Model Curricula Alignment Template for Mathematics

## Resource Name: Imagine Learning Illustrative Mathematics Grade 1

| Model Unit Name | Model Unit Standards | Resource Unit(s) Number and Lessons | Standard Frequency |
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| *This is the title of the unit in the model curricula* | *These are the standards addressed in the unit* | *This is the unit(s) that aligns with the model unit from the resource* | *This is the total number of lessons the standard is addressed* |
| **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. | | | |
| **Addition and Subtraction Within 20** | | | |
| | 1.OA.A.1 | Grade 1, Unit 2, Lesson 1: Story Problems and Expressions<br>Grade 1, Unit 2, Lesson 3: A Change is Coming | 44 Lessons |
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| | 1.OA.A.2 | Grade 1, Unit 3, Lesson 15: Solve Story Problems with Three Numbers<br>Grade 1, Unit 3, Lesson 20: A Trip to the Zoo | 6 Lessons |
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| | 1.OA.B.3 | Grade 1, Unit 3, Lesson 2: Relate Counting to Addition<br>Grade 1, Unit 3, Lesson 3: Are the Expressions Equal? | 9 Lessons |
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| | 1.OA.B.4 | Grade 1, Unit 1, Lesson 11: Class Pet Surveys<br>Grade 1, Unit 2, Lesson 15: Different Types of Story Problems | 20 Lessons |
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| | 1.OA.C.5 | Grade 1, Unit 1, Lesson 1: Count and Add | 38 Lessons |

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| | | Grade 1, Unit 1, Lesson 2: Explore Expressions and Sums | |
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| | 1.OA.C.6 | Grade 1, Unit 1, Lesson 3: Add 1 or 2<br>Grade 1, Unit 1, Lesson 5: Explore Addition and Subtraction | 84 Lessons |
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| | 1.OA.D.7 | Grade 1, Unit 2, Lesson 4: Result or Change Unknown<br>Grade 1, Unit 2, Lesson 14: Compare with Addition and Subtraction | 14 Lessons |
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| | 1.OA.D.8 | Grade 1, Unit 2, Lesson 8: Shake, Spill and Cover<br>Grade 1, Unit 3, Lesson 5: Find the Difference | 26 Lessons |
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| | 1.MD.C.4 | Grade 1, Unit 1, Lesson 8: Sort and Count Shape Cards<br>Grade 1, Unit 1, Lesson 13: Questions About Data | 11 Lessons |
| **Counting and Place Value** | | | |
| | 1.NBT.A.1 | Grade 1, Unit 4, Lesson 2: Match Representations of Tens<br>Grade 1, Unit 4, Lesson 1: Count Large Collections | 31 Lessons |
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| | 1.NBT.B.2 | Grade 1, Unit 4, Lesson 6: Count Larger Collections<br>Grade 1, Unit 4, Lesson 23: Two-Digit Numbers in Our World | 20 Lessons |
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| | 1.NBT.B3 | Grade 1, Unit 4, Lesson 14: Let's Compare<br>Grade 1, Unit 4, Lesson 15: Greater Than, Less Than | 13 Lessons |
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| | 1.NBT.C.5 | Grade 1, Unit 4, Lesson 12: Mentally Add and Subtract Tens | 14 Lessons |

