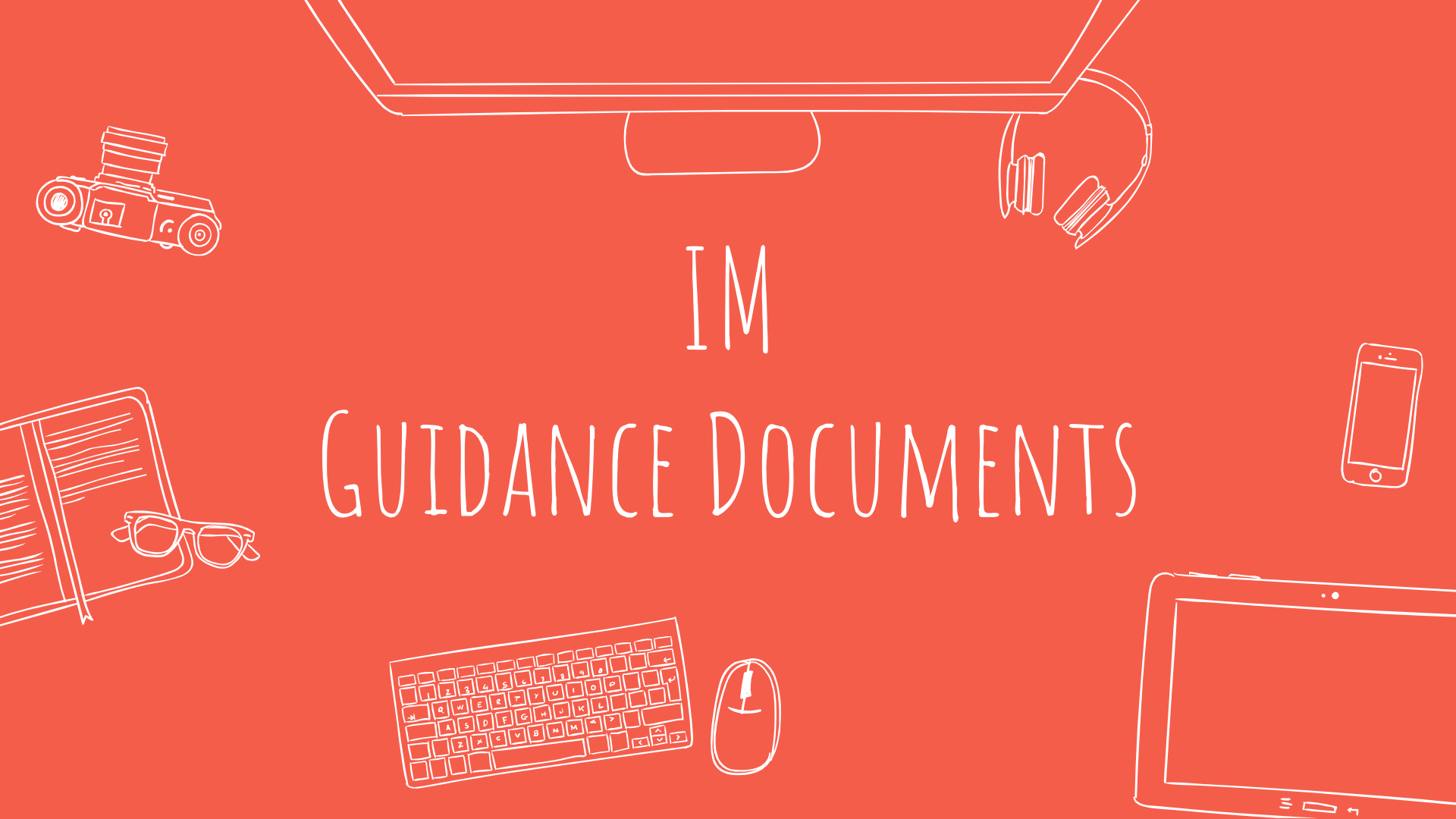
IM
Guidance Documents



Illustrative Mathematics

https://www.illustrativemathematics.org/distance-learning/

All of the information in this presentation come directly from the IM website and guidance documents.

3 Kinds of Guidance

Unfinished Learning

To address unfinished learning for your students next fall, IM has created *just in time* adaptation packs and supports to engage all students with grade level content. These resources seamlessly integrate with the curriculum's scope and sequence.

Distance Learning

As you look at the possibility of distance learning models next fall, IM is providing guidance and resources to keep your students engaged and give every student access to grade-level mathematics. The guidance will support your students' social-emotional learning needs and provides opportunities to synthesize their learning before moving on.

Family Supports

To support families with their child's learning and engagement in math, IM family support resources ensure family support resources to ensure children talk about math and families have a better understanding for what their child is learning.

Unfinished Learning

Curriculum Adaptations

Curriculum Adaptation Packs help you identify prior concepts and skills that students need to access the content in each unit, and provide *just in time* support to keep students progressing in their learning.

IM 6–8 Math Adaptation Packs
IM 9–12 Math Adaptation Packs

Cool-down Supports

Cool-down supports ensure you have the tools to address newly discovered unfinished learning, and identify opportunities to revisit content in future lessons, without stopping to re-teach a concept.

IM 6–8 Math Supports for Cool-downs
IM 9–12 Math Supports for Cool-downs

Professional Learning

On-demand math story videos share the big mathematical ideas of each unit to help you make choices to maintain a coherent "math story" as you adjust for the demands of distance learning and address unfinished learning.

IM 6–8 Math on-demand videos

Unfinished Learning

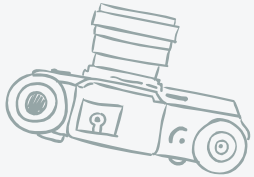
1. Incorporate prior grade-level knowledge and skills, when necessary, to support access to current grade-level content.
2. Use assessments meaningfully yet sparingly to make strategic instructional decisions.

