

Model Curricula Alignment Template for Mathematics

Resource Name: Imagine Learning Illustrative Mathematics Grade K

Model Unit Name	Model Unit Standards	Resource Unit(s) Number and Lessons	Standard Frequency
<i>This is the title of the unit in the model curricula</i>	<i>These are the standards addressed in the unit</i>	<i>This is the unit(s) that aligns with the model unit from the resource</i>	<i>This is the total number of lessons the standard is addressed</i>
Pacing - Illustrative Mathematics K-2 lessons are designed to fit within a class period that is at least 60 minutes long. Pacing guidance for each activity is provided in the lesson plans.			
Counting and Matching Numerals 0-10 with Comparing			
	K.CC.A.1	Grade K, Unit 1, Lesson 12 - How Many Are There? (Part 1)	23 Lessons
		Grade K, Unit 6, Lesson 1: Count Larger Collections of Objects	
	K.CC.B.4	Grade K, Unit 2, Lesson 2: Count and Arrange	19 Lessons
		Grade K, Unit 2, Lesson 7: Count Images in Different Arrangements	
	K.CC.C.6	Grade K, Unit 2, Lesson 3: Groups that Look Very Different	20 Lessons
		Grade K, Unit 2, Lesson 9: More, Fewer, or the Same	
	K.MD.B.3	Grade K, Unit 3, Lesson 4: Describe, Compare and Sort Shapes	6 Lessons

		Grade K, Unit 7, Lesson 11: Compare and Sort Solid Shapes	
Counting and Matching Numerals 11 - 20			
	K.CC.A.2	Grade K, Unit 4, Lesson 14: Expressions and Story Problems	11 Lessons
		Grade K, Unit 5, Lesson 4: Find All the Ways	
	K.CC.A.3	Grade K, Unit 2, Lesson 12: Connect Quantities and Numbers	29 Lessons
		Grade K, Unit 2, Lesson 20: Represent and Compare Numbers	
	K.CC.B.5	Grade K, Unit 2, Lesson 8: Comparing Matching Images	48 Lessons
		Grade K, Unit 2, Lesson 14: Count Out Objects	
	K.CC.C.7	Grade K, Unit 2, Lesson 19: Compare Numbers and Images	6 Lessons
		Grade K, Unit 2, Lesson 21: Compare Numbers	
	K.CC.A.1	Grade K, Unit 4, Lesson 3: Count 2 Groups of Scattered Images	23 Lessons
		Grade K, Unit 6, Lesson 1: Count Larger Collections of Objects	
	K.CC.B.4	Grade K, Unit 6, Lesson 2: Keep Track of Objects	19 Lessons
		Grade K, Unit 6, Lesson 7: Make Numbers with 10 and Some More (Part 1)	
	K.CC.C.6	Grade K, Unit 2, Lesson 10: Find More or Fewer	20 Lessons
		Grade K, Unit 2, Lesson 17: Order Tower and Numbers	

Addition & Subtraction within 10			
	K.OA.A.1	Grade K, Unit 4, Lesson 4: Add with Objects	23 Lessons
		Grade K, Unit 4, Lesson 5: Subtract with Objects	
	K.OA.A.2	Grade K, Unit 4, Lesson 7: Use Objects to Represent Stories	30 Lessons
		Grade K, Unit 4, Lesson 12: Compare Addition and Subtraction Story Problems	
	K.OA.A.3	Grade K, Unit 5, Lesson 1: Make 2 Parts	17 Lessons
		Grade K, Unit 5, Lesson 12: How Many Are Missing?	
	K.OA.A.4	Grade K, Unit 5, Lesson 10: Introduce the 10 Frame	9 Lessons
		Grade K, Unit 7, Lesson 6: Compose and Decompose 10 with Pattern Blocks	
	K.OA.A.5	Grade K, Unit 6, Lesson 3: Count Carefully	10 Lessons
		Grade K, Unit 7, Lesson 10: Identify and Describe Solid Shapes	
	K.CC.A.3	Grade K, Unit 4, Lesson 9: Solve Story Problems	28 Lessons
		Grade K, Unit 4, Lesson 15: Expression and Drawings	
	K.CC.B.4	Grade K, Unit 1, Lesson 16: Represent Our Collections	19 Lessons
		Grade K, Unit 6, Lesson 12: Count Images (Part 2)	

