive Teaching

Tools that make teaching more responsive.

- **Live Learn** allows teachers to launch live sessions directly from the platform.
- **Annotation Tool** brings instruction to life by letting teachers write, draw, and share thinking on-screen in real time.

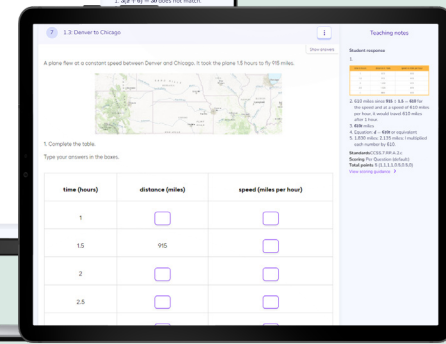
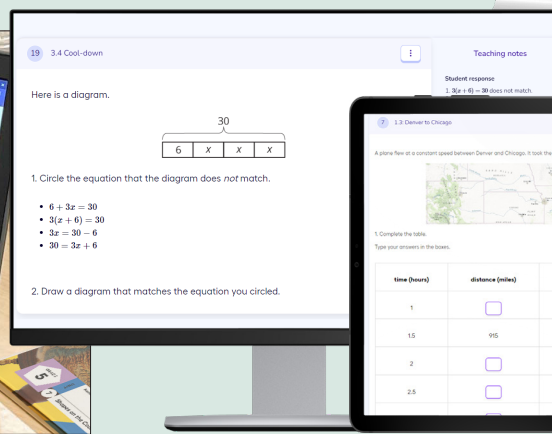
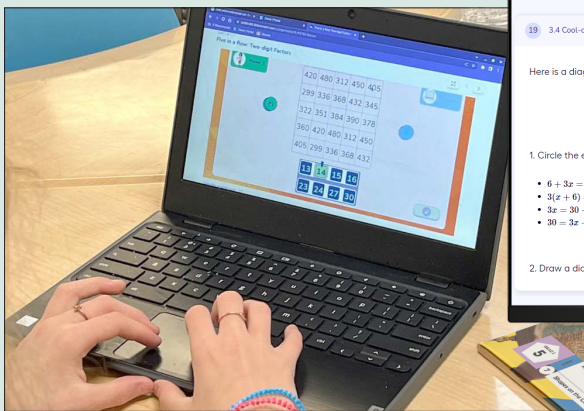


The on-demand feature makes visibility of student work and timely feedback more efficient.

Formative Assessment and Feedback

Teachers can track progress and adjust instruction using tools that provide real-time insight into student learning:

- Digital task statements
- Section checkpoints
- Cool-downs



- Edit
Change, delete or add content to this lesson
- Start revision
Changes replace the original when you choose to publish them
- Customize
Adapt this lesson by inserting or hiding content from view
- Copy
- Merge
- Print / PDF
- Embed



Student Experience

Imagine IM California immerses students in meaningful, rigorous math through a problem-based approach and engaging, interactive resources. With tools that foster creativity and collaboration, students build confidence and develop skills they'll use in college, careers, and life.

Making Math Meaningful and Relevant

Students are natural problem solvers: curious, expressive, and full of ideas. Imagine IM California gives them space to explore, share thinking, learn from mistakes, and connect with one another. Lessons are designed to value student voice and build productive mathematical habits.

10 14.2 Activity: Applying Division with Decimals

Teaching notes

OPTIONAL ACTIVITY

Launch, continued

- Assign each group Problem A or B and have students choose the problem they are assigned.
- Give groups 5-7 minutes to work on their assigned problem.
- If time permits, consider giving students access to tools for creating a visual display.
- Have them create a simple visual display to showcase their solutions and prepare a short presentation in which they explain their reasoning and calculations.
- Give students 2-3 minutes to review one another's work followed by groups' presentations of their displays.

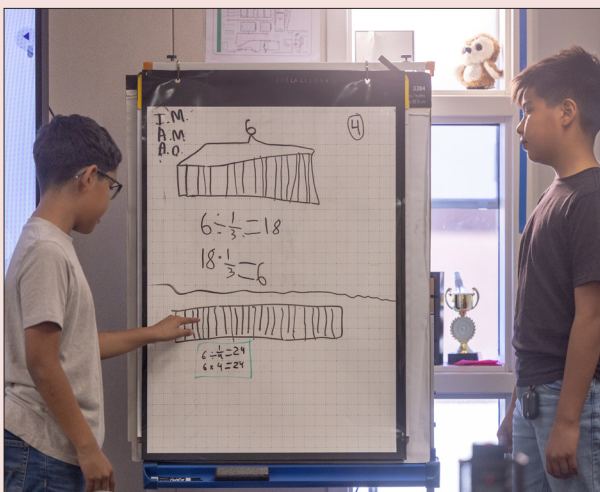
Student response

Problem A:

1. 0.2875 meters. Each piece of rope is 5.75-20 meters long. This is a "how many in each group" division.

Problem B:

1. 0.2875 meters. Each piece of rope is 5.75-20 meters long. This is a "how many in each group" division.