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| | | Grade 1, Unit 5, Lesson 4: More Addition and Subtraction with Tens | |
| **Exploring Addition and Subtraction Within 100** | | | |
| | 1.NBT.C.4 | Grade 1, Unit 4, Lesson 11: Add Tens to Two-digit Numbers<br>Grade 1, Unit 5: Lesson 2: How Did You Add? | 40 Lessons |
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| | 1.NBT.C.6 | Grade 1, Unit 4, Lesson 3: Addition and Subtraction with Tens<br>Grade 1, Unit 4, Lesson 9: Show Me Your Number | 9 Lessons |
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| | 1.OA.B.3 | Grade 1, Unit 3, Lesson 19: Methods of Addition Within 20<br>Grade 1, Unit 3, Lesson 4: Sums of 10 | 9 Lessons |
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| | 1.OA.C.5 | Grade 1, Unit 3, Lesson 24: Relate Counting to Addition and Subtraction<br>Grade 1, Unit 3, Lesson 25: How Do You Want to Subtract? | 38 Lessons |
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| | 1.OA.D.7 | Grade 1, Unit 2, Lesson 9: Compare Story Problems<br>Grade 1, Unit 5, Lesson 11: How Did You Do That? | 14 Lessons |
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| | 1.NBT.A.1 | Grade 1, Unit 4, Lesson 2: Match Representations of Tens<br>Grade 1, Unit 6, Lesson 8: Groups Up to 110 | 31 Lessons |
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| | 1.NBT.B.2 | Grade 1, Unit 4, Lesson 3: Addition and Subtraction with Tens<br>Grade 1, Unit 4, Lesson 8: Different Representations of Tens and Ones | 20 Lessons |

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| **Defining Attributes of 2-D and 3-D Shapes** | | | |
| | 1.G.A.1 | Grade 1, Unit 7, Lesson 4: Draw Flat Shapes | 5 Lessons |
| | | Grade 1, Unit 7, Lesson 5: Some Triangles, All Triangles | |
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| | 1.G.A.2 | Grade 1, Unit 7, Lesson 2: Build Shapes from Other Shapes | 5 Lessons |
| | | Grade 1, Unit 7, Lesson 7: Put Together Flat Shapes | |
| **Partitioning Circles and Rectangles** | | | |
| | 1.G.A.3 | Grade 1, Unit 7, Lesson 9: Equal Pieces | 3 Lessons |
| | | Grade 1, Unit 7, Lesson 10: One of the Pieces, All of the Pieces | |
| **Measuring Length with Non-Standard Units** | | | |
| | 1.MD.A.1 | Grade 1, Unit 6, Lesson 1: Compare Lengths | 4 Lessons |
| | | Grade 1, Unit 6, Lesson 2: Compare the Lengths of Objects Indirectly | |
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| | 1.MD.A.2 | Grade 1, Unit 6, Lesson 5: Measure with Connecting Cubes | 8 Lessons |
| | | Grade 1, Unit 6, Lesson 7: Measure Length with Different Length Units | |

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| **Time to the Hour and Half-Hour** | | | |
| | 1.MD.B.3 | Grade 1, Unit 7, Lesson 13: It's Time to Learn About Clocks | 5 Lessons |
| | | Grade 1, Unit 7, Lesson 14: Half of the Clock | |
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| | 1.G.A.3 | Grade 1, Unit 7, Lesson 11: A Bigger Piece | 3 Lessons |
| | | Grade 1, Unit 7, Lesson 10: One of the Pieces, All of the Pieces | |
| **Scope and Sequence** | | | |
| *If a district uses this resource to implement the state model curriculum for grade 3, 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: Adding, Subtracting, and Working with Data** | | | **16-17 Days of Instruction -- 4 Weeks** |
| | **Add and Subtract within 10** | | |
| | Lesson 1 | Count and represent a collection of objects | |
| | | Relate counting to addition | |
| | Lesson 2 | Write addition expressions within 10 based on images and add in a way that makes sense to them | |
| | Lesson 3 | Add within 10, given expressions with an addend of 1 or 2, in a way that makes sense to them | |
| | Lesson 4 | Subtract within 10, given expressions in which 1 or 2 is subtracted, in a way that makes sense to them | |
| | Lesson 5 | Add and subtract within 10 in a way that makes sense to them | |
| | Lesson 6 | Add and subtract within 10 in a way that makes sense to them | |
| | **Show Us Your Data** | | |