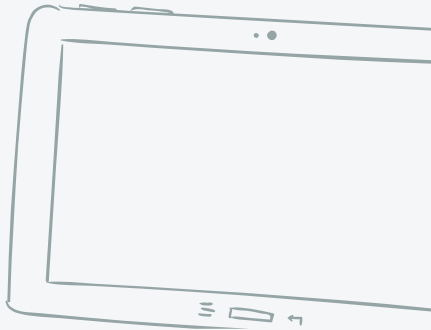
Incorporate prior grade-level knowledge and skills when necessary to support access to current grade level content:

- Coherence of Standards
  - Add lessons in “just in time” manner
  - Suggested added lessons are not meant to provide mastery of prior content
- Identify lesson that can be adjusted, combined or skipped
  - Attempt to keep the total number of days for the year approximately the same.
- Some suggested additions are blended within the unit to provide access to the lessons immediately following

Use assessments meaningfully, yet sparingly, to make strategic instructional decisions

- Check Your Readiness
  - Provide teachers information about where students are along a progression of understanding
    - Begin unit
    - Sprinkle in throughout the unit
- Teachers should be able to determine if the suggested additional lessons are necessary





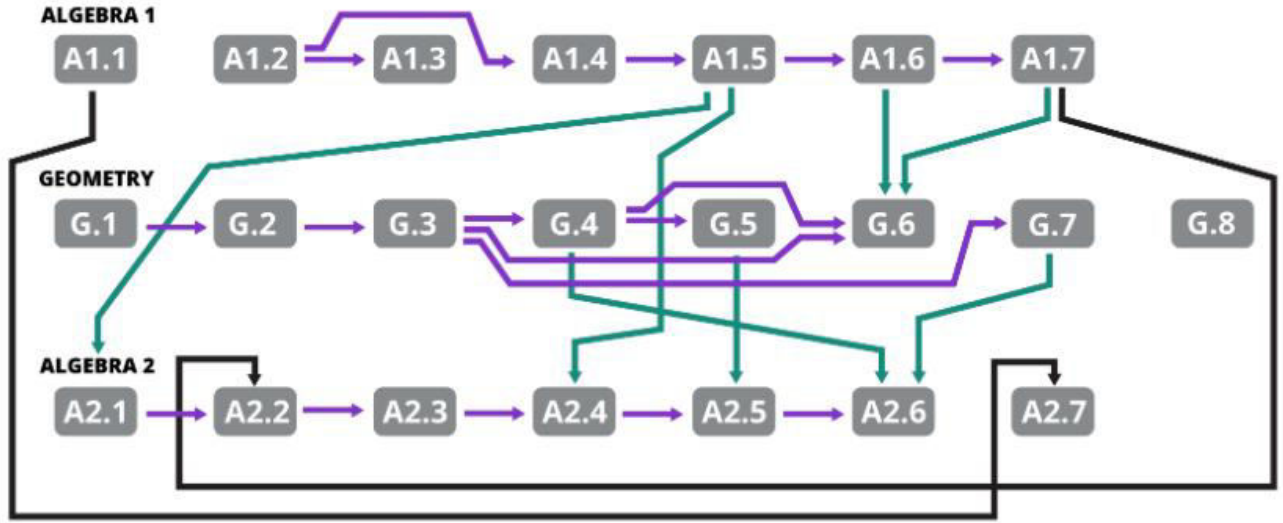
The Invitation (Unit 1)

Unit 1 in many grade levels does not focus on major work of the grade. These units were designed to offer students and teachers an opportunity to build mathematical communities and establish routine.