Supporting Understanding, Fluency, and Application

Instructional routines, visual models, and hands-on tools help students build conceptual understanding, procedural fluency, and confidence applying math to real problems. Every element works together to make learning stick and keep it engaging.

LESSON 1

Moving in the Plane

Let's describe what figures can move in the plane.

Warm-up: Which Turns Do Squares Make?

Which shape got together? Why do they get together?

Student response

How teacher will give you three pictures. Each shows a different set of points. Choose the three pictures as you tell your partner how to get from the first point to the second point. The starting point is always (1, 2). The other point is always (3, 4). After you have chosen all three shapes, come to an agreement on the words you use to describe the movement in each shape.



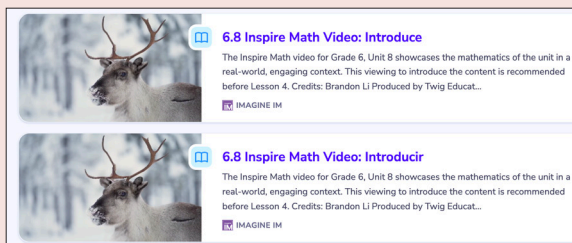
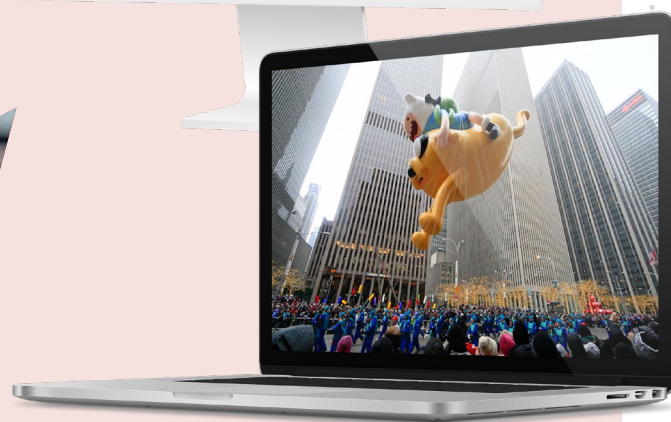
Fostering Discussion and Reflection

Imagine IM California encourages active learning through talk, reflection, and shared problem-solving. Embedded opportunities across lessons and centers help students build confidence in the Standards for Mathematical Practice in ways that feel collaborative and authentic.



Inspire Math Videos

Short, high-interest videos open each unit with a real-world or unexpected context to spark curiosity. Later videos revisit the topic, reinforcing learning and encouraging students to connect math to the world around them.



Inspire Math videos are available in both English and Spanish.

Problem-Based Learning in Action

Problem-based learning is powerful because it invites students to think, talk, and make sense of math. In Imagine IM California, this approach is the foundation of every lesson. Rather than starting with formulas, students begin with a question, a visual, or a real-world situation that gets them thinking. They explore, test ideas, and collaborate with classmates to uncover strategies and solutions.

This kind of learning helps students build **deep conceptual understanding**, not just surface-level skills. It supports productive struggle, values multiple approaches, and encourages students to explain their thinking — all key habits of strong mathematical thinkers.



Active Participants in Learning

In Imagine IM California, problem-based learning is **inclusive by design**. Lessons begin with warm-ups and prompts that reflect students' lived experiences and cultural knowledge. Throughout each lesson, students use hands-on tools, digital manipulatives, and visuals to make math come alive. They learn to reason together, reflect on their process, and connect ideas across lessons.

Because students are active participants in their learning, engagement goes up and confidence follows.

Unit and Lesson Structures

Imagine IM California is built to make math meaningful, inclusive, and connected from start to finish. It follows a thoughtful structure that supports all learners, not just in mastering procedures, but in building deep understanding through discussion, reasoning, and real-world relevance.

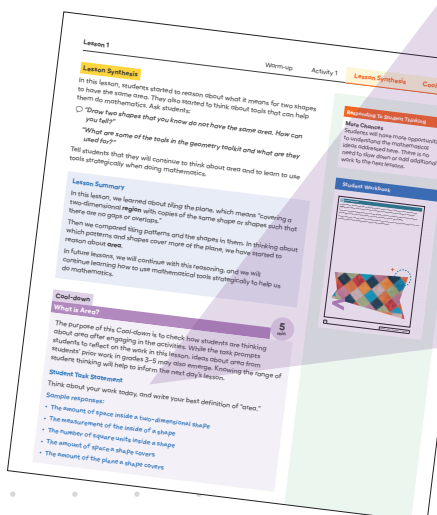
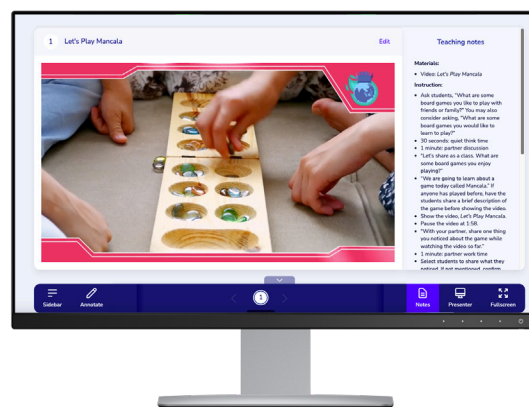
Each activity and lesson is part of a mathematical story across units and grade levels. This coherence allows students to view mathematics as a connected set of ideas that make sense together.

