



Imagine IM California Pilot Companion Guide

Your guide to a confident, successful pilot



Designed for California Schools and Districts

This guide will help you:

- Know where to start
- Understand what makes **Imagine IM California** different
- Recognize what student success looks and sounds like
- Explore supports for all of your students
- Reflect on your experience

Your 6-Week Pilot Path

1. Launch (Start Here)	2. Explore	3. Build & Apply	4. Deepen Understanding	5. Synthesize & Assess	6. Share & Decide
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Welcome to your Imagine IM California pilot

The purpose of this guide

This is your **Pilot Companion Guide**. It will help you know what to focus on, where to find what you need, and how to recognize success. This Pilot Companion Guide organizes your pilot into manageable steps called **Milestones** and is designed to build understanding over time rather than exploring everything in **Imagine IM California** at once.

Milestones will help guide you through your pilot experience. Each represents a phase of learning designed to deepen your understanding and support successful implementation. Most milestones correspond to about a week of instruction. The time spent at each Milestone is meant to be flexible and can be shortened or extended depending on the length of your pilot.

Each Milestone aligns to the pilot dashboard in **Imagine Learning Classroom (ILC)**. Together, these resources guide the pilot while you teach, helping you experience and implement **Imagine IM California** with confidence.

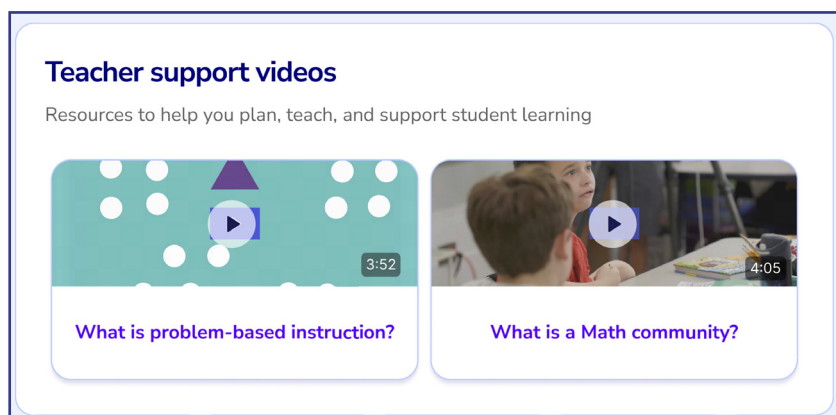
Imagine IM California is different

Imagine IM California is built to help students make sense of mathematics—through problem-solving, discussion, reasoning, and connecting ideas. As you pilot, you'll see students explaining their thinking, comparing strategies, and building understanding over time. If it feels different from what you're used to, that's because it is. This is the shift we're making: from answer-getting to sense-making.

Here's our why: when students slow down to understand why math works—not just how to follow steps—they become more confident, make fewer mistakes, and apply their learning to problems they've never seen before. Going slow to go fast is the whole point. And students don't need to master a concept before moving on; understanding deepens as they revisit ideas and use them in new ways. Every lesson builds stronger mathematicians.

Learn More

New to problem-based learning? Watch the “**What is problem-based instruction?**” and “**What is a math community?**” videos in your pilot dashboard before your first lesson.



Tip

Milestones are a map, not a checklist. You don't need to finish one—or master one—before moving on. If your students need another day on a routine, take it. If a discussion is working, let it run. And if something still feels shaky, move forward anyway: every milestone revisits and builds upon the ones before it, so there's always another opportunity to strengthen what's still developing.

Tip

Centers Pilots Materials are available for targeted Units in Grades K–5 Contact your district pilot lead or your Imagine Learning Account Executive for assistance.

Milestone 1 Launch:

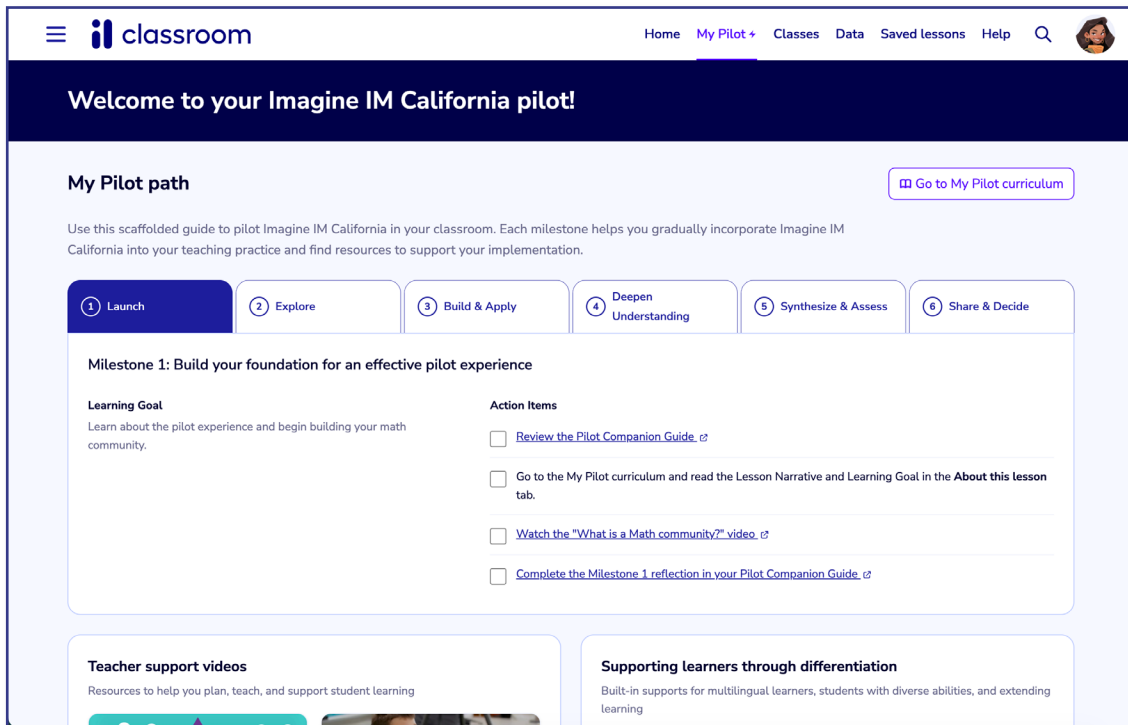
Build your foundation for an effective pilot experience (5–7 days)

Goal: Learn about the pilot experience and begin building your math community.