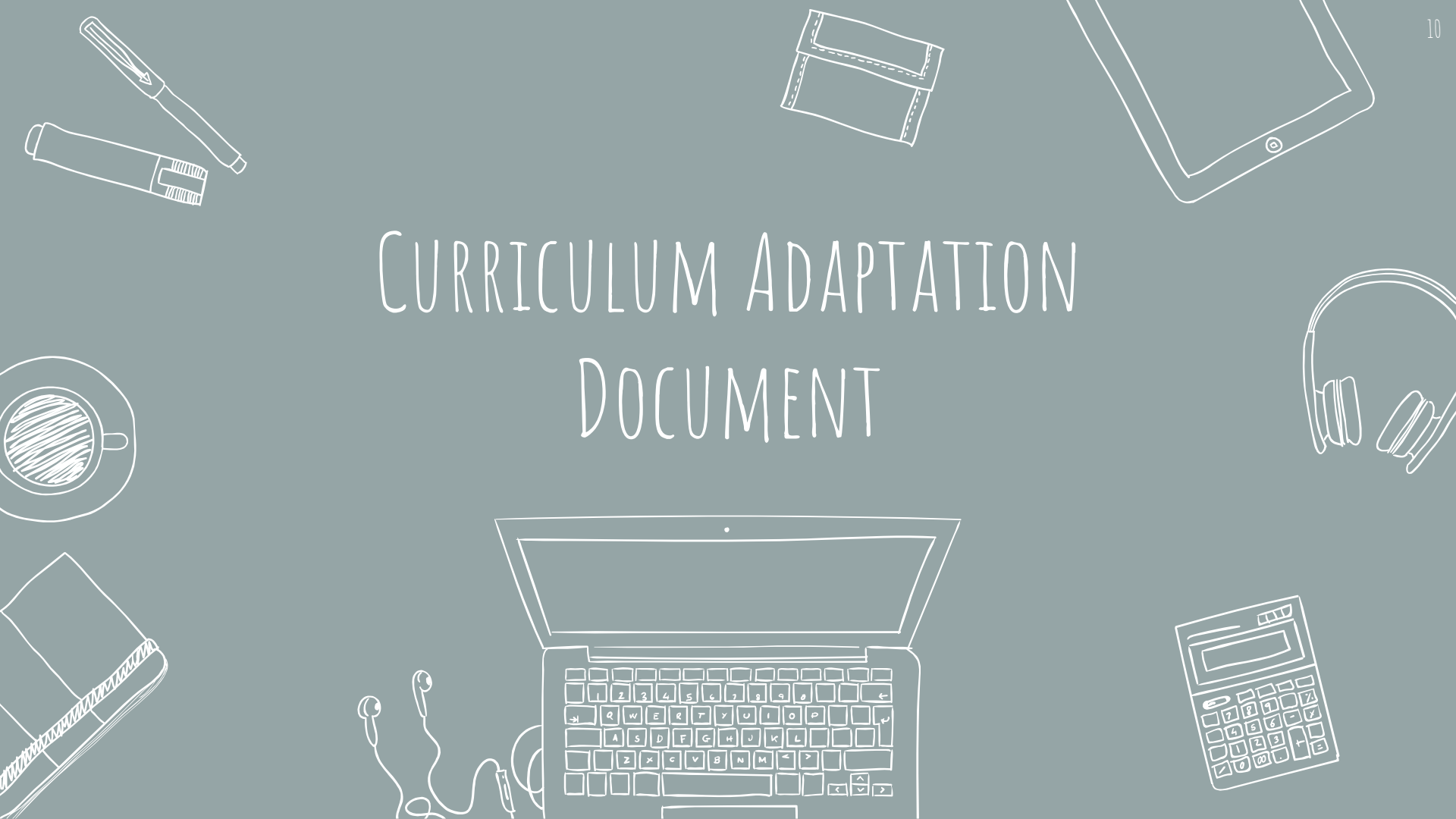
IM 9–12 MATH

Illustrative Mathematics

Unit Dependency Chart



Curriculum Adaptation Document



Calling attention to relevant units that may hold prerequisite material

Important prior concepts that students should be familiar with in order to engage with current unit

Brief narrative that explains how to blend in earlier concepts

Adjustments to support unfinished learning and keep unit length the same

Plan for Grade 7 Unit 2: Introducing Proportional Relationships

Relevant Unit(s) to review: Grade 6 Unit 3 Unit Rates and Percentages
Grade 6 Unit 6 Expressions and Equations

Essential prior concepts to engage with this unit	• equivalent ratios • derived units: miles per hour; meters per second; dollars per pound; or cents per minute
Brief narrative of approach	Begin by looking at equivalent ratios and their relationship with unit rates (6.3.5–6.3.8), then introduce the concept of proportional relationships by looking at tables of equivalent ratios (7.2.1–7.2.5). Next, use representations to compare rates and consider how each of the representations would change if the independent and dependent variables were switched (6.6.15–6.6.17). This leads to understanding that a proportional relationship can be represented by an equation of the form $y = kx$ where k is the constant of proportionality (7.2.8).

Lessons to Add	Lessons to Remove or Modify
1. 6.3.5 - Prioritize activities 2 and 3 2. 6.3.6 3. 6.3.7 - Prioritize activities 2 and 3 4. 6.6.15 5. Combine 6.6.16 and 6.6.17	1. Remove 7.2.6 - additional practice that could be done outside of class 2. Combine 7.2.7 and 7.2.8 - both lessons focus on comparing relationships (7.2.7 - activities 2 and 3, 7.2.8 - activities 2 and 3) 3. Remove 7.2.15 - optional activity
Lessons added: 5	Lessons removed: 3

A modified unit plan is provided to show how the recommended additions could be blended into the unit to provide review as it is needed.

Modified Plan for Grade 7 Unit 2

Day	IM lesson	Notes
	Diagnostic assessment	7.2 Check Your Readiness Assessment Note that the Check Your Readiness Assessment includes item-by-item guidance to inform just-in-time adjustments to instruction within the lessons in 7.2.
1	6.3.5	If the initial assessment shows that students are not familiar with equivalent ratios, include this activity before continuing with grade-level content.
2	6.3.6	If the initial assessment shows that students are not familiar with unit rates associated with a ratio, include this activity before continuing with grade-level content.
3	6.3.7	If the initial assessment shows that students are not familiar with using tables to examine equivalent ratios, include this activity before continuing with grade-level content.
4	7.2.1	Focus on key ideas in proportional relationships
5	7.2.2	
6	7.2.3	
7	7.2.4	
8	7.2.5	
9	6.6.15	If the initial assessment shows that students are not familiar with evaluating expressions involving exponents, include this activity before continuing with grade-level content.
10	6.6.16 6.6.17	If the initial assessment shows that students are not familiar with independent and dependent variables, include these activities before continuing with grade level content. Consider combining the lessons focusing on activities 2 and 3 in each lesson. Focus on dependent and independent variables.
11	7.2.7 7.2.8	Combine these lessons focusing on activities 2 and 3 in each lesson. Focus on comparing proportional and nonproportional relationships in tables and equations.
12	7.2.9	

Priority List for Lessons

- Priority can provide some advice how to further adjust including or removing lessons to meet the needs of the classroom
  - High Priority (+): Every effort should be made to include these lessons
  - Medium Priority (0): More neutral lesson. Careful consideration should be given before removing it from the unit plan under more dire circumstances
  - Low Priority (-): Should consider first when it is necessary to remove lessons from the material

Category List for Lessons

- Categories for each lesson can be used for even more detail when considering modifications
  - E: Explore, Play, and Discuss
  - D: Deep Dive
  - A: Synthesize and Adapt