	Invitation to the Mathematics	Deep Study of Concepts and Procedures	Consolidating and Applying
Course Level	Invitational Unit	Deep Study Units	Consolidation Unit
Unit Level	Introductory Lesson	Instructional Lessons	Culminating Lesson
Lesson Level	Warm-up	Classroom Activities	Synthesis and Cool-down
Activity Level	Launch	Work Time	Synthesis

Each unit opens with an **Inspire Math video**, introducing new content through an engaging, authentic context. These short videos spark curiosity and help students preview what they'll explore over the unit.

From there, lessons unfold through a consistent flow:

- Warm-Up: Accessible entry point for all students
- Activities: Collaborative exploration and problem-solving
- Synthesis: Pulling ideas together with structure and clarity
- Cool-Down: A brief check for understanding that informs next steps



Cool-down
5 min

What is Area?

The purpose of this Cool-down is to check how students are thinking about area after engaging in the activities. While the task prompts students to reflect on the work in this lesson, ideas about area from students' prior work in grades 3–5 may also emerge. Knowing the range of student thinking will help to inform the next day's lesson.

Student Task Statement

Think about your work today, and write your best definition of "area."

Sample responses:

- The amount of space inside a two-dimensional shape
- The measurement of the inside of a shape
- The number of square units inside a shape
- The amount of space a shape covers
- The amount of the plane a shape covers

Problem-Based Learning in Action continued...

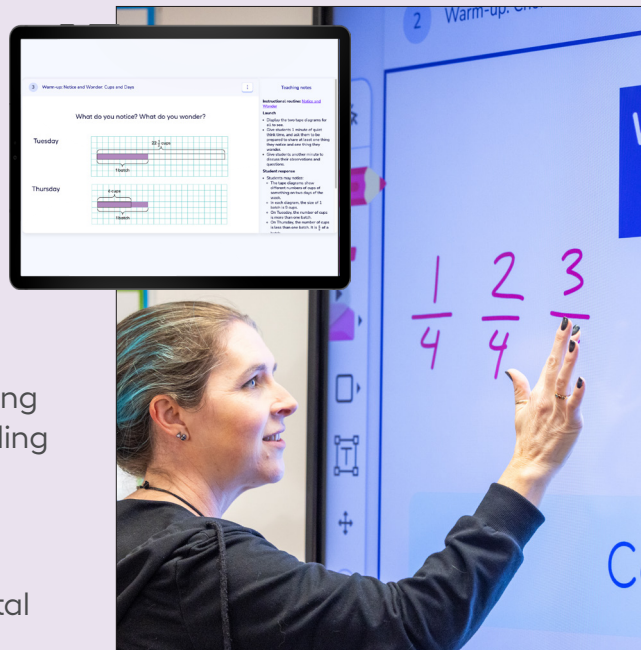
Warm-Ups: Inviting Every Student Into the Math

Each lesson begins with an inclusive warm-up that draws from students' experiences and cultures. Using open-ended prompts like "What do you notice? What do you wonder?" students are encouraged to share and explore ideas without fear of being wrong.

These routines promote:

- Entry for every learner
- Rich conversation and collaborative thinking
- Language development and identity-building in math

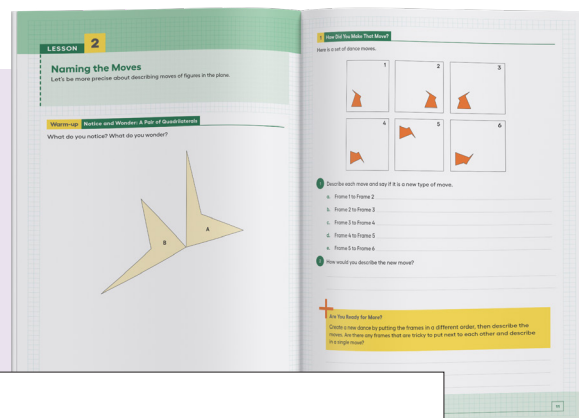
Instructional supports — including guiding questions, sentence stems, and language scaffolds — are built into both print and digital teacher materials.



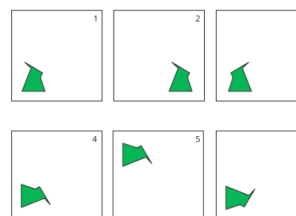
Activities: Learning by Doing

Activities in Imagine IM go beyond practice. They're an invitation to **explore, question, and make meaning together**. Students are given time to grapple with problems individually before working in small groups, using models, manipulatives, and visual tools to deepen understanding.

Each activity is followed by a structured **activity synthesis** stage, in which teachers bring together key ideas and student insights. This is where connections are made, misconceptions are addressed, and mathematical language is developed within the community of learners.



Here is another set of dance moves. There is a new move to look out for in this set!