	K.CC.B.5	Grade K, Unit 2, Lesson 3: Groups that Look Very Different	48 Lessons
		Grade K, Unit 6, Lesson 5: How Many Fingers? How Many Dots?	
Teen Numbers (11–19) and Counting in 100			
	K.NBT.A.1	Grade K, Unit 6, Lesson 7: Make Numbers with 10 and Some More (Part 1)	10 Lessons
		Grade K, Unit 6, Lesson 8: Make Numbers with 10 and Some More (Part 2)	
	K.OA.A.1	Grade K, Unit 6, Lesson 9: Expressions and Equations	23 Lessons
		Grade K, Unit 6, Lesson 13: Fingerprint Animals	
	K.CC.A.1	Grade K, Unit 5, Lesson 9: All of the Story Problems	23 Lessons
	K.CC.A.2	Grade K, Unit 6, Lesson 11: Count Images (Part 1)	11 Lessons
		Grade K, Unit 6, Lesson 13: Fingerprint Animals	
	K.CC.B.4	Grade K, Unit 6, Lesson 1: Count Larger Collections of Objects	19 Lessons
		Grade K, Unit 6, Lesson 9: Expressions and Equations	
	K.CC.B.5	Grade K, Unit 6, Lesson 6: Fingers and 10-Frames	48 Lessons
		Grade K, Unit 6, Lesson 7: Make Numbers with 10 and Some More (Part 1)	

Identify and Describe 2-D and 3-D Shapes			
	K.G.A.1	Grade K, Unit 3, Lesson 2: Match Shapes	10 Lessons
		Grade K, Unit 3, Lesson 13: Describe and Match Shapes	
	K.G.A.2	Grade K, Unit 3, Lesson 9: Shapes are Everywhere	7 Lessons
		Grade K, Unit 7, Lesson 10: Identify and Describe Solid Shapes	
	K.G.A.3	Grade K, Unit 7, Lesson 7: Flat and Solid Shapes	1 Lesson
	K.G.B.5	Grade K, Unit 3, Lesson 7: Build with Straws	10 Lessons
		Grade K, Unit 7, Lesson 12: Build Solid Shapes	
	K.MD.B.3	Grade K, Unit 7, Lesson 11: Compare and Sort Solid Shapes	6 Lessons
		Grade K, Unit 3, Lesson 4: Describe, Compare and Sort Shapes	
Compare, Analyze and Compose 2-D and 3-D Shapes			
	K.G.B.4	Grade K, Unit 3, Lesson 6: Rectangles and Squares	12 Lessons
		Grade K, Unit 4, Lesson 5: Circles and Triangles	
	K.G.B.5	Grade K, Unit 7, Lesson 13: Describe Solid Shapes Around Us	10 Lessons
		Grade K, Unit 7, Lesson 16: Represent the Classroom with Shapes	
	K.G.B.6	Grade K, Unit 7, Lesson 3: Questions and Stories About Shapes	11 Lessons

		Grade K, Unit 7, Lesson 15: Build and Count with Solid Shapes	
	K.MD.A.2	Grade K, Unit 7, Lesson 8: Compare Weight	3 Lessons
		Grade K, Unit 7, Lesson 9: Compare Capacity	
	K.G.A.1	Grade K, Unit 3, Lesson 14: Shapes in Art	10 Lessons
		Grade K, Unit 3, Lesson 4: Describe, Compare and Sort Shapes	
	K.G.A.2	Grade K, Unit 3, Lesson 15: Animal Shape Stamp Art	7 Lessons
		Grade K, Unit 7, Lesson 10: Identify and Describe Solid Shapes	
	K.G.A.3	Grade K, Unit 7, Lesson 7: Flat and Solid Shapes	1 Lesson

Measurement and Direct Comparison			
	K.MD.A.1	Grade K, Unit 7, Lesson 8: Compare Weight	2 Lessons
		Grade K, Unit 7, Lesson 9: Compare Capacity	
	K.MD.A.2	Grade K, Unit 3, Lesson 7: Build with Straws	4 Lessons
		Grade K, Unit 3, Lesson 6: Rectangles and Squares	
Scope and Sequence			
If a district uses this resource to implement the state model curriculum for grade K, the following scope and sequence should be followed to ensure alignment and attention to the progressions of mathematics.			
Unit Number/Title	Lesson Title	Lesson Objectives	# of Days/Weeks (assume 1 hour of instruction)
Unit 1: Math In Our World			18-19 Days of Instruction -- 4 Weeks
	A: Explore Our Math Tools		
	Lesson 1	Explore and use connecting cubes.	
		Orally describe a mathematical idea.	
	Lesson 2	Explore and use pattern blocks.	
		Share mathematical ideas with a partner.	
	Lesson 3	Explore and use counters and 5-Frames.	
		Repeat mathematical ideas shared by a partner	
	Lesson 4	Explore and use geoblocks.	
Repeat mathematical ideas shared by a partner.			