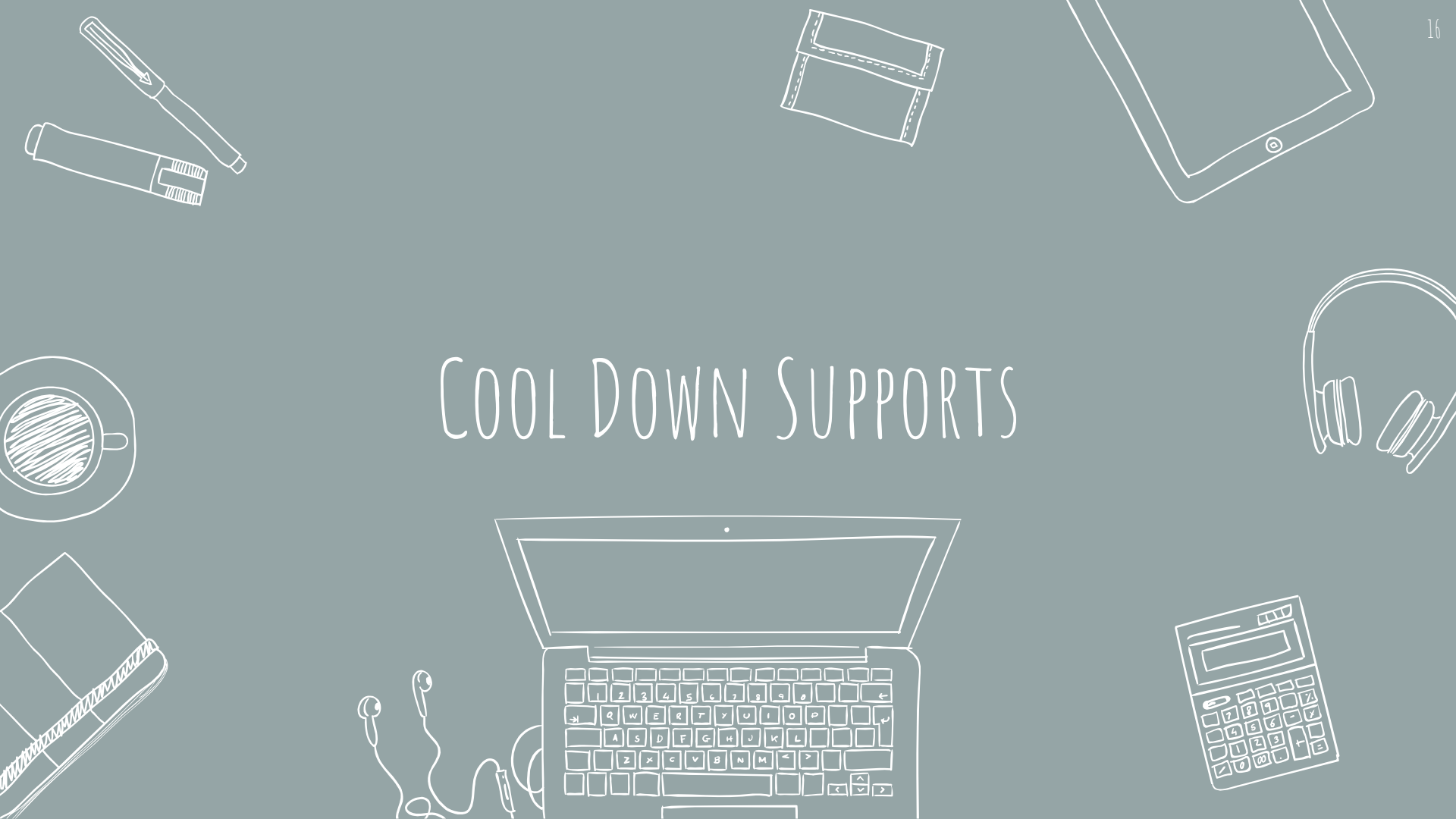
Priority and Category List for Lessons

High priority (+), Medium priority (0), Low priority (-)

E: Explore, Play, and Discuss, D: Deep Dive, A: Synthesize and Apply

Lesson	Priority (+, 0, -)	Category (E, D, A)	Notes
7.2.1	+	E	The activities in the lesson are intended to support initial, informal conversations about the key ideas in **proportional relationships** before the next lesson introduces the terms for those ideas.
7.2.2	+	D	The purpose of this lesson is to introduce the concept of a **proportional relationship** by looking at tables of **equivalent ratios**.
7.2.3	+	A	In this lesson, students continue to work with **proportional relationships** represented by tables using contexts familiar from previous grades: unit conversion and constant speed.
7.2.4	0	A	In this lesson, students build on their work with tables and represent **proportional relationships** using equations of the form $y = kx$.
7.2.5	+	E	In this lesson, students write equations for **proportional relationships** two ways, and they see why the two constants of proportionality associated with each way are **reciprocals** of each other.
7.2.6	-	A	In the previous two lessons students learned to represent **proportional relationships** with equations of the form $y = kx$. In this lesson they continue to write equations, and they begin to see situations where using the equation is a more efficient way of solving problems than other methods they have been using, such as tables and **equivalent ratios**.