During this Milestone, you will log in to **Imagine Learning Classroom (ILC)**, preview a lesson, begin building your classroom’s math community, and complete a brief reflection.

Log in to the digital platform: Imagine Learning Classroom (ILC)

ILC is **Imagine IM California’s** digital experience. It houses the digital and print resources you need to run a successful pilot. Once logged in, use the **My Pilot dashboard** as your home base for the duration of the pilot.



Read the Lesson Narrative and Learning Goal

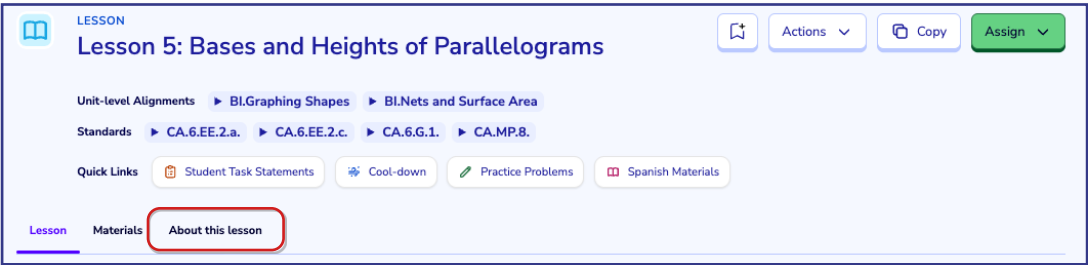
Every lesson in **Imagine IM California** is built around a learning goal—a specific mathematical idea that students are working toward that day. Before you teach, read the **Lesson Narrative** and **Learning Goal** so you know what to listen for during work time, what to highlight during the **Lesson Synthesis**, and what to look for in the **Cool-down**.

Tip

Each unit is organized into three phases: **Plan**, **Teach**, and **Support**. Familiarize yourself with the resources available in each phase.

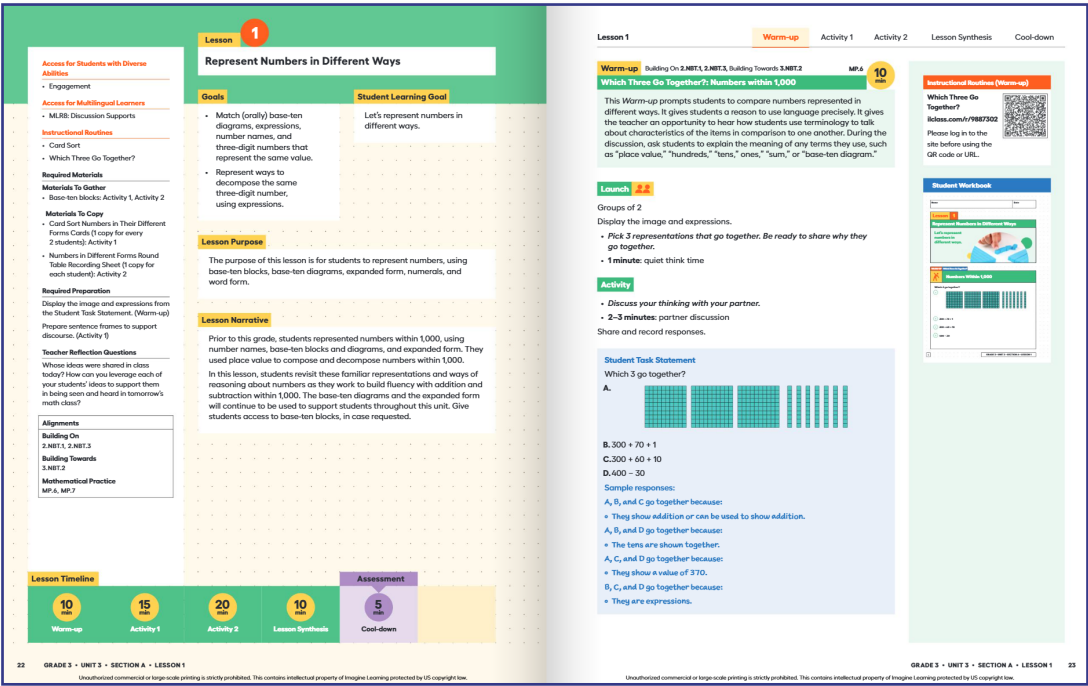
In Digital: ILC

To find your lesson, go to **Unit Page** → **Teach** → **Section** → **Lesson** → **About this Lesson**



In Print

To find your lesson, open the **Teacher Guide** for the unit you are teaching. There you will find the lesson materials and planning information you need.



Coach's Corner

Starting with one **Warm-up** and one **Activity** is a successful lesson, especially as you begin your pilot.

If your first lesson feels a little messy, that is okay. Building a math community takes time and patience. Focus on routines, not results.

By mid-week, set a timer for each part of the lesson and see how the pieces fit in your math block.

- K–5 Try this: **Warm-up** (10 min) → **Activity Launch + Work Time** (20 min) → **Activity Synthesis** (5 min) → **Lesson Synthesis** (5 min) → **Cool-down** (5 min). That's 45 minutes, leaving 15 minutes for transitions, centers, or a second activity when you're ready.
- 6–12 Try this: **Warm-up** (5 min) → **Activity Launch + Work Time** (15 min) → **Activity Synthesis** (5 min) → **Lesson Synthesis** (5 min) → **Cool-down** (5 min). That's 35 minutes, leaving 10 minutes for transitions or a second activity when you're ready.

Pacing gets easier as the routines become more familiar.

Build your math community

A **math community** is a classroom where students feel safe to think out loud, make mistakes, and build on each other's ideas. As you launch your pilot, focus on building the routines and norms that make discussion, risk-taking, and sense-making possible.