	Lesson 5	Explore and use math tools. Listen to their partner’s mathematical ideas.	
	B: Recognize Quantities		
	Lesson 6	Recognize and name the number of objects in groups of up to 4 without counting.	
	Lesson 7	Describe to a partner how they saw groups of objects or images. Recognize and name the number of objects or images in groups of up to 4 without counting.	
	Lesson 8	Identify groups of objects or images with the same quantity without counting.	
	Lesson 9	Identify groups of objects or images with the same quantity without counting. Recognize and name the number of objects in groups of up to 4 without counting.	
	C: Are There Enough?		
	Lesson 10	Answer “are there enough” questions about objects.	
	Lesson 11	Make groups with enough objects for each person in the group to get one.	
	D: Counting Collections		
	Lesson 12	Count collections of objects. Say one number for each object.	
	Lesson 13	Count collections of objects Keep track of objects that have been counted	
	Lesson 14	Answer “how many” questions Count collections of objects	
	Lesson 15	Count collections of objects	

		Explain how they counted to a partner	
	Lesson 16	Count collections of objects	
		Represent a collection of objects	
	Lesson 17 - Optional	Answer “how many” questions	
		Count collections of objects	
Unit 2: Numbers 1-10			23-24 Days of Instruction -- 5 Weeks
	Count and Compare Groups of Objects		
	Lesson 1	Recognize and name groups of 1–10 fingers without counting	
		Show the number of fingers for a spoken number name	
	Lesson 2	Count groups of up to 10 objects	
		Understand that the arrangement of objects does not change the number of objects	
	Lesson 3	Compare groups of up to 10 objects	
		Identify and create groups that have more or fewer with very different quantities	
	Lesson 4	Identify groups that have more, fewer, or the same number of objects than another group	
	Lesson 5	Make groups that have more, fewer, or the same number of objects than another group	
	Lesson 6	Compare groups of up to 10 objects	
		Use “more”, “fewer”, and “the same number” to describe comparisons	

	Count and Compare Groups of Images		
	Lesson 7	Count organized groups of up to 10 images	
		Understand that the order counted does not change the number of images	
	Lesson 8	Count and compare groups of up to 10 images	
		Identify groups that have more or fewer images than a given group	
	Lesson 9	Count and compare groups of up to 10 images	
Identify groups that have more, fewer, or the same number of images as a given group			
	Lesson 10	Count and compare groups of up to 10 images	
		Use “more”, “fewer”, and “the same number” to describe comparisons	
	Lesson 11	Create groups that have more, fewer, or the same number of images as a given group	
		Use “more”, “fewer”, and “the same number” to describe comparisons	
	Connect Quantities and Numbers		
	Lesson 12	Match spoken and written numbers and groups of objects	
	Lesson 13	Count to answer “how many” questions about images presented in lines, arrays, circles, on fingers, and on 5-frames	
		Match written numbers and groups of images	
	Lesson 14	Given a written number, count out a group of objects	
	Lesson 15	Given a written number, draw a picture with that number of images in it	
	Lesson 16	Write numbers 1-10 to represent a quantity	
	Compare Numbers		
	Lesson 17	Order numbers from 1–10	
Lesson 18	Identify one more and one less than a given number		
Lesson 19	Compare groups of images and numbers 1–10		

	Lesson 20	Represent and compare numbers 1–10	
	Lesson 21	Compare numbers 1–10	
	Lesson 22 - Optional	Compare groups of images and numbers 1–10	
		Connect quantities with spoken number words and written numbers	
		Write numbers 1-10 to represent a quantity	
Unit 3: Flat Shapes All Around Us			16-17 Days of Instruction -- 4 Weeks
	Exploring Shapes in Our Environment		
	Lesson 1	Use informal language to describe shapes	
	Lesson 2	Identify shapes that are the same	
	Lesson 3	Use informal language to describe and compare shapes and their attributes	
	Lesson 4	Sort shapes into groups	
		Use informal language to describe and compare shapes and their attributes	
	Lesson 5	Identify, describe, and compare circles and triangles	
	Lesson 6	Compare the lengths of two shapes	
		Identify, describe, and compare rectangles and squares	
	Lesson 7	Build shapes from components and name the shapes	
		Compare the lengths of 2 objects, by lining up the endpoints	
	Lesson 8	Draw shapes	
		Name shapes and use informal language to describe shapes and their attributes	
	Lesson 9	Name shapes and use informal language to describe attributes of shapes in the environment	