Cool Down Supports

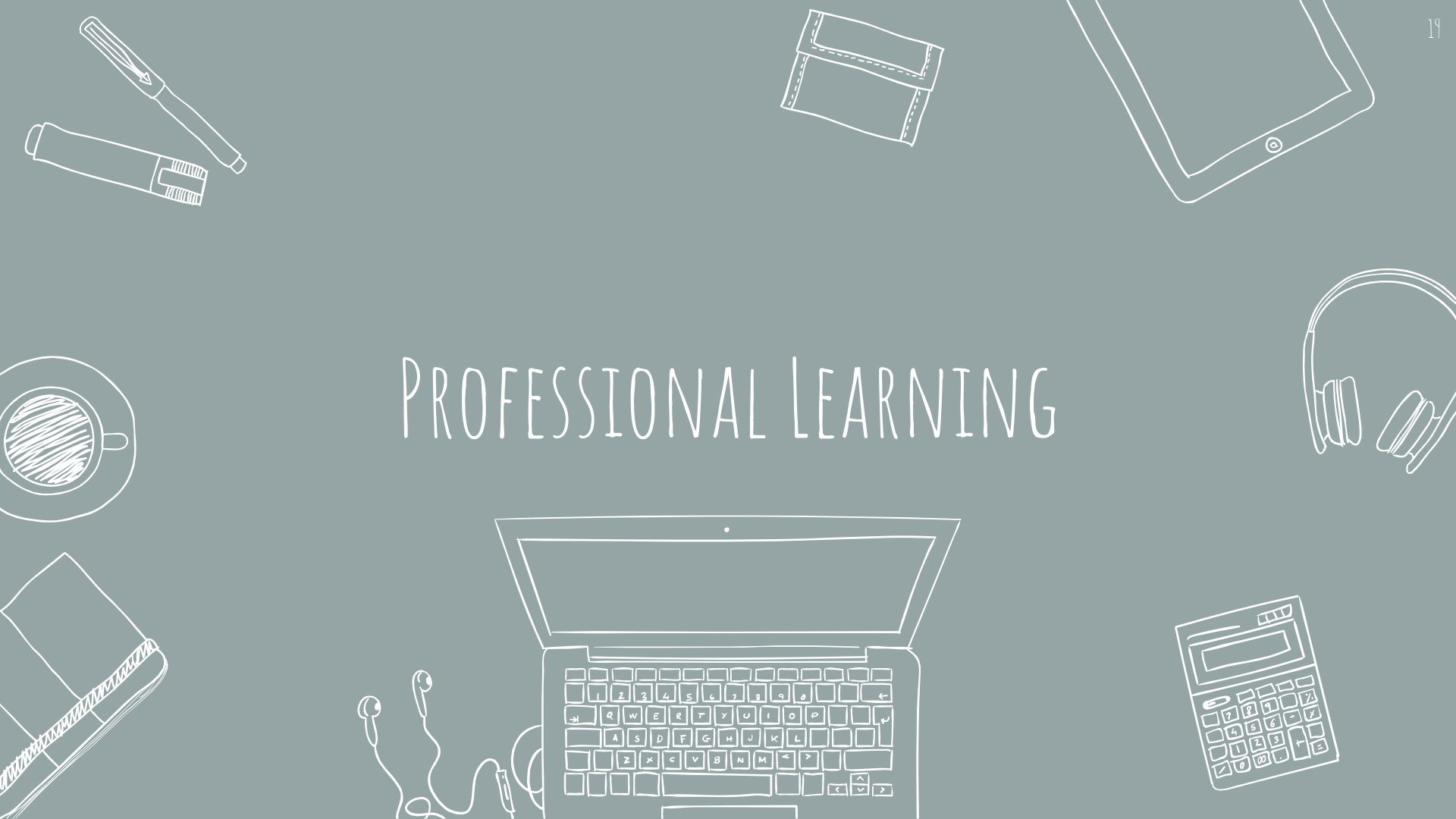


Support Level Guidance

- Each Cool-down has a support level guidance to help you know how to proceed following the lesson
  - 1. More Chances:
    - Students will have more opportunities to understand the mathematical ideas in this cool-down, so there is no need to slow down or add additional work to the next lessons.
  - 2. Points of Emphasis:
    - If students struggle with….plan to….
  - 3. Press Pause:
    - If students struggle with….make time to revisit….

Lesson	Support Level	Notes
		Grade 7 Unit 1
7.1.1	1. More Chances	Students will have more opportunities to understand the mathematical ideas in this cool-down, so there is no need to slow down or add additional work to the next lessons. Instead, use the results of this cool-down to provide guidance for what to look for and emphasize over the next several lessons to support students in advancing their current understanding.
7.1.2	2. Points to emphasize	If students struggle with corresponding angles or sides in the cool-down, plan to revisit the vocabulary when opportunities arise over the next several lessons.
7.1.3	2. Points to emphasize	If students struggle with finding all the possible measurements of a similar triangle in the cool-down, plan to focus on scaled lengths when opportunities arise over the next several lessons. For example, in Activity 2 of Lesson 4, highlight how all distances in a scaled copy (not just the side lengths of the figure) are related by the same scale factor.
7.1.4	2. Points to emphasize	If students struggle with scale copies in the cool-down, plan to focus on this when opportunities arise over the next several lessons. For example, in Activity 2 of Lesson 5, highlight how students determined if a pair was a scaled copy.
7.1.5	1. More Chances	Students will have more opportunities to understand the mathematical ideas in this cool-down, so there is no need to slow down or add additional work to the next lessons. Instead, use the results of this cool-down to provide guidance for what to look for and emphasize over the next several lessons to support students in advancing their current understanding.
7.1.6	2. Points to emphasize	If students struggle with finding area when increasing all sides by a factor of 4 in the cool-down, plan to revisit this when opportunities arise over the next several lessons. For example, in Activity 2 of Lesson 7, ask students to compare the area of the scale drawing to the area of the actual court.
7.1.7	2. Points to emphasize	If students struggle with scale drawing and actual drawing in the cool-down, plan to focus on scale when opportunities arise over the next several lessons. For example, in Activity 2 of Lesson 8, make connections to the scale students created and the scale given on the map.
7.1.8	3. Press pause	If students struggle with this cool-down, and possibly previous related cool-downs, working with scale factors and mapping, make time to revisit the work of Lessons 7.7.1 and 7.8.2. See the Course Guide for ideas to help students re-engage with earlier work.
7.1.9	2. Points to emphasize	If students struggle with creating a scale drawing in the cool-down, plan to focus on discussion when opportunities arise over the next several lessons. For example, in Activity 1 of Lesson 10, make sure to invite multiple students to share their thinking about how they estimated the length of the feet in the scale drawing.

Professional Learning



On Demand Videos

Math story videos share the big mathematical ideas of each unit to help you make choices to maintain a coherent “math story”.

Distance Learning

Guidance for Planning IM Instructional Materials in Distance Learning Environments in 2020-2021

Distance Learning

Section Planning Guides

The section planning guides identify essential lessons and activities that address major work of the grade or prerequisites, and provide guidance on distance learning activities to support each lesson or activity.

PBS Video Lessons

Plus, Schoolkit will be providing 24 video lessons for IM 6–8 Math and Algebra 1 to be aired on local PBS stations later this summer. These videos will help students be prepared for next fall.

Video Lessons Summaries

The video lesson summaries highlight key points and vocabulary that students learn across several lessons. This supports students for checking their understanding and reviewing important concepts, vocabulary, and skills.

IM 6–8 Math Section Planning Guides
IM 9–12 Math Section Planning Guides

IM 6–8 Math Video Lesson Summaries
IM Algebra 1 Video Lesson Summaries

IM Grade 6 PBS Video Lessons
IM Grade 7 PBS Video Lessons
IM Grade 8 PBS Video Lessons
IM Algebra 1 PBS Video Lessons

Principles for Building Distance Learning Experiences around IM materials

- Prioritize time and find ways for doing grade-level mathematics
  - Leveraging digital tools and recruiting families and caretakers to listen to student thinking
- Use synchronous time strategically
  - Preserve any available in-person and synchronous time for building relationships and community, and for cognitively demanding tasks that are better with conversation
  - If students are only asynchronous, look for ways students can share their thinking

Principles for Building Distance Learning Experiences around IM materials

- Design for access and equity
  - Maintain a high standard for the quality of work completed, while being flexible about when and how it is completed
- Attend to clarity in directions and anticipate potential confusion and barriers
  - Organize materials and assignment schedules in a centralized and streamlined way
  - Minimize the number of digital platforms required

Principles for Building Distance Learning Experiences around IM materials

- Adjust pacing expectations
  - Slow down and focus on major work at grade level
  - Prioritize doing mathematics over covering content
  - Provide more time for exploration and ask deeper questions about fewer topics
- Consider age-appropriateness

Let go of the one-lesson-per-day paradigm and think in terms of how students can meet the learning goals with more time flexibility!