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| | Lesson 7 | Describe (orally) the categories chosen for sorting math tools and tell how many in each category | |
| | | Sort math tools into categories in a way that makes sense to them | |
| | Lesson 8 | Represent how many shapes are in each category | |
| | | Sort shapes into three categories | |
| | Lesson 9 | Organize and represent categorical data about the class | |
| | Lesson 10 | Add and subtract within 10 | |
| | **What Does the Data Tell US?** | | |
| | Lesson 11 | Determine whether statements about data are true or false | |
| | | Write statements about data from a visual representation | |
| | Lesson 12 | Answer “how many in each category” and “how many in all” questions about data represented in different ways | |
| | Lesson 13 | Ask and answer questions about data | |
| | Lesson 14 | Build toward fluency by adding and subtracting within 10 in a way that makes sense to them | |
| | | Sort objects into categories and represent the sort | |
| | Lesson 15 - Optional | Collect, organize, and represent data from survey questions | |
| | | Create questions related to survey data | |
| | | Interpret data to answer questions | |

| Unit 2: Addition and Subtraction Story Problems | | | 23-24 Days of Instruction -- 5 Weeks |
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| | **Add To and Take From Story Problems** | | |
| | Lesson 1 | Represent and solve Add To and Take From, Result Unknown problems in a way that makes sense to them | |
| | | Write an expression to represent the action in a story problem | |
| | Lesson 2 | Solve Add To and Take From, Result Unknown problems | |
| | | Write addition or subtraction equations to represent a story problem and orally explain why it matches | |
| | Lesson 3 | Identify the answer to a story problem in an equation | |
| | | Solve Add To, Change Unknown story problems in a way that makes sense to them | |
| | Lesson 4 | Solve Add To, Result or Change Unknown, and Take From, Result Unknown story problems | |
| | | Write an equation and explain why it matches a story problem | |
| | Lesson 5 | Add and subtract within 10 | |
| | | Tell and solve math stories based on a representation | |
| | **Put Together/Take Apart Story Problems** | | |
| | Lesson 6 | Solve Put Together, Total Unknown story problems in a way that makes sense to them | |
| | | Write an equation and explain why it matches a story problem | |
| | Lesson 7 | Solve Put Together/Take Apart, Both Addends Unknown story problems in a way that makes sense to them | |
| | | Write an equation and explain why it matches a story problem | |
| | Lesson 8 | Relate different equations to the same story problem | |
| | | Solve Put Together/Take Apart, Addend Unknown story problems in a way that makes sense to them | |

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| | Lesson 9 | Solve Put Together/Take Apart problems with the result, one addend, or both addends unknown | |
| | | Write an equation that matches the story problem, and put a box around the unknown number | |
| | Lesson 10 | Add and subtract within 10 in a way that makes sense to them | |
| | **Compare Story Problems** | | |
| | Lesson 11 | Solve Compare, Difference Unknown problems, in a way that makes sense to them | |
| | Lesson 12 | Relate counting to addition and subtraction | |
| | | Solve Compare, Difference Unknown story problems in a way that makes sense to them | |
| | Lesson 13 | Solve Compare, Difference Unknown story problems through a data context | |
| | | Write an equation to represent the story problem | |
| | Lesson 14 | Match addition and subtraction equations to a story problem | |
| | | Solve Compare, Difference Unknown story problems | |
| | Lesson 15 | Solve a variety of types of story problems | |
| | | Write addition and subtraction equations to represent story problems | |
| | Lesson 16 | Add and subtract within 10 | |
| | | Tell and solve math stories based on a representation | |
| | **All Kinds of Story Problems** | | |
| | Lesson 17 | Identify how a variety of story types are the same and different | |
| | | Solve a story problem and write an equation to match the problem | |
| | Lesson 18 | Interpret equations with a symbol for the unknown in relation to story problems | |
| | | Solve a variety of story problem types | |