	Making Shapes		
	Lesson 10	Put shapes together to form larger shapes	
	Lesson 11	Identify shapes that are the same, regardless of orientation or size	
	Lesson 12	Put shapes together in multiple ways to form larger shapes	
	Lesson 13	Describe the location of shapes using positional words	
		Put shapes together to form larger shapes	
	Lesson 14	Describe shapes and the location of shapes	
		Put shapes together to form larger shapes	
Lesson 15 - Optional	Put shapes together to form larger shapes		
Unit 4: Understanding Addition and Subtraction			18-20 Days of Instruction -- 4 Weeks
	Count to Add and Subtract		
	Lesson 1	Count to find the total number of objects given 2 groups of objects, up to 10	
	Lesson 2	Count to find the total number of images given two groups of organized images, up to 10	
	Lesson 3	Count to find the total number of images given two groups of organized or scattered images, up to 10	
	Lesson 4	Use objects to show the action of addition	
	Lesson 5	Use objects to show the action of subtraction	
	Represent and Solve Story Problems		
	Lesson 6	Act out a story	
		Tell a story based on a picture	
	Lesson 7	Represent addition and subtraction stories with objects	
	Lesson 8	Represent and solve Add To, Result Unknown and Take From, Result Unknown story problems in a way that makes sense to them	

	Lesson 9	Solve Add To, Result Unknown and Take From, Result Unknown story problems, including problems with a result of 0	
	Lesson 10	Compare drawings that represent story problems	
		Solve Add To, Result Unknown and Take From, Result Unknown story problems	
	Lesson 11	Create drawings that represent story problems	
		Solve Add To, Result Unknown and Take From, Result Unknown story problems	
	Lesson 12	Compare addition and subtraction story problems	
		Solve Add To, Result Unknown and Take From, Result Unknown story problems	
	Lesson 13 - Optional	Create an addition or subtraction story problem	
	Addition and Subtraction Expressions		
	Lesson 14	Interpret expressions in relation to story problems	
	Lesson 15	Interpret expressions in relation to drawings	
	Lesson 16	Find the value of addition and subtraction expressions	
	Lesson 17	Understand that adding 0 results in the same number	
		Understand that adding 1 results in the next number in the count sequence	
	Lesson 18 - Optional	Create a story problem that matches a given expression	
		Fill in an expression to match a story problem	
Unit 5: Composing and Decomposing Numbers to 10			15-17 Days of Instruction -- 4 Weeks
	Make and Break Apart Numbers to 9		
Lesson 1	Compose and decompose numbers up to 9		
	Understand that numbers can be decomposed into parts in different ways		

	Lesson 2	Compose and decompose numbers up to 9	
	Lesson 3	Compose and decompose numbers up to 9	
	Lesson 4 - Optional	Compose and decompose numbers up to 9	
		Find all the ways to decompose a number	
	More Types of Story Problems		
	Lesson 5	Solve Put Together, Total Unknown story problems	
	Lesson 6	Make sense of Put Together/Take Apart, Both Addends Unknown story problems	
	Lesson 7	Solve Put Together/Take Apart, Both Addends Unknown story problems	
	Lesson 8	Find more than one solution to a Put Together/Take Apart, Both Addends Unknown story problem	
	Lesson 9	Solve addition and subtraction story problems	
	Make and Break Apart 10		
	Lesson 10	Recognize a 10-frame as being composed of two 5-frames	
	Lesson 11	Match equations to compositions and decompositions of 10	
	Lesson 12	Find the number that makes 10 when added to a given number	
		Match equations to compositions and decompositions of 10	
Lesson 13	Fill in equations to represent compositions and decompositions of 10		
	Find the number that makes 10 when added to a given number		
Lesson 14	Find the number that makes 10 when added to a given number		
Lesson 15 - Optional	Solve addition and subtraction story problems		
Unit 6: Numbers 0-20			13-15 Days of Instruction -- 3 Weeks
	Count Groups of 11-20		
	Lesson 1	Answer “how many” questions about groups of up to 20 objects	