Complete Sections in Stages

Stages

Explore, Play and Discuss

- Can be completed asynchronously
- Use a digital response system or student workbook pages
- Guiding questions for caregivers

Deep Dive

- Best if done synchronously
- Opportunities to view other students work
- Feedback from teachers and peers, is essential for these activities
- Formative assessment to check for students understanding

Synthesize and Apply

- Can be completed asynchronously
- Written, in-person, or automated feedback
- Synthesize the learning
- Teachers assess student understanding

Stages

Ongoing Practice

- Practice Problems

Anytime Resources

- Opportunities to engage in mathematical modeling
  - Unit culminating lessons
  - Unit 9

Linear Equations in One Variable

Explore, Play, and Discuss

- I can add or remove blocks from a hanger and keep the hanger balanced.
- I can represent balanced hangers with equations.

Activity Suggestions:

- ➢ Lesson 2: Students respond to questions in an online or paper journal, or talk them over with someone at home.
- ➢ Activity 3.2 Virtual Card Sort
- ➢ Additional Resource: SolveMe Puzzles

Assessment Suggestions:

- ➢ Check Your Readiness Assessment: Administer all 5 items within the first day or two of this section. Use the guidance provided with each problem to adjust instruction so that students can access the math in the unit.

Deep Dive	
	• I can add, subtract, multiply, or divide each side of an equation by the same expression to get a new equation with the same solution. • I can make sense of multiple ways to solve an equation.
	Activity Suggestions: ➢ Activity 3.3: Synch discussion ➢ Lesson 4: Synch discussion
	Assessment Suggestions: ➢ Lesson 3 Cool-down or Activity 5.1 ➢ Lesson 4 Cool-down

Synthesize and Apply

- I can solve an equation where the variable appears on both sides.
- I can solve linear equations in one variable.

Activity Suggestions:

- ➢ Activity 5.2: Make contents of cards available in online or paper journals for students to respond.
- ➢ Lesson 6: Students respond to questions in an online or paper journal, or talk them over with someone at home.
- ➢ Teach and encourage students to study the lesson summaries (at the end of every lesson) and refer back to them.

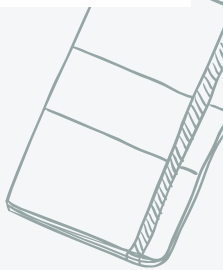
Assessment Suggestions:

- ➢ Lesson 6 Cool-down
- ➢ Revisions to previous assessment prompts
- ➢ Students use learning targets to decide what additional practice they need.

Ongoing Practice

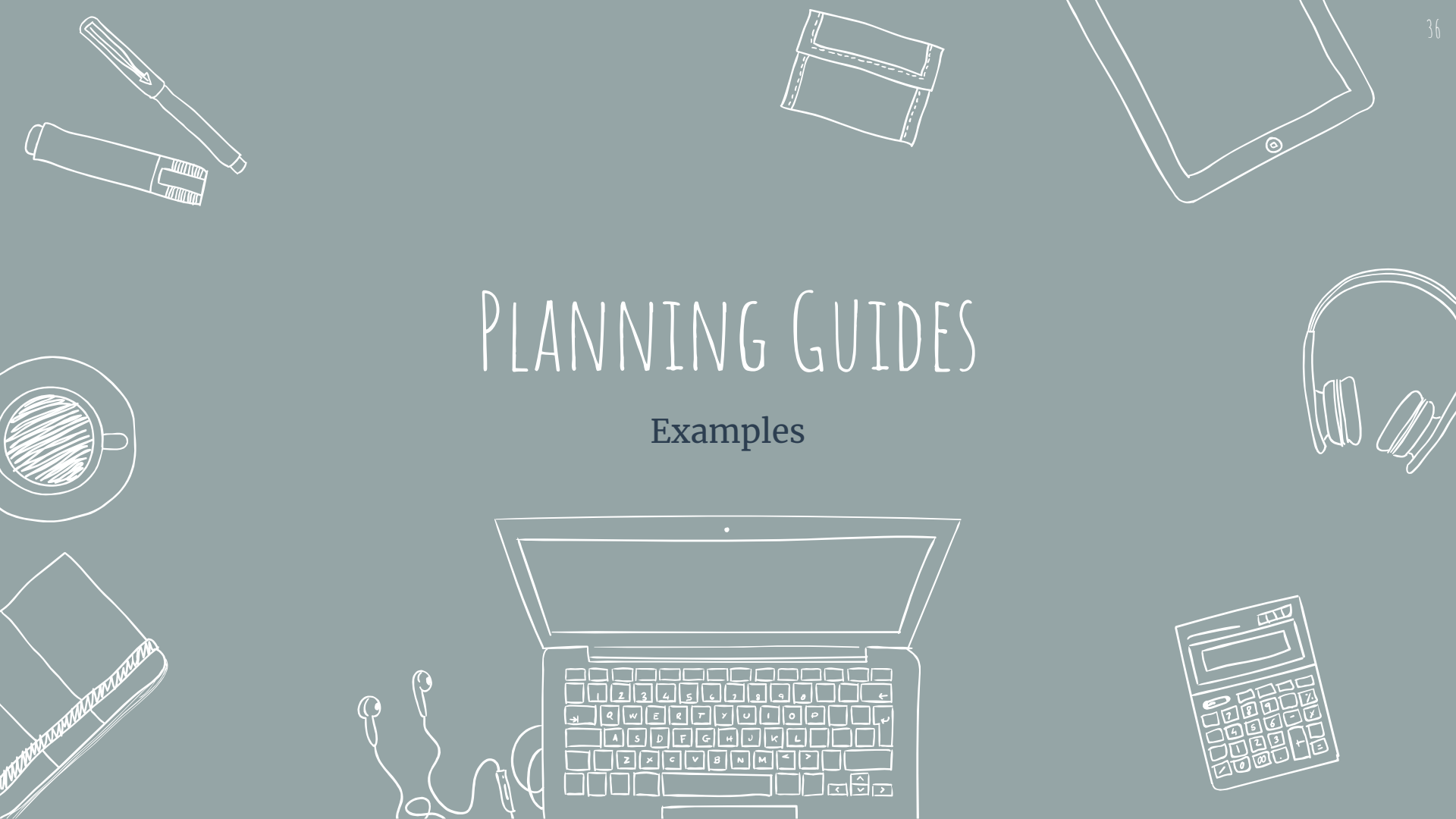
- Assign one or more of the distributed practice problem sets from lessons 1–6 to be completed over the time period that the section is being worked on.
- These could also be lagging, so that students are working on practice problems from the previous section or unit during this section or unit.
- Specify which problems students should submit, or let them choose.
- Note: Several existing platforms already have IM's practice problems loaded so that students can complete and submit them online. Some can be autoscored.