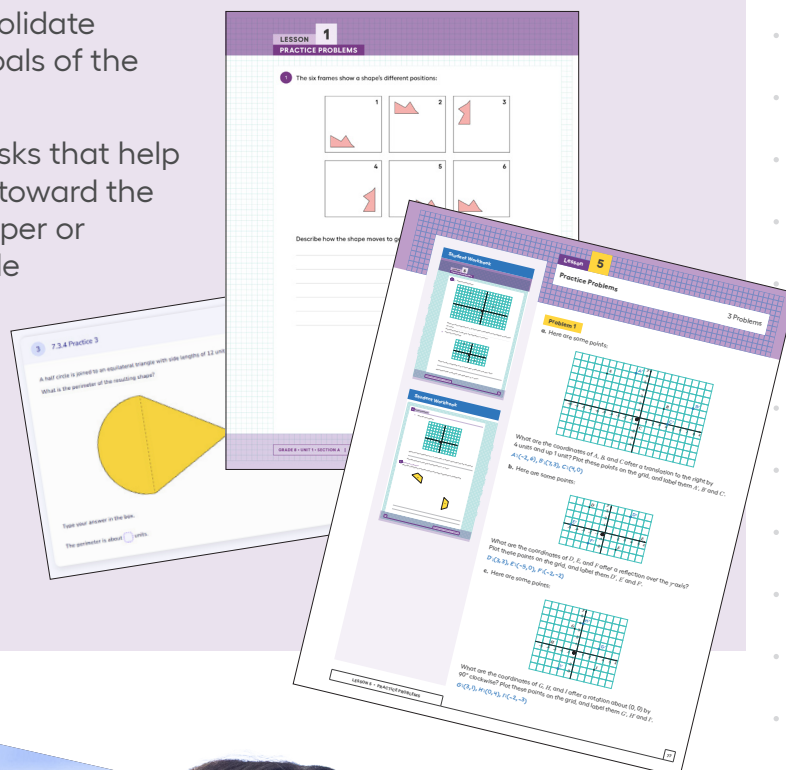


Lesson Synthesis and Cool-Downs

The lesson ends with a synthesis to consolidate understanding and make the learning goals of the lesson explicit.

Finally, cool-downs are short, targeted tasks that help teachers gauge each student's progress toward the learning goal. Whether completed on paper or digitally, cool-downs give clear, actionable information to guide next steps:

- Built-in teacher supports offer reteaching suggestions
- Digital cool-downs include automatic scoring and item analysis
- Data is immediately available for planning and small-group work



Equity and Access

Imagine IM California is built on three core design principles to support all learners:

- Provide access for all
- Presume competence
- Focus on strengths, not deficits

These principles are woven throughout every unit and lesson, ensuring all students are seen, supported, and empowered to succeed in math.



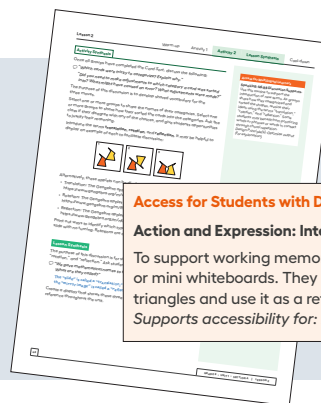
Built for Endurance and Perseverance

Lessons are designed with care and intention. From number choice to context complexity, every element is crafted to support meaningful learning and productive struggle for all students.



Support for Diverse Abilities

Each lesson includes built-in guidance for students with diverse learning needs. These supports align with Universal Design for Learning (UDL) principles — **engagement, representation, and action and expression** — and are embedded directly in teacher materials.



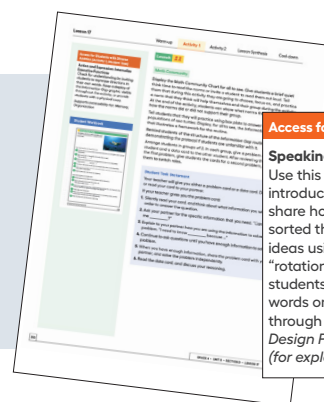
Access for Students with Diverse Abilities

Action and Expression: Internalize Executive Functions.

To support working memory, provide students with access to sticky notes or mini whiteboards. They can trace the square composed of 2 medium triangles and use it as a reference for 1 square unit. Supports accessibility for: Memory, Organization

Support for Multilingual Learners

Mathematical Language Routines (MLRs), grounded in the UL/SCALE framework from Stanford, are embedded throughout. These eight consistent routines help students grow their math language, content knowledge, and communication skills.



Access for Multilingual Learners

Speaking: MLR8 Discussion Supports.

Use this routine to support the introduction of new terms. As groups share how they categorized and sorted the shapes, revise their ideas using the terms "translation," "rotation," and "reflection." Some students may benefit from practicing words or phrases or words in context through choral repetition. Design Principle(s): Optimize output (for explanation)

Ready for More?