	Lesson 2 - Optional	Answer “how many” questions about groups of up to 20 objects
		Keep track of objects that have been counted
	Lesson 3	Answer “how many” questions about groups of up to 20 objects
		Know that counting a group of objects will yield the same number, regardless of their arrangement or how they are counted
	Lesson 4	Answer “how many” questions about groups of up to 20 objects
		Know that counting a group of objects will yield the same number, regardless of their arrangement or how they are counted
	10 Ones and Some More	
	Lesson 5	Answer “how many” questions about groups of up to 19 images
	Lesson 6	Represent numbers 11–19 with fingers and on a 10-frame
	Lesson 7	Compose and decompose numbers 11–19 using 10 ones and some more ones
	Lesson 8	Compose and decompose numbers 11–19 using 10 ones and some more ones.
	Lesson 9	Make sense of expressions and equations that represent numbers 11–19
	Lesson 10	Represent numbers 11–19 with equations
	Count Groups of 11–20	
	Lesson 11	Understand numbers 11–19 as ten ones and some more ones
		Write a number to answer “how many” questions about groups of up to 19 images
	Lesson 12	Keep track of images that have been counted
		Write a number to answer “how many” questions about groups of up to 20 images
	Lesson 13 - Optional	Complete equations to represent teen numbers
		Understand numbers 11–19 as 10 ones and some more ones

Unit 7: Solid Shapes All Around Us			18 Days of Instruction -- 4 Weeks
	Compose and Count with Flat Shapes		
	Lesson 1	Count to answer “how many” questions about groups of up to 20 shapes and represent the quantity with a number	
	Lesson 2	Compare the number of objects in groups of up to 10 shapes	
	Lesson 3	Tell and solve addition or subtraction story problems involving shapes	
	Lesson 4	Match addition equations to shapes with two kinds of pattern blocks	
	Lesson 5	Match equations to story problems	
		Solve story problems involving shapes	
	Lesson 6	Compose and decompose 10 in more than one way	
		Solve Put Together/Take Apart, Both Addends Unknown story problems involving shapes	
	Describe, Compare, and Create Solid Shapes		
	Lesson 7	Distinguish between flat and solid shapes	
	Lesson 8	Compare the weights of two objects	
	Lesson 9	Compare the capacities of two objects	
	Lesson 10	Use their own language to describe solid shapes	
	Lesson 11	Use their own language to describe and compare solid shapes	
	Lesson 12	Build solid shapes	
	Lesson 13	Recognize, name, describe, and build solid shapes in the environment	
	Lesson 14	Compose solid shapes to build new shapes	
	Lesson 15	Compose solid shapes to build new shapes	
		Count to answer “how many” questions about groups of up to 20 objects	

	Lesson 16	Compose solid shapes to represent the environment	
Unit 8: Putting It All Together			17-23 Days of Instruction -- 5 Weeks
	Counting and Comparing		
	Lesson 1	Sort, count, and compare groups of up to 20 objects	
	Lesson 2 - Optional	Count and compare groups of up to 20 objects	
	Lesson 3	Solve Add To, Result Unknown and Take From, Result Unknown story problems	
		Use knowledge of the count sequence to add and subtract one and determine one more and one less	
	Lesson 4 - Optional	Count out a group of up to 20 objects	
		Use knowledge of the count sequence to add and subtract one and determine one more and one less	
	Lesson 5 - Optional	Order numbers 1-20	
		Use knowledge of the count sequence to add and subtract 1 and determine one more and one less	
	Math in Our School		
	Lesson 6	Answer mathematical questions about the community	
		Identify number and quantity in the environment	
		Represent and write numbers to 20	
	Lesson 7	Represent and write numbers to 20	
	Lesson 8	Answer mathematical questions about their community	
	Lesson 9	Ask and answer mathematical questions about the community	
	Lesson 10	Tell story problems about their community	
	Lesson 11	Solve story problems about their community	
	Fluency within 5		
	Lesson 12	Recognize compositions and decompositions of numbers to 5	