Anytime Resources	
	• Delve into one of the culminating lessons from units 1, 2, or 3. • Use the tessellations lessons from unit 9.



Planning Guides

Examples



Weekly Planning Guide for Teachers

5.1 Section A: 1 session of whole group math time together (synchronously or in-person)					
	Day 1 **Explore, Play, Discuss**	Day 2 **Explore, Play, Discuss**	Day 3 **Deep Dive**	Day 4 **Synthesize, Apply**	Day 5 **Practice and Assessment**
prepare & send	Send Explore, Play activities to students and families and highlight the ones to be completed by the end of Day 2 and the ones that are optional. Send home relevant Ongoing Practice and Anytime Resources to use during the week.	Gather Lesson 4 Estimation Exploration student responses to launch the Together time on Day 3.	Create a display of the Lesson 4 Estimation Exploration student responses to the launch meeting. Prepare a space, such as a piece of poster paper or digital whiteboard, titled "Math Community" and a T-chart with the header "Doing Math."	Send the Synthesize, Apply activities. Let students know that when they feel confident with the material, they can take the Section A Checkpoint by the end of Day 5. .	Send additional Ongoing Practice activities, as needed, based on student responses in the section activities and cool-downs.
meeting time	Meet with small groups of students. During this time, consider doing an IM Talking Math prompt together to learn more about the students' understanding and experiences. Consider asking: How are you? What is going well? Anything I can help with?	Meet with small groups of students. During this time, consider doing an IM Talking Math prompt together to learn more about the students' understanding and experiences. Consider asking: How are you? What is going well? Anything I can help with?	Share and discuss the Lesson 4 warm-up student responses. Engage students in the activities. (Use breakout groups for small group discussions and encourage students to also write on paper if needed.) Math community discussion and display Ask students to complete the Cool-down. If time, share scavenger hunt.	Hold office hours so students can discuss any questions they have before completing the checkpoint.	Hold office hours so students can discuss any questions they have before completing the checkpoint.
review & feedback	Completed warm-ups and activities	Completed warm-ups, activities, Lesson 2 cool-down	Lesson 3 and Lesson 4 (problem 1), Cool-down	Completed Section A Checkpoints	Completed Section A Checkpoints

Weekly Planning Guide for Families

5.1 Section A: Week-at-a-Glance

This week students will learn what volume is and how to find the volume of objects made of cubes.

	Day 1 **Explore, Play, Discuss**	Day 2 **Explore, Play, Discuss**	Day 3 **Deep Dive**	Day 4 **Synthesize, Apply**	Day 5 **Practice and Assessment**
activities	Due by end of Day 2: • Activity 1 [link] • Activity 2 [link] • Activity 3 [link] • Optional: Scavenger Hunt [link]	Complete work from Day 1	In preparation for the meeting, have the following handy: • Student workbook • Paper (if there is not a workbook) • Pen or pencil • Optional: Scavenger Hunt finds	Due by the end of Day 5: • Activity 1 [link] • Synthesis Activity [link] .	Complete work from Day 4
meetings	Small group meetings [student groups] [meeting times] [meeting room link]	Small group meetings [student groups] [meeting times] [meeting room link]	Whole class meeting [meeting time] [meeting room link]	Office hours: [time window] [meeting room link]	Office hours: [time window] [meeting room link]
resources for Days 1-5	Practice problems [link] Virtual Manipulatives: cubes [link] Optional Anytime Materials: • IM Talking Math [link] • Exploration Problems [link]				
contact	As always, you can reach me at [insert teacher contact information] and meet during these office hours [insert family office hour times].				

Family Supports

Family Supports

IM Talking Math

Prompts, aligned to lesson and content standards, help spur mathematical discussions at home for grades K–5 and 6–8.