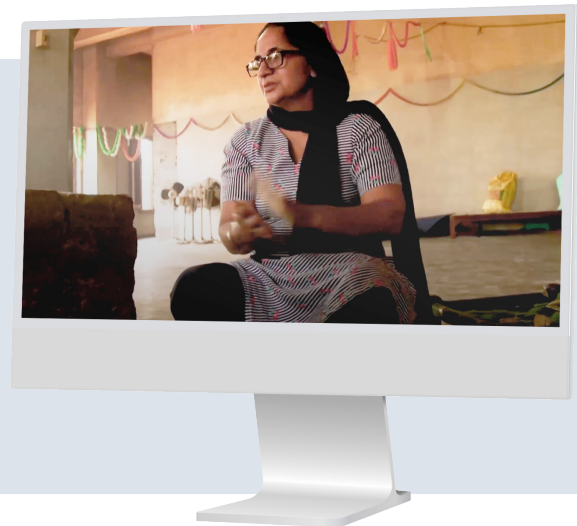
Targeted “Exploration” problems offer challenge opportunities for students ready to extend their thinking.



Culturally Responsive Design

Imagine IM California reflects a wide range of student identities and experiences:

- Diverse main characters and illustrations
- Inclusive and respectful portrayal of race, culture, religion, gender, and ability
- Central figures with qualities like leadership, creativity, and courage
- Opportunities to explore a variety of perspectives and contributions



Home Connections

Each unit has a family guide, available in more than 10 languages, and written to be easily accessible, plus **Family Support videos** in English and Spanish. These explain prior learning, vocabulary, and math concepts through visuals and simple at-home activities — helping caregivers feel confident in supporting learning at home.

Imagine IM for Families: A Video Series

- What Is Problem-Based Instruction?
- How Does Imagine IM Prepare Students for Success in the Real World?
- What is a Math Community?
- The Benefits of Math Practice
- Supporting Math Learning

*** Materiales de apoyo familiar**
Expresiones y ecuaciones
Ecuaciones en una variable

*** Materiales de apoyo familiar 1**

Esta semana revisaremos ecuaciones para aprender a visualizar, escribir y resolver ecuaciones. En grados anteriores, hicieron este trabajo con números. En grado 6, usaremos a menudo una letra llamada una variable para representar un número cuyo valor es desconocido. Los diagramas pueden ayudarnos a entender la relación entre cantidades. Este es un ejemplo de un diagrama de este tipo:

Como hay 3 partes están marcadas con la misma variable x , sabemos que cada uno de las partes representa el mismo número. Algunas ecuaciones que podemos escribir a este diagrama son $x + x + x = 15$ y $3x = 15$.

Una solución de una ecuación es un número que, al reemplazar a la variable en la ecuación, en el ejemplo anterior, la solución es 5. Podemos en sustituir x por 5 en ambas ecuaciones: $5 + 5 + 5 = 15$ y $3 \cdot 5 = 15$. 5 son ambas verdaderas. Podemos decir, por ejemplo, que 4 no es una solución, porque $4 + 4 + 4$ no es igual a 15.

Resolver una ecuación es un proceso para hallar una solución. Nuestros estudiantes aprenderán que una ecuación como $15 = 3x$ puede resolverse dividiendo cada lado entre 3. Observa que si dividimos cada lado entre 3, $15 \div 3 = 3x \div 3$, obtenemos $5 = x$, que es la solución de la ecuación.

Esta es una tarea para que trabajen en familia:

Dibujen un diagrama que represente cada ecuación. Luego, resuelvan cada ecuación.

$2x = 11$

$11 = x + 2$

*** Materiales de apoyo familiar**
Expresiones y ecuaciones
Ecuaciones en una variable

*** Materiales de apoyo familiar 1**

Esta semana revisaremos ecuaciones para aprender a visualizar, escribir y resolver ecuaciones. En grado anteriores, hicieron este trabajo con números. En grado 6, usaremos a menudo una letra llamada una variable para representar un número cuyo valor es desconocido. Los diagramas pueden ayudarnos a entender la relación entre cantidades. Este es un ejemplo de un diagrama de este tipo:

Como hay 3 partes están marcadas con la misma variable x , sabemos que cada uno de las partes representa el mismo número. Algunas ecuaciones que podemos escribir a este diagrama son $x + x + x = 15$ y $3x = 15$.

Una solución de una ecuación es un número que, al reemplazar a la variable en la ecuación, en el ejemplo anterior, la solución es 5. Podemos en sustituir x por 5 en ambas ecuaciones: $5 + 5 + 5 = 15$ y $3 \cdot 5 = 15$. 5 son ambas verdaderas. Podemos decir, por ejemplo, que 4 no es una solución, porque $4 + 4 + 4$ no es igual a 15.

Resolver una ecuación es un proceso para hallar una solución. Nuestros estudiantes aprenderán que una ecuación como $15 = 3x$ puede resolverse dividiendo cada lado entre 3. Observa que si dividimos cada lado entre 3, $15 \div 3 = 3x \div 3$, obtenemos $5 = x$, que es la solución de la ecuación.

Esta es una tarea para que trabajen en familia:

Dibujen un diagrama que represente cada ecuación. Luego, resuelvan cada ecuación.

$2x = 11$

$11 = x + 2$

Assessment

Measure understanding and meet learning goals

Imagine IM California offers both formative and summative assessment opportunities that help teachers measure student understanding and track progress toward learning goals.