- Establish norms for doing math together; co-create them with students when possible.
- Demonstrate what it looks and sounds like to share a mathematical idea.
- Celebrate attempts, not just correct answers.
- Use the **Warm-up** to build discussion habits before higher-stakes tasks.

Mathematical Community	
Doing Math	Norms
Student: • working together • ask questions • helping each other • listening Teacher: • walking around • looking + listening • ask questions • guide student's thinking	Student: • on task, respectful • waiting patiently • coaching not telling • look at them, speak up Teacher: -Active -Listening -Questioning

Our Mathematical Community	
Doing Math:	Norms:
Students • learning • listening • thinking • helping each other • talking about math • using math tools • asking questions Teachers • helping • thinking • listening	Students • Fun • look at + listen to peers when they are talking • be Kind • have a growth mindset • quiet voices Teachers • be Kind • think YET!

In Digital: ILC

New to building a math community? Watch “**What is a math community?**” video in your pilot dashboard.

Milestone 1 Reflection

☐ I tried establishing at least one math community norm.
☐ I tried teaching at least one lesson with the sequence: Warm-up → Activity → Lesson Synthesis → Cool-down.
☐ I noticed my students' comfort with the Warm-up routine by the end of the week.
☐ I noticed a moment when a student shared their thinking, even briefly.

Ready for more?

Try the **Warm-up** two days in a row and notice how student's comfort with the routine grows. This shift is the beginning of your classroom's math community.



Milestone 2 Explore:

Experience the structure of lessons (5–7 days)

Goal: Learn the lesson structure and begin teaching with confidence.

During this Milestone, you will learn the structure of an **Imagine IM California** lesson, focus on the lesson parts you can realistically complete during a pilot, and complete a short reflection.

Review the lesson structure

As you plan, teach, and reflect, follow the same routine. This routine can anchor your work during the pilot and help you focus on the most important parts of the lesson.

1. Plan 15 min	2. Teach 45–60 min (K–5) 35–45 min (6–12)	3. Reflect 10 min
- Review the learning goal - Skim the teacher notes - Gather materials	- Warm-up + Warm-up Synthesis - At least one Activity + Activity Synthesis - Lesson Synthesis	- What did you notice about student thinking? - What might you do differently tomorrow?

Ready for more?

Give students the **Cool-down**. What does it tell you about these students’ progress toward mastering the learning goal?

Every **Imagine IM California** lesson follows the same basic structure, but lesson time will vary by grade band.

A typical lesson has four phases:

1. Warm-up

2. Instructional activities

3. Lesson Synthesis

4. Cool-down

Lesson Timeline

5 min

20 min

10 min

10 min

5 min

Warm-up

Activity 1

Activity 2

Lesson Synthesis

Cool-down

> Warm-up

> Instructional Activities

> Lesson Synthesis

> Cool-Down

> Student Lesson Summary

In Digital: ILC

To learn more about the lesson structure, go to **Curriculum Guide** → **How do you use the materials?** → **A Typical Lesson**.

Focus on completing parts of the lesson

You may not teach every part of the lesson right away, and that is okay. As you build confidence, aim to protect the **Warm-up**, at least one **Activity**, the **Lesson Synthesis**, and the **Cool-down** whenever you can.

Warm-up <i>A short task that gets every student thinking. Everyone has an entry point.</i>	
Teacher look-fors	Student look-fors
• Give think time, then invite multiple strategies • Listen more than you talk; annotate student thinking • Connect strategies and ideas in the synthesis	• Everyone engages • More than one approach appears • Students talk about math

In Digital: ILC

To find where students record their thinking, look for **Student Task Statement** in the **Quick Links** under the lesson title.

Activity Launch <i>Set the context. A good launch creates space for students to think and reason.</i>	
Teacher look-fors	Student look-fors
• Use the launch prompts from the lesson • Check for understanding of the context • Group students as the lesson suggests	• Students can describe what the problem is asking • Students begin working without needing more direction • Students are provided manipulatives or math tools

Activity (Work Time) <i>This is the heart of the lesson. Circulate, listen, and notice what students are doing and saying.</i>	
Teacher look-fors	Student look-fors
• Circulate to all groups; listen for reasoning • Ask questions that move thinking forward • Note 2–3 strategies to highlight in the synthesis	• Represent thinking with manipulatives or tools • Students reason with each other • Multiple strategies visible across the room • Students persevere through productive struggle

Activity Synthesis

Bring the class together to connect student thinking to the math. Share two or three approaches.

Teacher look-fors

- Select and sequence student strategies intentionally, connecting them to the learning goal
- Ask, “How are these the same? How are they different?”

Student look-fors

- Students respond to and build on each other’s thinking
- Students notice connections and revise their own ideas

Lesson Synthesis

The lesson’s big idea lands here. Guide students to articulate what they learned in their own words.

Teacher look-fors

- Use Lesson Synthesis prompts to guide conversation and connections
- Connect today’s lesson to the section’s or unit’s bigger picture

Student look-fors

- Students summarize in their own words and connect to prior learning
- New questions emerge—curiosity is a sign of learning

Cool-down

A brief independent task to inform tomorrow’s teaching.

Teacher look-fors

- Give students time to work independently
- Review responses before the next lesson
- Look for patterns across the class

Student look-fors

- Students attempt the task independently, with tools available
- Responses reflect the learning goal—
incomplete work still counts as evidence

Ready for more?

Use **Next Day Supports** in the Teaching Notes to think about how you might address unfinished learning quickly

Tip

Feeling behind? You’re right on time. The first weeks of problem-based learning are slower—students are learning to think out loud, try strategies, and stick with problems instead of waiting for steps. Protect that time now, and you’ll see the return before the pilot ends: students starting problems without you, explaining instead of guessing, and need you less. Going slow now is how your class gets fast.