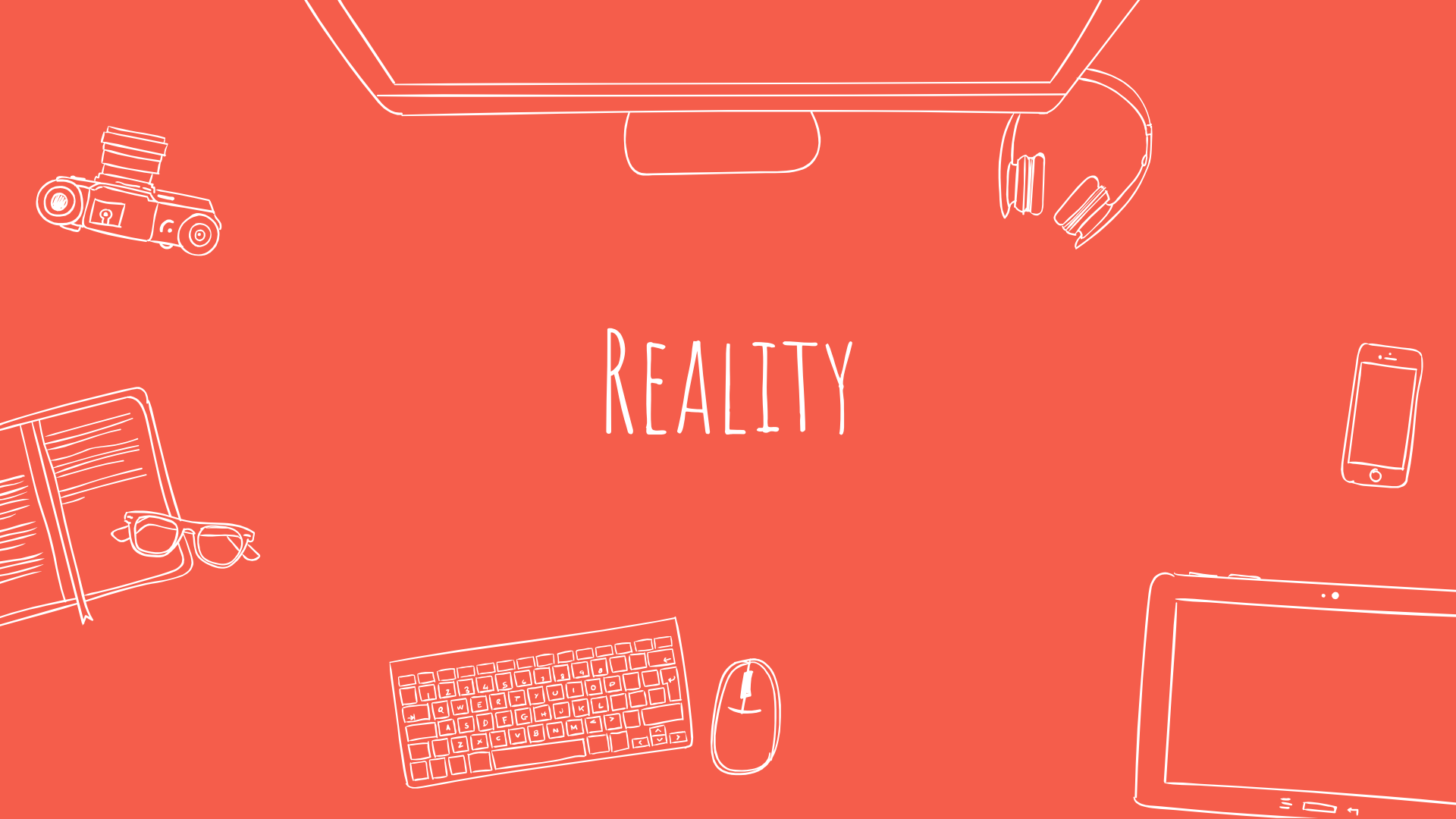
Grades K-5
Grades 6-8

Family Support Materials

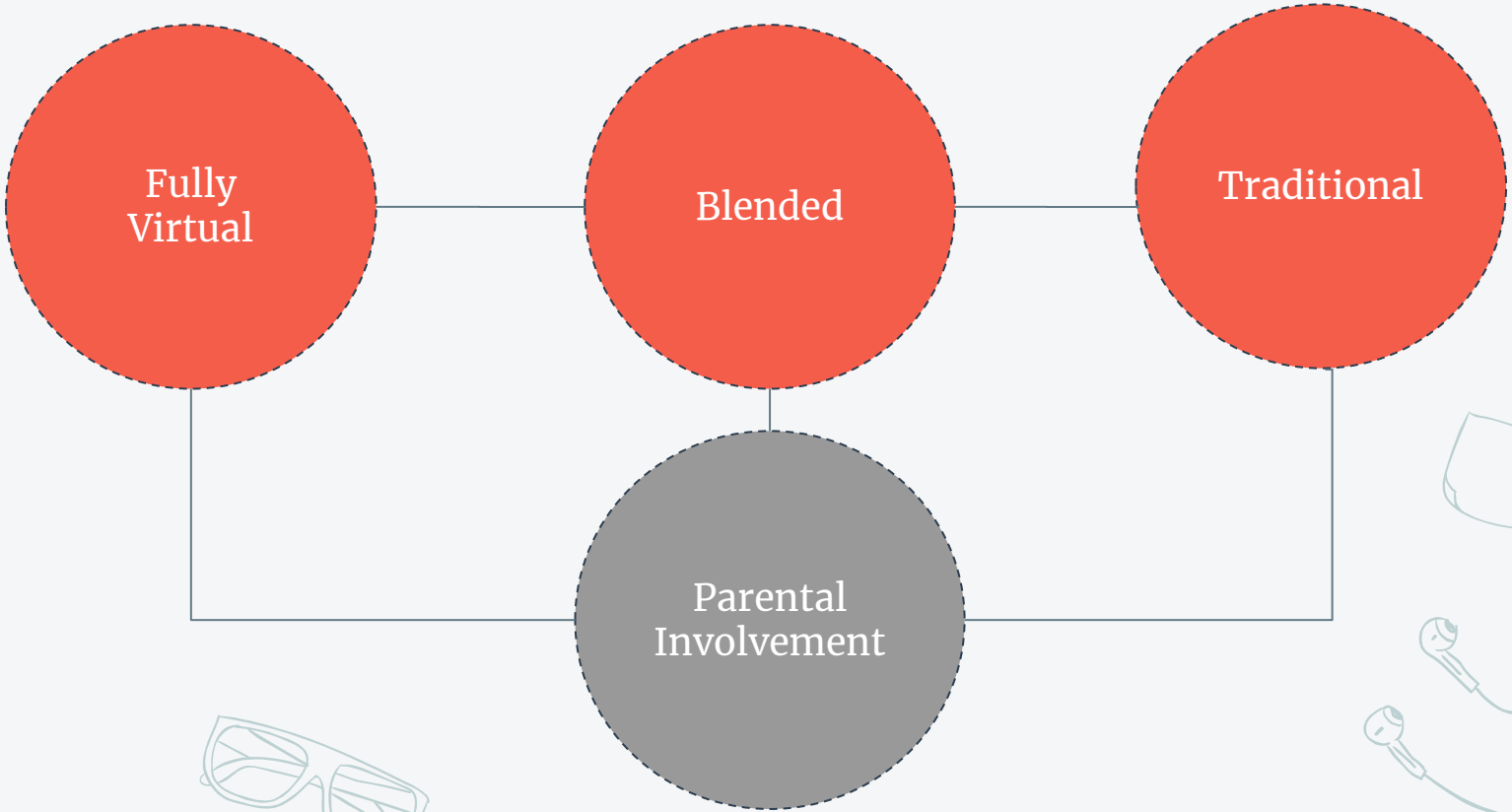
IM 6-8 Math and IM 9-12 Math certified by Illustrative Mathematics give an overview of each unit's math content and problem for families to work on together.

Grades 6-8
Grades 9-12

Reality



How do we plan, when we are trying to facilitate all styles of learning?



Thanks!

Any questions?

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