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| | Lesson 19 | Solve a variety of story problem types | |
| | | Write two different equations to match a story problem | |
| | Lesson 20 | Write a story problem to match an equation | |
| | Lesson 21 | Add and subtract within 10 in a way that makes sense to them | |
| | Lesson 22 - Optional | Use data to ask and answer questions | |
| | | Use data to write equations | |
| | | Write equations that represent a story problem | |
| **Unit 3: Adding and Subtracting Within 20** | | | 29-30 Days of Instruction -- 6 Weeks |
| | **Develop Fluency with Addition and Subtraction within 10** | | |
| | Lesson 1 | Add within 10 | |
| | | Identify known sums within 10 | |
| | Lesson 2 | Understand and apply counting on as a method for addition | |
| | | Understand and use the commutative property | |
| | Lesson 3 | Interpret equations with expressions on both sides of the equal sign | |
| | | Understand and use the commutative property | |
| | Lesson 4 | Look for and make use of patterns in addition expressions that have a sum of 10 | |
| | Lesson 5 | Use the relationship between addition and subtraction to find the differences within 10 | |
| | Lesson 6 | Solve Add To and Put Together story problems with unknowns in all positions | |
| | Lesson 7 | Add within 10 | |
| | **Add and Subtract using Ten as a Unit** | | |
| | Lesson 8 | Compose and decompose teen numbers into 1 ten plus some number of ones | |

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| | | Understand 10 ones as a unit called a ten | |
| | Lesson 9 | Compose and decompose teen numbers into 1 ten and some number of ones | |
| | | Find the value that makes an addition equation true, where one addend is 10 | |
| | Lesson 10 | Find the value that makes an equation true where the total is a teen number | |
| | | Use the relationship between addition and subtraction to find missing values | |
| | Lesson 11 | Add within 20 when one addend is a teen number | |
| | Lesson 12 | Add and subtract single-digit numbers from teen numbers without composing or decomposing a ten | |
| | Lesson 13 | Solve Take From, Result or Change Unknown story problems | |
| | Lesson 14 | Add and subtract within 20 | |
| | **Add within 20** | | |
| | Lesson 15 | Solve story problems within 20 with three addends, two of which make a ten | |
| | Lesson 16 | Make sense of equations with addition expressions on both sides of the equal sign (For example, 3+6+7=10+6) | |
| | | Use the associative property to make a ten when adding three numbers | |
| | Lesson 17 | Analyze methods for adding within 20 that involve making a ten | |
| | | Look for and use patterns in addition expressions to add within 20 | |
| | Lesson 18 | Look for and use patterns in addition expressions to add within 20 | |
| | | Make a ten to find the sum of two numbers within 20 | |
| | Lesson 19 | Analyze methods for adding within 20 | |

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| | | Use addition methods flexibly to find sums based on the numbers in a given problem | |
| | Lesson 20 | Solve story problems with three addends | |
| | Lesson 21 | Students add two and three numbers within 20 | |
| | | Students write equations with three addends | |
| | **Subtract within 20** | | |
| | Lesson 22 | Subtract within 20 in a way that makes sense to them | |
| | Lesson 23 | Use the unit of a ten to find differences within 20 | |
| | Lesson 24 | Analyze and use counting up and taking away as methods to subtract | |
| | Lesson 25 | Use subtraction methods flexibly to find differences based on the numbers in a given problem | |
| | Lesson 26 | Solve addition and subtraction story problems with unknowns in all positions | |
| | Lesson 27 | Add and subtract within 20 | |
| | Lesson 28 - Optional | Add within 20 with three addends | |
| | | Write and solve story problems | |
| **Unit 4: Numbers to 99** | | | 23-25 Days of Instruction -- 5 Weeks |
| | **Units of Ten** | | |
| | Lesson 1 | Count up to 60 objects (multiples of 10) in a way that makes sense to them | |
| | Lesson 2 | Interpret different base-ten representations of multiples of 10 | |
| | Lesson 3 | Add and subtract 10 from multiples of 10 | |
| | Lesson 4 | Add and subtract multiples of 10 from multiples of 10 | |
| | Lesson 5 | Add and subtract multiples of 10 from multiples of 10 | |
| | | Add and subtract within 20 | |