Learn More

K-5 Curriculum Guide → How to use the materials → Example Lessons → Year 1 Implementation



Coach's Corner

Productive struggle doesn't look like frustration—it looks like effort. Watch for students who erase and try again, who lean over to ask a peer, who stare at the problem and then pick their pencil back up. That's perseverance. The moment you most want to step in and help is usually the moment students are closest to figuring it out themselves. Practice your wait time and give them ten more seconds. You might be surprised.

Milestone 2 Reflection

- | | |
|--------------------------|--|
| ☐ | I tried teaching all parts of one lesson this week. |
| ☐ | I tried resisting the urge to jump in and letting the silence work after I posed a question. |
| ☐ | I noticed where students were most engaged during work time. |
| ☐ | I noticed a moment of productive struggle as a student worked through something hard. |

Ready for more?

Review two or more **Cool-downs** from this week and use what you notice to adjust tomorrow's lesson. Pay attention to what students attempted.

Coach's Corner

In **Imagine IM California**, lessons aren't isolated events—they're part of a carefully sequenced story. Concepts are intentionally revisited across units and throughout the year, each time in a new context that deepens understanding. So if a student doesn't fully land a concept today, that's okay—and it's expected. The curriculum gives students multiple chances to return to an idea, connect it to new learning, and make it stick.

You do not have to stop and reteach every time a Cool-down shows a wobble. Trust the coherence: what feels unfinished today is often revisited next week by design. Your job during the pilot is not to get every student to mastery in every lesson—it is to keep the story moving and watch understanding build over time.

Milestone 3 Build & Apply:

Notice student thinking and reasoning (5–7 days)

Goal: Observe student thinking and reasoning in action.

During this milestone, you will use the **Lesson Narrative** to notice multiple representations and strategies, observe what student discourse looks and sounds like, provide opportunities for hands-on learning, and complete a brief reflection.

Read the Lesson Narrative to surface multiple representations and strategies

Students bring different experiences, strengths, and ways of thinking to a problem. When students use different representations and strategies to solve the same problem, those differences can deepen understanding for the whole class.

LESSON

Lesson 9: Multiplication for Equal Groups

Unit-level Alignments

► BI.Number Flexibility to 100 All Four Operations ► BI.Represent Multivariable Data

Standards

► CA.3.OA.1. ► CA.3.OA.Cluster-1. ► CA.MP.4. ► CA.MP.7.

Quick Links

Student Task Statements

Cool-down

Spanish Materials

Lesson

Materials

About this lesson

Lesson

9

Multiplication for Equal Groups

Goals

Describe (orally) how a drawing or diagram represents equal groups.

Let's work with equal groups of things.

Student Learning Goal

Let's work with equal groups of things.

Lesson Purpose

The purpose of this lesson is for students to use scaled picture graphs as an introduction to multiplication as a way to express equal groups.

Lesson Narrative

Scaled picture graphs provide an equal grouping context that naturally elicits multiplication. Multiplication expressions aren't introduced in this lesson so that students spend more time with concrete representations of multiplication before being introduced to the more abstract representation. The next few lessons focus on the meaning and representations of multiplication, not the product. While students may want to go right to finding the product, it is important to focus on the meaning of multiplication as equal groups and the ways in which it can be represented in the discussions.

Throughout this section, make connecting cubes or counters available to students who need them.

Lesson Timeline

10

Warm-up

15

Activity 1

20

Activity 2

10

Lesson Synthesis

5

Cool-down

Assessment

5

Access for Students with Diverse Abilities

Representation

Access for Multilingual Learners

MLR8 Discussion Supports

Instructional Routines

Number Talk

Required Materials

Material to Gather

Connecting cubes or counters

Activity 1, Activity 2

Required Preparation

Display expression (Warm-up)

Display images (Activity 1, Activity 2, Lesson Synthesis)

Display graph (Activity 1)

Prepare sentence frames to support discourse (Activity 1)

Display situation (Activity 2)

Create word and phrase display to support discourse (Activity 2)

Teacher Reflection Question

How did students' work with scaled picture graphs and bar graphs set up the introduction of multiplication in today's lesson?

Alignments

Building On

2.NBT.5

Addressing

3.OA.Cluster-1, 3.OA.1

Building Towards

3.OA.1

Mathematical Practice

MP.4, MP.7

Lesson purpose:

The purpose of this lesson is for students to use scaled picture graphs as an introduction to multiplication as a way to express equal groups.

Scaled picture graphs provide an equal grouping context that naturally elicits multiplication. Multiplication expressions aren't introduced in this lesson so that students spend more time with concrete representations of multiplication before being introduced to the more abstract representation. The next few lessons focus on the meaning and representations of multiplication, not the product. While students may want to go right to finding the product, it is important to focus on the meaning of multiplication as equal groups and the ways in which it can be represented in the discussions.

Throughout this section, make connecting cubes or counters available to students who need them.

Teacher reflection question:

How did students' work with scaled picture graphs and bar graphs set up the introduction of multiplication in today's lesson?

Lesson overview

• Warm-up: Number Talk: More Addition (10 minutes)

• 9.1 Activity: From Scaled Graphs to Equal Groups (15 minutes)

◦ Includes Access for Students with Diverse Abilities (Representation)

• 9.2 Activity: Situations with Equal Groups (20 minutes)

◦ Includes Access for Multilingual Learners (MLR8 Discussion Supports)

• Lesson Synthesis (10 minutes)

• Cool-down: Represent Equal Groups (5 minutes)

Learning goals:

• Describe (orally) how a drawing or diagram represents equal groups.

• Represent a situation involving equal groups with drawings or diagrams.

Representations make mathematical thinking visible. In **Imagine IM California**, students learn by creating, interpreting, and connecting representations so they can build understanding, communicate their reasoning, and develop more sophisticated mathematical language over time.

Lesson 13

Warm-upActivity 1Activity 2Lesson SynthesisCool-down

Student Workbook

Unit 1

Multiplication Equations

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Sample responses:

A, B, and C go together because:

• They show equal groups.

• They represent multiplication.

• They show groups of 5.

A, B, and D go together because:

• They represent a total of 15.

A, C, and D go together because:

• They show the total.

B, C, and D go together because:

• They use numbers in expressions or equations.