Formative Assessment

- **Check Your Readiness:** Diagnostic assessments at the start of each unit help identify prerequisite gaps or below-grade-level needs that can be addressed during the unit.
- **Learning Goals and Targets:** Each lesson includes clear learning goals that guide student focus and can be used for reflection or self-assessment.
- **Cool-Downs:** Every lesson ends with a cool-down to gauge student understanding.

4 Problem 4

For each percentage, find a matching statement to describe it.
Drag and drop each card to the correct percentage.

Percentage	Statement
A. 10% of a number	Equal to that number.
B. 25% of a number	$\frac{1}{4}$ of that number
C. 50% of a number	$\frac{1}{2}$ of that number
D. 75% of a number	$\frac{3}{4}$ of that number
E. 80% of a number	$\frac{4}{5}$ of that number
F. 100% of a number	$\frac{1}{1}$ of that number

2 Problem 1

In a set of coloring pencils, there are 10 red pencils, 4 yellow pencils, and 8 brown pencils.
Select all true statements about the coloring pencils:

- A. The ratio of red pencils to yellow pencils is 4 to 10.
- B. The ratio of red pencils to brown pencils is 10 to 8.
- C. The ratio of yellow pencils to red pencils is 2 to 5.
- D. There are 5 red pencils for every 4 brown pencils.
- E. For every yellow pencil, there are 2 brown pencils.

Teaching notes

- Solution:** B, C, D, E
- Goal:** Create and interpret sentences that describe ratios.
- Responding to Student Thinking:**
 - More Chances:** Students will have more opportunities to understand the mathematical ideas addressed here. There is no need to slow down or add additional work to the next lessons.
- Scoring Per Question (if applicable):** Total points 2
- [View scoring guidance for Problem 1](#)

Summative Assessment

- **End-of-Unit Assessments:** Every unit includes a written and digital assessment. Longer units may include a mid-unit assessment.
- All summative assessments include complete solutions and standards alignment.
- Multiple-choice and multiple-response items often include explanations of common errors to help guide instruction.

Grade 7 Unit 8: End-of-Unit Assessment (A)

A standard number cube has the numbers 1 through 6 on its faces.

1. Elena would like to know the average height of seventh graders in her school district. She asks the heights of everyone in a random sample of 20 students. The mean height of Elena's sample is 63 inches, and the MAD (mean absolute deviation) is 2 inches.

Select all the true statements.

- A. The median height of the sample must be between 61 and 65 inches.
- B. Another random sample of 20 students is likely to have a mean height of all students in the district.
- C. The mean height of these 20 students is likely to be the mean height of all students in the district.
- D. The mean height of these 20 students is likely to be the mean height of a second random sample of 20 students.
- E. Elena would be more likely to get an accurate estimate of the population by sampling 40 people instead of 20.

2. Here is a dot plot showing how much time customers spent at a store, rounded to the nearest five minutes.

sample of this population?

3. The heights for a random sample of 50 volleyball players across the United States are summarized in this histogram.

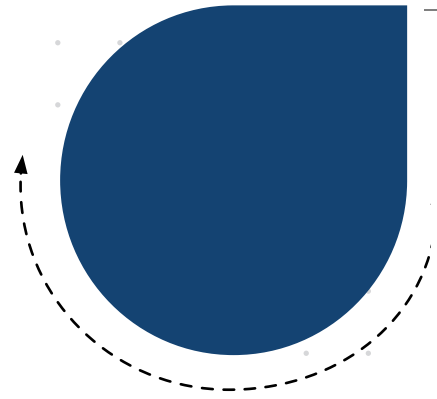
Select all of the information that would be reasonable to estimate from this sample.

- A. The median height for volleyball players on a single team is about 73 inches.
- B. The median height for volleyball players in the United States is about 73 inches.
- C. There are no volleyball players in the United States taller than 80 inches.
- D. The mean height for volleyball players in the United States is about 73 inches.
- E. The mean height for basketball players in the United States is about 73 inches.

4. An administrator of a large middle school is installing some vending machines in the cafeteria and teacher's lounge. She wants to know what type of machine would be most popular.

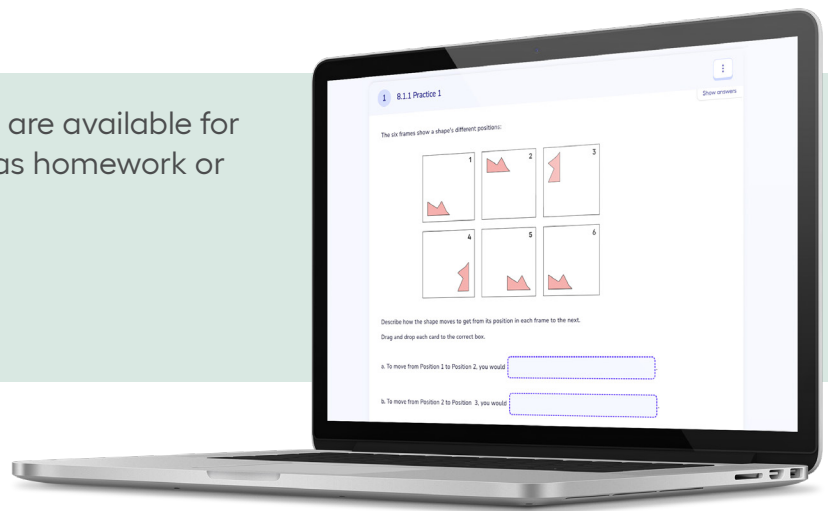
a. What is the population for the administrator's question?

b. Give an example of a sample the administrator could use to help answer her question that is likely to be representative.