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| | **Tens and Ones** | | |
| | Lesson 6 | Count up to 60 objects in a way that makes sense to them | |
| | Lesson 7 | Read two-digit numbers | |
| | | Understand any two-digit number as composed of tens and ones | |
| | Lesson 8 | Interpret different base-ten representations of two-digit numbers (drawings, words, and addition expressions) | |
| | Lesson 9 | Represent the base-ten structure of two-digit numbers with drawings, words, and addition expressions | |
| | Lesson 10 | Write numbers to represent different base-ten representations | |
| | Lesson 11 | Add a two-digit number and a multiple of 10 | |
| | Lesson 12 - Optional | Mentally find 10 more or 10 less than a number | |
| | Lesson 13 | Add and subtract within 20 | |
| | | Add tens to two-digit numbers | |
| | | Count and represent a collection | |
| | **Compare Numbers to 99** | | |
| | Lesson 14 | Compare two-digit numbers based on the value of the tens and ones digits | |
| | | Use “greater than” and “less than” to describe comparisons | |
| | Lesson 15 | Interpret comparison statements that use <, >, or = | |
| | | Understand that the > symbol means greater than and the < symbol means less than | |
| | Lesson 16 | Read and write comparisons using <, >, or = | |
| | Lesson 17 | Compare and order numbers based on the value of the tens and ones digits | |
| | Lesson 18 | Count objects in a collection and record the count | |
| | | Create, compare, and order two-digit numbers | |

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| | | Write numbers up to 99 | |
| | **Different Ways to Make a Number** | | |
| | Lesson 19 | Understand that a two-digit number can be represented in different ways using tens and ones | |
| | Lesson 20 | Identify two-digit numbers represented in different ways | |
| | | Represent two-digit numbers in different ways using tens and ones | |
| | Lesson 21 | Compare two-digit numbers represented in different ways | |
| | Lesson 22 | Compare numbers within 99 | |
| | | Use place value understanding to identify two-digit numbers | |
| | Lesson 23 - Optional | Estimate, count, and represent collections of up to 99 objects | |
| **Unit 5: Adding Within 100** | | | 15-16 Days of Instruction -- 3 Weeks |
| | **Add Without Making a Ten** | | |
| | Lesson 1 | Add tens or ones to two-digit numbers, without composing a ten, in a way that makes sense to them | |
| | Lesson 2 | Add 2 two-digit numbers, without composing a ten, using methods based on place value | |
| | | Make sense of equations that represent addition methods | |
| | Lesson 3 | Add 2 two-digit numbers, without composing a ten, using methods based on place value | |
| | | Write equations to represent addition methods | |
| | Lesson 4 | Add within 100, without composing a ten | |
| | **Make a Ten: Add One- and Two-digit Numbers** | | |
| | Lesson 5 | Add a one-digit and a two-digit number, with composing a ten, in a way that makes sense to them | |
| | Lesson 6 | Add a one-digit and a two-digit number, with composing a ten, using place value understanding and the properties of operations | |

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| | | Make sense of equations that represent addition methods | |
| | Lesson 7 | Add a one-digit and a two-digit number and recognize when a new ten will be composed | |
| | | Write equations that represent addition methods | |
| | Lesson 8 | Add within 100 | |
| | **Make a Ten: Add Within 100** | | |
| | Lesson 9 | Add 2 two-digit numbers within 100, with composing a ten, in a way that makes sense to them | |
| | Lesson 10 | Add two-digit numbers by adding tens and tens and ones and ones | |
| | Lesson 11 | Add 2 two-digit numbers using methods based on place value and properties of operations | |
| | | Make sense of equations that represent addition methods | |
| | Lesson 12 | Add 2 two-digit numbers using methods based on place value and properties of operations | |
| | | Write equations to represent addition methods | |
| | Lesson 13 | Add numbers within 100 | |
| | Lesson 14 - Optional | Add 2 two-digit numbers within 100 with composing a ten, in a way that makes sense to them | |
| **Unit 6: Length Measurements Within 120 Units** | | | 18-19 Days of Instruction -- 4 Weeks |
| | **From Direct to Indirect Comparisons** | | |
| | Lesson 1 | Compare the length of objects by lining up the endpoints | |
| | | Order three objects by length and use language such as “shorter than” and “longer than” to describe the relationship between the lengths | |
| | Lesson 2 | Compare the length of two objects indirectly by using a third object | |
| | Lesson 3 | Choose and use objects to compare lengths of other objects indirectly | |
| | Lesson 4 | Add within 100 | |