Activity Synthesis

• How is C different from the other ways we've represented equal groups before?

It has an equal sign, it's an equation.

• C is a multiplication equation because it contains a multiplication symbol and the equal sign.

• There are words that help us talk about different parts of the multiplication equation. The factors are the numbers being multiplied. The product is the result of multiplying some numbers. In the equation in C, the numbers 2 and 5 are the factors. The product is 10. Keep these words in mind today as we work with other multiplication equations.

Activity 1

Addressing 3.OA.1, 3.OA.3

MP.2

20

Multiplication Equation Match

The purpose of this activity is for students to match multiplication equations to situations and representations. Students make explicit connections between the factors and the number of groups and the number of objects in each group and between the product and the total number of objects. These connections are discussed explicitly during the Activity Synthesis. When students make explicit connections between multiplication situations and equations, they are reasoning abstractly and quantitatively.

Launch

2 2 2 2 2

Groups of 2 and 4

• Think about how you might match these equations to a situation or diagram.

• 1 minute: quiet think time

Lesson 13

Warm-upActivity 1Activity 2Lesson SynthesisCool-down

Student Workbook

Unit 1

Multiplication Equation Match

1

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Activity

• Take turns finding a situation or diagram that matches each equation. Explain your reasoning to your partner.

• 5-7 minutes: partner discussion

Monitor for students who make direct connections between each factor representing the number in each group or the number of groups and the product representing the total number of objects to share during the Activity Synthesis.

• Get together with another group to discuss the matches you made.

• 3-5 minutes: small-group discussion

Student Task Statement

Find an equation from the list that can represent each situation, drawing, or diagram. Record the equation. Be prepared to explain your reasoning.

• $3 \times 5 = 15$

• $4 \times 10 = 40$

• $2 \times 10 = 20$

• $10 = 5 \times 2$

• $30 = 6 \times 5$

• $4 \times 2 = 8$

• $16 = 8 \times 2$

• $4 \times 5 = 20$

• $50 = 5 \times 10$

1

Andre has 5 pairs of socks.

$2 \times 10 = 20$

2

There are 5 hands on the table. Each hand has 5 fingers.

$30 = 6 \times 5$

3

There are 4 boxes of markers. Each box has 10 markers.

$4 \times 10 = 40$

4

There are 3 hands on the table. Each hand has 5 fingers.

$3 \times 5 = 15$

5

There are 5 pairs of socks.

$10 = 5 \times 2$

6

There are 4 boxes of markers. Each box has 10 markers.

$4 \times 5 = 20$

7

There are 5 pairs of socks.

$50 = 5 \times 10$

8

There are 4 boxes of markers. Each box has 10 markers.

$4 \times 2 = 8$

9

There are 5 pairs of socks.

$4 \times 5 = 20$

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GRADE 3 • UNIT 1 • SECTION B • LESSON 13

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GRADE 3 • UNIT 1 • SECTION B • LESSON 13

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Tip

During the **Activity Synthesis**, help students compare and connect different representations and strategies rather than identify the “best” one.

Notice what student discourse looks and sounds like

In an **Imagine IM California** classroom, students do the mathematical talking. This week, pay attention to how students explain their thinking, respond to one another, ask questions, and revise their ideas.

Listen for students...	Look for students...
- Explaining reasoning: 'I did it this way because...' - Building on peers' thinking: 'I agree, and I also think...' - Questioning: 'How did you get that?' - Revising: 'Wait, actually...'	- Using more than one strategy - Returning to the problem after they think they're done - Looking at each other's work - Persevering without asking you first

Learn More

To find teaching moves that support a math community, go to the **Curriculum Guide** → **Why is the Curriculum Designed This Way** → **Key Structures** → **Developing a Math Community** → **Teaching Moves to Support a Math Community**

Tip

If students are having a hard time vocalizing their thoughts or communicating their ideas, add **Math Language Routines (MLRs)** (1, 2, 7, or 8) or sentence frames to your lesson. See **Milestone 4** for more information on MLRs.

Coach's Corner

When students are stuck, it can be tempting to show them what to do right away, but wait a little longer. Productive struggle is often where the learning happens. Try asking: ‘What do you know so far?’ and see what they do next.

Not hearing student discourse yet? That’s normal in the early weeks—students are still learning that their thinking is the point. Try revoicing one student’s idea and asking, “Who can add on?”

Use manipulatives and math tools to support hands-on learning

When students use manipulatives, they’re building understanding physically before they can explain it in words. That hands-on experience is often what makes an abstract idea click, and it is often where multiple strategies emerge naturally from the same task.

During the **Activity Synthesis**, help students connect those representations and strategies to the lesson’s learning goal. For example, if two students solved the same problem with different tools, ask: “What do you notice about these two approaches? What is the same? What is different?” This can help students connect strategies rather than treat them as unrelated methods.

Activity About this activity

1 Linking Cubes (Unlink)

Teaching notes

Teacher instructions:

- To change the workspace to a number line, graph, or part-part whole diagram, click workspace on the bottom right.
- You can add cubes to the workspace in two ways:
 - By dragging the cubes
 - By clicking the cubes in the tray
- Within the workspace, click and drag to select cubes.
 - The plus sign will copy the cubes.
 - The trash will delete the cubes.
 - You can also remove the fill color from the cubes.
 - You can lock the cube on the workspace.
 - You can also group the cubes together by highlighting them and clicking the lock icon.
- Use the pens and eraser at the bottom to draw and write in the

In Digital: ILC

Virtual manipulatives are available in K–5 lesson slides at the point of instruction.

Tip

If students have never used manipulatives, let them explore, ask questions, and perhaps even play. This makes math even more fun!

Milestone 3 Reflection

☐	I tried providing students with opportunities for hands-on learning.
☐	I tried using a teaching move to support my math community.
☐	I noticed multiple representations and strategies in student work.
☐	I noticed a moment of productive struggle when a student worked through something hard without giving up.
☐	I noticed how student discourse looked and sounded this week compared to Milestone 1 .
☐	I noticed that the pacing of activities is more on track.

Ready for more?