	Lesson 13	Recognize compositions and decompositions of numbers to 5	
	Lesson 14	Add and subtract within 5	
	Lesson 15	Add and subtract within 5	
	Lesson 16	Add and subtract within 5	
		Find a missing value to make a given total within 5	
	All About 10		
	Lesson 17 - Optional	Relate equations to different compositions and decompositions of 10	
	Lesson 18 - Optional	Compose and decompose 10 in multiple ways	
	Lesson 19 - Optional	Fill in equations to represent compositions and decompositions of 10	
		Find the number that makes 10 when added to a given number	
	Lesson 20	Estimate whether a group has more or fewer than 10 objects or images	
	Lesson 21	Compose and decompose numbers 11–19 using 10 ones and some more ones	

Supports of Diversity, Equity and Inclusion

Please provide any information relative to supporting culturally responsive instruction, multi-language learners, and students with disabilities

Review Site Information:

URL: review-ct.ilclassroom.com

Username: CT@example.com

Password: teacher

Culturally Responsive Instruction:

Illustrative Mathematics includes culturally relevant materials and culturally responsive teaching and instructional practices. Materials are inclusive of a variety of cultures and ethnicities and are free from bias in the portrayal of ethnic groups, gender, age, class, cultures, religions, and people with disabilities.

We address racial, cultural, and religious bias in the following ways:

- The materials contain racial/ethnic balance in the main characters and illustrations.
- Minorities are represented as central figures in text and illustrations.
- Minority figures reflect qualities such as leadership, intelligence, imagination, and courage.
- The materials provide an opportunity for a variety of racial, ethnic, and cultural perspectives.
- The vocabulary or depiction of racism is avoided (i.e., insulting overtones).
- Race/culture stereotyping language is avoided.
- Biographical or historical content includes minority figures and their discoveries and contributions to society.

Multi-Language Learners:

In a problem-based mathematics classroom, sense-making and language are interwoven. Mathematics classrooms are language-rich, and therefore language demanding learning environments for every student. The linguistic demands of doing mathematics include reading, writing, speaking, listening, conversing, and representing (Aguirre & Bunch, 2012). Students are expected to say or write mathematical explanations, state assumptions, make conjectures, construct mathematical arguments, and listen to and respond to the ideas of others. In an effort to advance the mathematics and language learning of all students, the materials purposefully engage students in sense-making and using language to negotiate meaning with their peers. To support students who are learning English in their development of language, this curriculum includes instruction devoted to fostering language development alongside mathematics learning, fostering language-rich environments where there is space for all students to participate.

This interwoven approach is grounded in four design principles that promote mathematical language use and development:

Principle 1. Support sense-making: Scaffold tasks and amplify language so students can make their own meaning. Students need multiple opportunities to talk about their mathematical thinking, negotiate meaning with others, and collaboratively solve problems with targeted guidance from the teacher. Teachers can make language more accessible by amplifying rather than simplifying speech or text. Simplifying includes avoiding the use of challenging words or phrases. Amplifying means anticipating where students might need support in understanding concepts or mathematical terms and providing multiple ways to access them.

Principle 2. Optimize output: Strengthen opportunities for students to describe their mathematical thinking to others, orally, visually, and in writing. All students benefit from repeated, strategically optimized, and supported opportunities to articulate mathematical ideas into linguistic expression, to communicate their ideas to others. Opportunities for students to produce output should be strategically optimized for both (a) important concepts of the unit or course, and (b) important disciplinary language functions (for example, explaining reasoning, critiquing the reasoning of others, making generalizations, and comparing approaches and representations).

Principle 3. Cultivate conversation: Strengthen opportunities for constructive mathematical conversations. Conversations are back-and-forth interactions with multiple turns that build up ideas about math. Conversations act as scaffolds for students developing mathematical language because they provide opportunities to simultaneously make meaning, communicate that meaning, and refine the way content understandings are communicated. During effective discussions, students pose and answer questions, clarify what is being asked and what is happening in a problem, build common understandings, and share experiences relevant to the topic. Meaningful conversations depend on the teacher using activities and routines as opportunities to build a classroom culture that motivates and values efforts to communicate.

Principle 4. Maximize meta-awareness: Strengthen the meta-connections and distinctions between mathematical ideas, reasoning, and language. Meta-awareness, consciously thinking about one's own thought processes or language use, develops when students consider how to improve their communication and reasoning about mathematical concepts. When students are using language in ways that are purposeful and meaningful for themselves, in their efforts to understand—and be understood by—each other, they are motivated to attend to ways in which language can be both clarified and clarifying. Students learning English benefit from being aware of how language choices are related to the purpose of the task and the intended audience, especially if oral or written work is required. Both metacognitive and metalinguistic awareness are powerful tools to help students self-regulate their academic learning and language acquisition.