Digital Practice

- Cumulative practice problems are available for each lesson and can be used as homework or for additional practice.



Data and Reporting

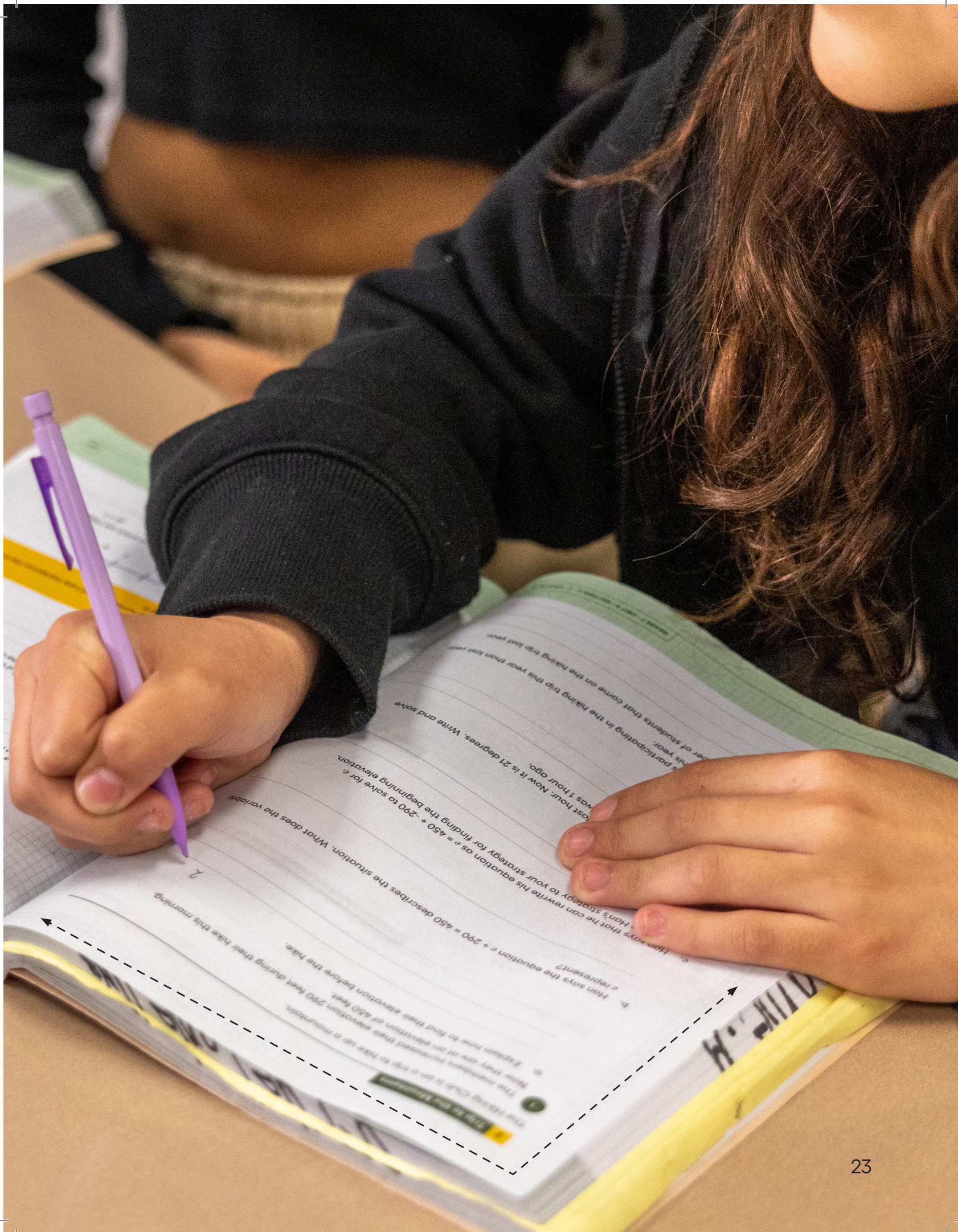
- Real-time reporting tools provide class performance data, item analysis, and year-over-year retention insights.
- Teachers can drill down into student work — including open-ended responses — to guide future instruction.
- Dashboards include assignment scores and visual breakdowns of performance across standards.