Find and try one **MLR** from your lesson this week. Notice how it changes who participates, especially students who have been quieter.

Milestone 4 Deepen Understanding:

Explore differentiation to support all students (5–7 days)

Goal: Explore ways to differentiate instruction to meet the needs of your students.

During this Milestone, you will explore built-in supports in the **Teaching Notes**, use language supports to strengthen student discourse, review **Spanish Materials** if needed, and look at additional practice options for your students. You will also complete a short reflection for this milestone.

Review Teaching Notes to support all students

Imagine IM California includes built-in supports to help all students access grade-level content. In the Teaching Notes, look for **Access for Students with Diverse Abilities** and **Access for Multilingual Learners**. These sections can help you keep students engaged in the same lesson while providing the support they need. Under Access for Multilingual Learners, you may also see **MLR Discussion Supports**, which can help students make sense of the math, explain their thinking, and participate more fully in discussion.

Try one support during this Milestone and notice what changes. You may see students participate more, explain more, or stay with the task longer than they would have without that support.

The screenshot shows a lesson interface for a 'Warm-up Launch' activity. The main task is to 'Evaluate the mean of each data set mentally.' with three data sets: 1) 27, 30, 33. The interface includes a sidebar with teaching notes and two callout boxes highlighting specific supports.

3 Warm-up Launch

Evaluate the mean of each data set mentally.

1) 27 30 33

Teaching Notes:

- Display one problem at a time.
- Give students quiet think time for each problem, and ask them to give a signal when they have an answer and a strategy.
- Keep all problems displayed throughout the talk.
- Follow with a whole-class discussion.

Student response

1. 30
27 is 3 below 30, 33 is 3 above 30, and 30 is right at 30, so 30 is the average because it is right in the center of all 3 numbers.

Building on Student Thinking

- If students struggle to use symmetry as a method for finding the mean, consider asking them to find the mean for the values: 1, 2, 3, 4, 5.

Access for Students with Diverse Abilities

- **Action and Expression: Internalize Executive Function**
To support working memory, provide students with sticky notes or mini whiteboards.
Supports accessibility for: Memory, Organization

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7 Warm-up Synthesis: Math Talk: Mean

Let's share our strategies!

- | | | | | |
|-------|-----|-----|-----|-----|
| 1) 27 | 30 | 33 | | |
| 2) 61 | 71 | 81 | 91 | 101 |
| 3) 0 | 100 | 100 | 100 | 100 |
| 4) 0 | 5 | 7 | 12 | |

Access for Multilingual Learners

- MLR8 Discussion Supports**
 Display sentence frames to support students when they explain their strategy. For example, "First, I _____ because..." or "I noticed _____ so I..." Some students may benefit from the opportunity to rehearse what they will say with a partner before they share with the whole class.
Advances: Speaking, Representing

reasoning in a different way?

- Did anyone have the same strategy but would explain it differently?
- Did anyone solve the problem in a different way?
- Does anyone want to add on to _____'s strategy?
- Do you agree or disagree? Why?
- Although all correct methods for solving for the mean are valid, highlight the use of symmetry in the data.
- In previous lessons, students learned that symmetric distributions have a mean in the center of the data.
- When symmetry is present, it can be used to quickly discover the mean.

Access for Multilingual Learners

- MLR8 Discussion Supports**
 Display sentence frames to support students when they explain their strategy. For example, "First, I _____ because..." or "I noticed _____ so I..." Some students may benefit from the opportunity to rehearse what they will say with a partner before they share with the whole class.
Advances: Speaking, Representing

Lesson 11

Warm-up Activity 1 Activity 2 Lesson Synthesis Cool-down

Student Task Statement

Evaluate the mean of each data set mentally.

- 27 30 33
- 61 71 81 91 101
- 0 100 100 100 100
- 0 5 7 12

1 and 101 balance each other out by being 20 away on each side of 81. Similarly, 71 and 91 balance each other out by being 10 away on either side.

0 and 100 balance each other out by being 5 away on each side of 50. The numbers add up to 400, and $400 \div 5 = 80$.

0 and 12 balance each other out by being 6 away on each side of 6. 5 and 7 also balance each other out by being 1 away on each side of 6.

Activity Synthesis

Ask students to share their strategies for each problem. Record and display their responses for all to see. To involve more students in the conversation, consider asking:

- Who can restate _____'s reasoning in a different way?
- Did anyone have the same strategy but would explain it differently?
- Did anyone solve the problem in a different way?
- Does anyone want to add on to _____'s strategy?
- Do you agree or disagree? Why?

Although all correct methods for solving for the mean are valid, highlight the use of symmetry in the data. In previous lessons, students learned that symmetric distributions have a mean in the center of the data. When symmetry is present, it can be used to quickly discover the mean.

Math Community

After the Warm-up, display the revised Math Community Chart created from student responses in Exercise 3. Tell students that today they are going to monitor for two things:

- "Doing Math" actions from the chart that they see or hear happening.
- "Doing Math" actions that they see or hear that they think should be added to the chart.

Provide sticky notes for students to record what they see and hear during the lesson.

Lesson 11

Warm-up Activity 1 Activity 2 Lesson Synthesis Cool-down

Activity 1 Building On 5-Minute Math: Addressing 5-MD.2, Student Task Statement 5-MD.2

Card Sort: Describing Data Distributions

Activity Narrative

Students sort different representations of data during this activity. A sorting task gives students opportunities to analyze representations, statements, and structures closely and make connections.

This activity uses the Collect and Display math language routine to support students who are developing their mathematical language.

Launch 2.2

Arrange students in groups of 2, and distribute the pre-cut cards. Allow students to familiarize themselves with the representations on the cards:

- Give students 1 minute to sort the cards into categories of their choosing.
- Pause the class after students have sorted the cards.
- Select groups to share their categories and how they sorted their cards.
- Discuss as many different types of categories as time allows.

Use Collect and Display to create a shared reference that captures students' developing mathematical language. Collect the language that students use to describe categories and distributions. Display words and phrases such as "mean," "median," and "variability."

After a brief discussion, invite students to complete the remaining questions.