These design principles and related mathematical language routines, described below, ensure language development is an integral part of planning and delivering instruction. Moreover, they work together to guide teachers to amplify the most important language that students are expected to know and use in each unit.

Mathematical Language Routines

Mathematical Language Routines (MLRs) are instructional routines that provide structured but adaptable formats for amplifying, assessing, and developing students' language. The MLRs included in this curriculum were selected because they simultaneously support students' learning of mathematical practices, content, and language. They are particularly well-suited to meet the needs of linguistically and culturally diverse students who are learning mathematics while simultaneously acquiring English. These routines are flexible and can be adapted to support students at all stages of language development in using and improving their English and disciplinary language use.

These routines are included in the Curriculum Guide and noted below:

- MLR 1: Stronger and Clearer Each Time
- MLR 2: Collect and Display
- MLR 3: Clarify, Critique, Correct
- MLR 4: Information Gap
- MLR 5: Co-Craft Questions
- MLR 6: Three Reads
- MLR 7: Compare and Connect
- MLR 8: Discussion Supports

MLRs are included in select activities in each unit to provide all students with explicit opportunities to develop mathematical and academic language proficiency. These “embedded” MLRs are described in the teacher notes for the lessons in which they appear.

Each lesson also includes optional, suggested MLRs that can be used to support access and language development for English learners, based on the language demands students will encounter. They are described in the activity narrative, under the heading “Access for English Learners.” Teachers can use the suggested MLRs and language strategies as appropriate to provide students with access to an activity without reducing the mathematical demand of the task. When using these supports, teachers should take into

account the language demands of the specific activity and the language needed to engage the content more broadly, in relation to their students' current ways of using language to communicate ideas as well as their students' English language proficiency. Using these supports can help maintain student engagement in mathematical discourse and ensure that struggle remains productive. All of the supports are designed to be used as needed, and use should fade out as students develop understanding and fluency with the English language.

In addition to the comprehensive pedagogical design of the program, Spanish translations are available for the educator components, including teacher slides, and the student components, including the student workbook (print version).

Materials are also available in Spanish as follows:

K–5	6–8	AGA
<ul style="list-style-type: none"> • Print: Student Workbooks • eBook/PDF: Student Workbooks, Teacher Resource Pack, Teacher Guide <i>(student facing text only, teacher text in English)</i> • Spanish Lesson Presentations <p>Other Materials <i>(no student responses)</i></p> <ul style="list-style-type: none"> • Task Statements (PDF) • Cool-Down (PDF) • Practice Problems (PDF) • Unit Assessments (PDF and digital) • Section Checkpoints (PDF) • Family Support Material (PDF) • Center Materials (PDF) • Blackline Masters (PDF) • Glossary entries 	<p><u>6–8 Courses Only (Not Accelerated)</u></p> <ul style="list-style-type: none"> • Print: Student Workbooks • eBook/PDF: Student Workbooks <p>Other Materials <i>(no student responses)</i></p> <ul style="list-style-type: none"> • Task Statements (PDF) • Cool-Down (PDF) • Practice Problems (PDF) • Unit Assessments, Option B (PDF) • Blackline Masters (PDF) • Family Support Material (PDF) • Glossary entries 	<p><u>Algebra 1 Only</u></p> <ul style="list-style-type: none"> • eBook/PDF: Student Workbooks • Print: Student Workbooks <ul style="list-style-type: none"> ◦ Available for BTS 2023 <p>Other Materials <i>(no student responses)</i></p> <ul style="list-style-type: none"> • Task Statements (PDF) • Cool-Down (PDF) • Practice Problems (PDF) • Unit Assessments (PDF) • Modeling Prompts • Blackline Masters (PDF) • Family Support Material (PDF) • Glossary entries

Exceptional Learners:

Imagine Learning Illustrative Mathematics materials empower all students with activities that capitalize on their existing strengths and abilities to ensure that all learners can participate meaningfully in rigorous mathematical content. Lessons support a flexible approach to instruction and provide teachers with options for additional support to address the needs of a diverse group of students, positioning all learners as competent, valued contributors. When planning to support access, teachers should consider the strengths and needs of their particular students.

Each lesson is carefully designed to maximize engagement and accessibility for all students. Purposeful design elements that support access for all learners, but that are especially helpful for students with disabilities, include:

Lesson Structures are Consistent

The structure of every lesson is the same: warm-up, activities, synthesis, cool-down. By keeping the components of each lesson similar from day to day, the flow of work in class becomes predictable for students. This reduces cognitive demand and enables students to focus on the mathematics at hand rather than the mechanics of the lesson.