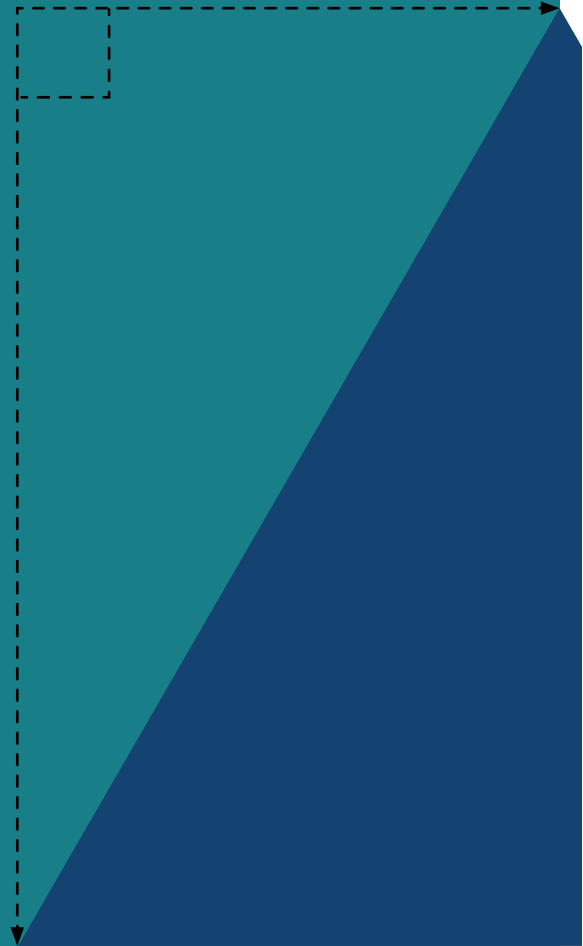
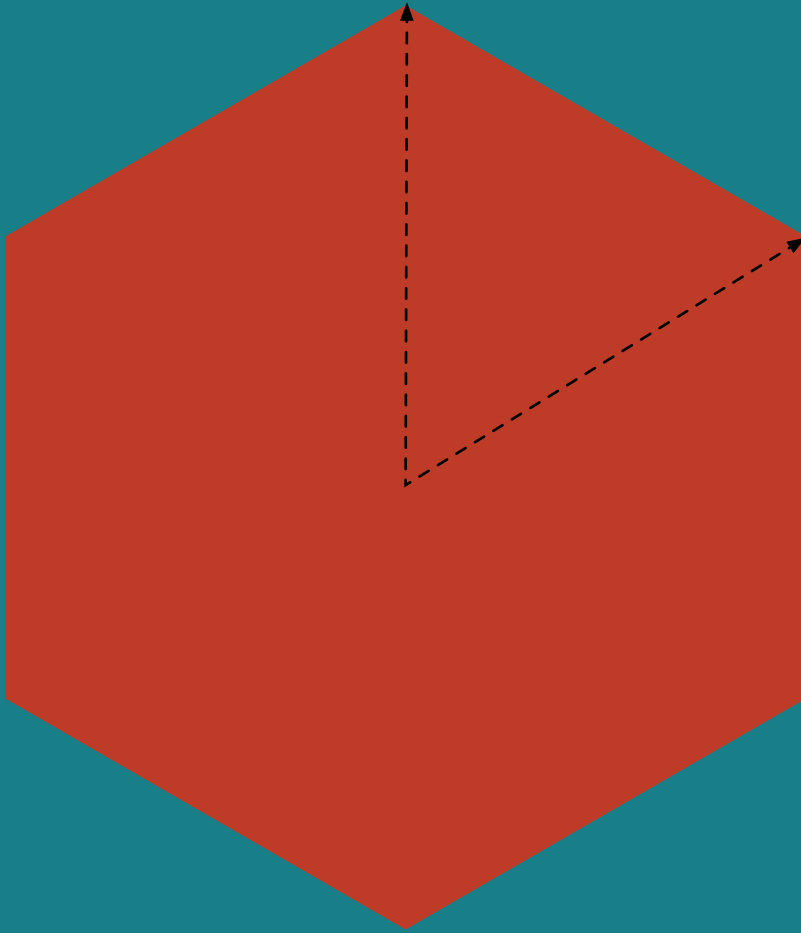
Grades 6–8 Scope and Sequence

	Grade 6	Grade 7	Grade 8
Unit 1	Area and Surface Area	Scale Drawings	Rigid Transformations and Congruence
Unit 2	Introducing Ratios	Introducing Proportional Relationships	Dilations, Similarity, and Introducing Slope
Unit 3	Unit Rates and Percentages	Measuring Circles	Linear Relationships
Unit 4	Dividing Fractions	Proportional Relationships and Percentages	Linear Equations and Linear Systems
Unit 5	Arithmetic in Base Ten	Rational Number Arithmetic	Functions and Volume
Unit 6	Expressions and Equations	Expressions, Equations, and Inequalities	Associations in Data
Unit 7	Rational Numbers	Angles, Triangles, and Prisms	Exponents and Scientific Notation
Unit 8	Data Sets and Distributions	Probability and Sampling	Pythagorean Theorem and Irrational Numbers
Unit 9	Putting It All Together	Putting It All Together	Putting It All Together
Total # of days per course**	147	138	142

** Total days is lessons + assessment (does not include optional lessons).

See Teacher Course Guides or the Imagine IM California digital platform for full details on scope and sequence.





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