Student Task Statement

- Your teacher will give you a set of cards. Take turns with your partner to match a data display with a written statement.
 - For each match that you find, explain to your partner how you know it's a match.
 - For each match that your partner finds, listen carefully to their explanation. If you disagree, discuss your thinking and work to reach an agreement.

A. 1	B. L
C. N	D. M
E. J	F. K
G. H	
- After matching, determine if the mean or median is more appropriate for describing the center of the data set based on the distribution shape. Discuss your reasoning with your partner. If it is not given, calculate (if possible) or estimate the appropriate measure of center. Be prepared to explain your reasoning.

A. Row 1: mean, symmetric, 6	B. Row 2: mean, symmetric, -14
C. Row 3: mean, symmetric, -14	D. Row 4: median, skewed, 11
E. Row 5: median, skewed, 14.5	F. Row 6: mean, symmetric, -14
G. Row 7: median, skewed, 20	

Tip

When a student seems stuck, avoid changing the task too quickly. First, check the **Teaching Notes** for support in **Access for Students with Diverse Abilities** and **Access for Multilingual Learners**. Those supports are there specifically to help every student stay in grade-level math.

Use sentence stems and frames to support discourse

Sentence stems and **frames** can help students explain their thinking, respond to others, and participate more fully in discussions. These supports are especially helpful for multilingual learners, but they can support all students. They can be incorporated throughout the unit—in lesson activities, Cool-downs, and assessments—to encourage rich discourse.

In Digital: ILC

To find sentence stems and frames, go to **Unit** → **Plan or Support** → **Supporting Equity and Access**.

Coach's Corner

- Look for opportunities to ask questions such as “Can you say more about?”, “What did you...?” or “What does this ___ mean?” when students are working on the **Warm-up** and **Activity**. Write down notes to follow up with students at a later time.
- Sentence frames can help all students talk about their math thinking. Select 1–2 sentence frames to support student discourse. For example, “I notice that...” to describe something or “First, I ___ because...” to explain what you did. Add a few more as you go. Display sentence frames on your digital slides, or print and distribute them to working groups for easy reference.

Review Spanish Materials

If you are teaching in Spanish or supporting students who need Spanish-language materials, review the resources available for your lesson. Spanish **Student Task Statements**, PDFs, and **Cool-downs** can be found under **Spanish Materials**.

In Digital: ILC

You can switch your lesson to Spanish and open the materials for that lesson under **Spanish Materials**.

Explore Centers and Practice Problems

Centers and **Practice Problems** can help you extend learning, reinforce skills, or offer another access point for students. They can also support at-home reinforcement or extension. Use them when students need more practice, a different format, or an opportunity to deepen understanding.

For K–5, Centers provide repeated practice through play and discussion, and Practice Problems are also available for additional skill reinforcement. For 6–12, Practice Problems can reinforce or extend learning from a section or lesson. “**Are you ready for more?**” problem sets can support students who are ready to explore the content in a different or more challenging way.

In Digital: ILC

Find links to **Centers** in the **Teaching Notes** or under **Materials**. To find **Practice Problems**, go to **Unit → Support → Practice Problems**.

In Print

Centers materials for K–5 are in the **Teacher Resource Pack (TRP)**. Practice Problems are in student workbooks for K–12.

Tip

Looking for homework? Both centers and practice problems are great resources to reinforce or extend learning at home.

Milestone 4 Reflection

☐	I tried using at least one support from Access for Students with Diverse Abilities , Access for Multilingual Learners , or an MLR Discussion Support .
☐	I tried using at least one sentence frame.
☐	I noticed a student who was able to access the math this week who struggled before.
☐	I noticed how the built-in supports changed student participation.

Milestone 5 Synthesize & Assess:

Identify and build on student understanding (5–7 days)

Goal: Use assessments to identify, celebrate, and build on student understanding.

During this Milestone, you will learn about the types of assessments built into the curriculum, try assigning **Cool-downs** to get a snapshot of student understanding, and use **Next Day Supports** to address unfinished learning. You will also complete a short reflection for this milestone.

Learn about assessments

Assessments are woven into every lesson. Together, they give you a clear, ongoing picture of where students are and what they're ready for next. Formative opportunities include **Advancing Student Thinking (K–5)**, **Building on Student Thinking (6–12)**, and **Cool-downs**. Summative opportunities include **Mid- and End-of-Unit Assessments**. **Checkpoints** are also available at the end of each section to give you a broader view of how student understanding is developing over time.

In Digital: ILC

To learn more about each assessment type, go to the **Curriculum Guide → How do you assess progress?**

Try assigning Cool-downs

A **Cool-down** is a brief independent task at the end of each lesson. It aligns to the learning goal and takes 5–7 minutes to give you a snapshot of what each student understood from that day's lesson.

How to use Cool-downs	What you'll see
• Review responses before the next lesson • Look for patterns across the class • Use what you see to plan your next lesson	• Some students who have it • Some who are close • Some who need more time—that's what tomorrow is for

In Digital: ILC

Assignable **Cool-downs** are available at the end of each lesson. To find printable or digital **Cool-downs**, go to **Materials** or **Spanish Materials**.

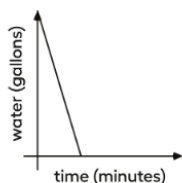
Tip

To support students who do not meet the lesson's learning goal, use a **Next Day Support (K–5)** or **Responding to Student Thinking (6–12)** in the **Teaching Notes** to help address unfinished learning.

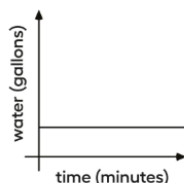
23 Cool-down

Match each graph with the situation that could describe the line.

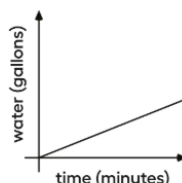
A



B



C



- 1) A tank is set up to collect rainwater. During a storm, 3 gallons of rainwater is collected each minute.
- 2) After the storm, no water is used and no additional water is collected.
- 3) Several days later, rainwater from the tank is used to irrigate a garden at a rate of 8 gallons of water per minute.