Concepts Develop from Concrete to Abstract

Mathematical concepts are introduced simply, concretely, and repeatedly, with complexity and abstraction developing over time. Students begin with concrete examples, and transition to diagrams and tables before relying exclusively on symbols to represent the mathematics they encounter.

Individual to Pair, or Small Group to Whole Class Progression

Providing students with time to think through a situation or question independently before engaging with others allows students to carry the weight of learning, with support arriving just in time from the community of learners. This progression allows students to first activate what they already know, and continue to build from this base with others.

Opportunities to Apply Mathematics to Real-World Contexts

Giving students opportunities to apply the mathematics they learn clarifies and deepens their understanding of core math concepts and skills and provides motivation and support. Mathematical modeling is a powerful activity for all students, but especially students with disabilities. Each unit has a culminating activity designed to explore, integrate, and apply all the big ideas of the unit. Centering instruction on these contextual situations can provide students with disabilities an anchor on which to base their mathematical understandings.

Supplemental instructional strategies that can be used to increase access, reduce barriers and maximize learning are included in each lesson, listed in the activity narratives under “*Access for Students with Disabilities.*” Each support is aligned to the Universal Design for Learning Guidelines and based on one of the three principles of UDL, to provide alternative means of *engagement, representation, or action and expression*. These supports provide teachers with additional ways to adjust the learning environment so that students can access activities, engage in content, and communicate their understanding. Supports are tagged with the areas of cognitive functioning they are designed to address to help teachers identify and select appropriate supports for their students. Designed to facilitate access to Tier 1 instruction by capitalizing on student strengths to address challenges related to cognitive functions or

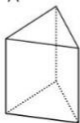
disabilities, these strategies and supports are appropriate for any students who need additional support to access rigorous, grade-level content.

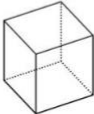
Teachers are encouraged to use what they know about their students' IEPs, strengths and challenges, and a UDL approach to ensure access.

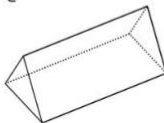
There are embedded supports for exceptional students in most lessons. Teachers will find these in the **Teaching Notes** section. As of June 2020, Illustrative Mathematics 6-8 student facing materials meet Section 508 compliance standards, meaning that students can use assistive technology to navigate the site. Illustrative Mathematics K-5 digital materials were added during the 21-22 School Year and are 508 compliant as well. Outlined in the Curriculum Guide, there are features, supports, and strategies available.

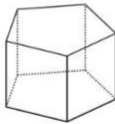
813.2 Activity: Prisms and Pyramids

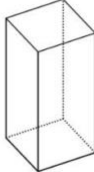
1. Here are some polyhedra called **prisms**.

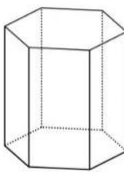
A

B

C

D

E

F

When talking about the polyhedra that make up their polyhedra, as well as the characteristics of their polyhedra (e.g., triangle, rectangle, square, hexagon, pentagon, vertex, edge, face). Collect this language, with corresponding drawings, and display it for all students to see. Remind students to borrow language from the display as they describe the features of prisms and pyramids. This will help students produce mathematical language to describe and define characteristics of polyhedra.

Design Principle(s): Support sense-making

Support for students with disabilities

- **Representation: Access for Perception.** Provide access to concrete manipulatives. Provide prisms and pyramids for students to view or manipulate. These hands-on models will help students identify characteristics or features, and support net building for each polyhedra.

Supports accessibility for: Visual-spatial processing; Conceptual processing

The curriculum authors drew heavily on the UDL framework in the design of these materials. A number one design principle of the curriculum is “Access for all.” This foundational principle draws from the UDL framework and shapes the instructional goals, recommended practices, lesson plans, and assessments to support a flexible approach to instruction, ensuring all students have an equitable opportunity to learn.

Imagine Learning software is browser-based so it will work with any browser-based text-to-speech tools. Fonts can be adjusted in type and size. Non-text navigation elements can be adjusted in size. Math equation editing is available on assessment items and practice problems.

Imagine Learning can provide a NIMAS-compatible version of Illustrative Mathematics content. These files may be used for the production of alternate formats as permitted under the law for students with disabilities.