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| | | Compare addition and subtraction expressions to 20 | |
| | **Measure by Iterating up to 120 Length Units** | | |
| | Lesson 5 | Measure objects in connecting cube side lengths using connecting cube towers | |
| | | Understand that a connecting cube tower with x cubes in it can be described as being “x cubes long” | |
| | Lesson 6 | Measure length by iterating same-size length units without gaps or overlaps | |
| | Lesson 7 | Measure lengths of objects using different length units | |
| | | Understand that the number associated with a length depends on the chosen length unit | |
| | Lesson 8 | Measure length and count the number of length units for quantities up to 110 | |
| | | Read numbers to 110 | |
| | Lesson 9 | Measure length and determine an efficient way to count the number of length units up to 120 | |
| | | Read and write numbers to 120 | |
| | Lesson 10 | Add within 100 | |
| | | Measure length by iterating same-size length units without gaps or overlaps | |
| | **All Kinds of Story Problems** | | |
| | Lesson 11 | Use addition and subtraction to solve story problems about measurement | |
| | Lesson 12 | Solve Compare story problems with unknowns in all positions | |
| | Lesson 13 | Solve Take From story problems, with unknowns in all positions, in a way that makes sense to them | |
| | Lesson 14 | Analyze story problems with unknowns in all positions | |
| | | Match addition and subtraction equations to story problems | |

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| | Lesson 15 | Use addition and subtraction to solve story problems with unknowns in all positions | |
| | | Write equations to represent story problems | |
| | Lesson 16 | Count groups of up to 120 objects and write a number to represent them | |
| | | Measure length by iterating same-size length units without gaps or overlaps | |
| | | Read and write numbers to 120 | |
| | Lesson 17 - Optional | Analyze and solve Compare story problems with unknowns in all positions | |
| | | Write equations to represent story problems | |
| **Unit 7: Geometry and Time** | | | 19 Days of Instruction -- 4 Weeks |
| | **Flat and Solid Shapes** | | |
| | Lesson 1 | Sort three-dimensional shapes in a way that makes sense to them | |
| | | Use their own language to describe three-dimensional shapes | |
| | Lesson 2 | Compose shapes from other three-dimensional shapes | |
| | Lesson 3 | Sort two-dimensional shapes in a way that makes sense to them | |
| | | Use their own language to describe two-dimensional shapes | |
| | Lesson 4 | Draw two-dimensional shapes based on shared attributes | |
| | | Use increasingly precise language to describe the attributes of two-dimensional shapes | |
| | Lesson 5 | Draw triangles based on their defining attributes | |
| | | Identify defining and non-defining attributes of triangles | |
| | Lesson 6 | Draw squares and rectangles based on defining attributes | |
| | | Identify defining and non-defining attributes of rectangles and squares | |
| | | Recognize a square as a special rectangle | |
| | Lesson 7 | Compose shapes in different ways | |