Teaching notes

Student response

- Graph A: Situation 3
- Graph B: Situation 2
- Graph C: Situation 1

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.

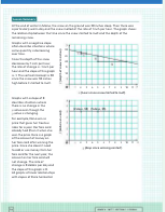
Responding to Student Thinking

- **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.

Lesson 9

Warm-up Activity 1 Activity 2 Lesson Synthesis Cool-down

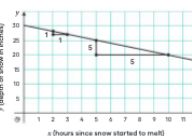
Student Workbook



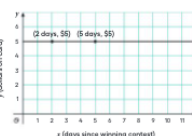
Lesson Summary

At the end of winter in Maine, the snow on the ground was 30 inches deep. Then there was a particularly warm day and the snow melted at the rate of 1 inch per hour. The graph shows the relationship between the time since the snow started to melt and the depth of the remaining snow.

Graphs with a negative slope often describe situations where some quantity is decreasing over time. Since the depth of the snow decreases by 1 inch per hour, the rate of change is -1 inch per hour and the slope of this graph is -1. The vertical intercept is 30 since the snow was 30 inches high before it started to melt.



Graphs with a slope of 0 describe situations where there is no change in the y-value even though the x-value is changing. For example, Elena wins a prize that gives her free bus rides for a year. Her fare card already had \$5 on it when she won the prize. Here is a graph of the amount of money on her fare card after winning the prize. Since she doesn't need to add or use money from her fare card for the next year, the amount on her fare card will not change. The rate of change is 0 dollars per day and the slope of this graph is 0. All graphs of linear relationships with slopes of 0 are horizontal.



Lesson 9

Warm-up Activity 1 Activity 2 Lesson Synthesis Cool-down

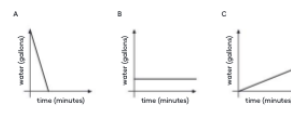
Cool-down Addressing 8.EE.Cluster-2

5 min

The Slopes of Graphs

Student Task Statement

Match each graph with the situation that could describe the line.



Situation 3 Situation 2 Situation 1

1. A tank is set up to collect rainwater. During a storm, 3 gallons of rainwater is collected each minute.
2. After the storm, no water is used and no additional water is collected.
3. Several days later, rainwater from the tank is used to irrigate a garden at a rate of 8 gallons of water per minute.

Responding to Student Thinking (Cool-down)

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.

Responding to Student Thinking (Cool-down)

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.

Use at least one Next Day Support or Responding to Student Thinking strategy

Each **Cool-down** includes **Next Day Supports** and **Responding to Student Thinking** guidance for unfinished learning. Use this guidance to continue teaching grade-level content while giving students the additional support they need in the next lesson.

What to do with a stack of Cool-downs

Cool-downs are not for grading. They help you decide what to do next. A quick review can show you what tomorrow’s lesson needs. Try on of these approaches:

- **Sort into three piles: Got it, Almost, Not yet.** Use the piles to plan tomorrow’s grouping: who is ready for more, who needs one prompt during the Warm-up, and who needs a targeted small group.
- **Sort by strategy or representation, not correctness.** Notice who drew a diagram or used an algorithm. Choose one representation to spotlight in tomorrow’s launch so more students have a way into the problem.
- **Separate concept errors from calculation slips.** If students make calculation errors, build practice into tomorrow’s **Warm-up**. If students show a misunderstanding of the math idea, revisit that idea before moving on.
- **Start with the Almost pile.** These students often need one question or one worked example the next day.
- **Look for the class trend, not individual scores.** If most students fall in the Almost pile, adjust tomorrow’s whole-class launch instead of planning many separate interventions.

Coach’s Corner

Incomplete thinking is still thinking. A student who tried two strategies and landed on the wrong answer is showing you far more than a blank page ever could. Use that thinking to guide your questions, identify misconceptions, and determine the next instructional step.

Milestone 5 Reflection

☐	I tried using at least two Cool-downs and Next Day Supports or Responding to Student Thinking to address unfinished learning.
☐	I noticed something students can do now that they couldn’t at the beginning of the pilot.

Ready for more?

Look at three or more student **Cool-downs** side by side and look for a pattern across the class. What does the class understand? What do they need more time with?



Milestone 6 Share & Decide:

Reflect on your pilot experience (1–2 days)

Goal: Synthesize your learning, celebrate wins, and evaluate your experience.

During this Milestone, you will share your observations with a colleague, complete the **Pilot Review Checklist**, and complete the **My Pilot feedback survey** in ILC.

Share your observations with a colleague

You built a math community. You learned a lesson structure. You watched students think, discuss, and grow. That experience is real evidence—share it.

As you reflect on your pilot, consider:

- Where did you find support built into the curriculum at the moment you needed it?
- When did a student surprise you with their thinking?
- What did student discourse look like at the end of the pilot compared to the beginning?
- What resources did you find yourself reaching for again and again?

Coach’s Corner

Your observations are data. When your team meets to decide, the teacher who taught the lessons is one of the most credible voices in the room.

Complete the Pilot Review Checklist

Place a check next each statement which reflects your pilot experience. Then use these experiences to guide your answers on the **Pilot Review Checklist**.

☐	Lessons fit clearly within the unit and aligned to standards.
☐	Lessons created opportunities for students to explain their thinking, reason, and make sense of mathematics.
☐	Assessments aligned with the learning goals.
☐	Supports for multilingual learners and students with diverse abilities were visible and practical.
☐	Teaching Notes helped guide my decisions during the lesson.
☐	I saw students discussing and reasoning about mathematics.
☐	I saw evidence that students were learning and growing.

What stood out most?

Capture your biggest takeaways below. These notes will be useful when you share your experience with your team or complete the survey.

What did your students do that you would like to see more often?
What surprised you during this pilot?
What would you tell a colleague who is considering this for their classroom?

Complete the My Pilot feedback survey on the digital platform (ILC)

On your pilot dashboard, scroll to the bottom to open and complete the **My Pilot feedback survey**.

Thank you for piloting Imagine IM California.

Your experience matters—for your students, your school, and the educators who will come after you.





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