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| | Lesson 8 | Add and subtract within 20 | |
| | | Compose objects using solid shapes and describe the objects | |
| | | Find, describe, and compare shapes | |
| | **Halves and Quarters** | | |
| | Lesson 9 | Determine whether shapes are partitioned into equal pieces | |
| | | Partition circles and rectangles into halves and fourths | |
| | Lesson 10 | Describe the whole as two of the halves or four of the fourths | |
| | | Partition circles and rectangles into halves and fourths and describe one piece as “a half of”, “a fourth of” or “a quarter of” the whole shape | |
| | Lesson 11 | Compare the size of halves and fourths of the same shape | |
| | | Understand that for halves and fourths, partitioning a shape into more equal pieces creates smaller pieces | |
| | Lesson 12 | Add within 100 | |
| | | Compose objects using solid shapes and describe the objects | |
| | | Recognize and describe shapes seen in picture books | |
| | | Subtract within 10 | |
| | **Tell Time in Hours and Half Hours** | | |
| | Lesson 13 | Tell and write time in hours | |
| | | Understand time as a unit of measurement | |
| | Lesson 14 | Relate halves of circles to half hours | |
| | | Tell time in hours and half hours | |
| | Lesson 15 | Tell and write time in hours and half hours | |
| | Lesson 16 | Relate time to a daily schedule | |
| | | Tell and write time in hours and half hours | |

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| | Lesson 17 | Add within 100 | |
| | | Describe two-dimensional and three-dimensional shapes | |
| | | Subtract within 10 | |
| **Unit 8: Putting It All Together** | | | 12 Days of Instruction -- 3 Weeks |
| | **Add and Subtract within 20** | | |
| | Lesson 1 | Develop fluency with sums within 10 | |
| | Lesson 2 | Develop fluency with addition and subtraction within 10, using the relationship between addition and subtraction | |
| | Lesson 3 | Add and subtract within 20 | |
| | **Story Problems** | | |
| | Lesson 4 | Solve Add To and Take From, Change Unknown story problems in a way that makes sense to them | |
| | Lesson 5 | Solve Put Together/Take Apart, Addend Unknown story problems in a way that makes sense to them | |
| | Lesson 6 | Solve Compare, Difference Unknown story problems in a way that makes sense to them | |
| | **Numbers to 120** | | |
| | Lesson 7 | Count to 120, starting at a number other than 1 | |
| | | Organize, count, and represent a collection of up to 120 objects or images | |
| | Lesson 8 | Represent two-digit numbers in different ways | |
| | Lesson 9 | Apply place value understanding to solve number riddles | |
| | Lesson 10 | Apply place value reasoning to write and solve number riddles | |

**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 |
|---|---|---|
| • Print: Student Workbooks<br>• eBook/PDF: Student Workbooks, Teacher Resource Pack, Teacher Guide *(student facing text only, teacher text in English)*<br>• Spanish Lesson Presentations<br><br>**Other Materials** *(no student responses)*<br>• Task Statements (PDF)<br>• Cool-Down (PDF)<br>• Practice Problems (PDF)<br>• Unit Assessments (PDF and digital)<br>• Section Checkpoints (PDF)<br>• Family Support Material (PDF)<br>• Center Materials (PDF)<br>• Blackline Masters (PDF)<br>• Glossary entries | **6-8 Courses Only (Not Accelerated)**<br>• Print: Student Workbooks<br>• eBook/PDF: Student Workbooks<br><br>**Other Materials** *(no student responses)*<br>• Task Statements (PDF)<br>• Cool-Down (PDF)<br>• Practice Problems (PDF)<br>• Unit Assessments, Option B (PDF)<br>• Blackline Masters (PDF)<br>• Family Support Material (PDF)<br>• Glossary entries | **Algebra 1 Only**<br>• eBook/PDF: Student Workbooks<br>• Print: Student Workbooks<br>  ○ *Available for BTS 2023*<br><br>**Other Materials** *(no student responses)*<br>• Task Statements (PDF)<br>• Cool-Down (PDF)<br>• Practice Problems (PDF)<br>• Unit Assessments (PDF)<br>• Modeling Prompts<br>• Blackline Masters (PDF)<br>• Family Support Material (PDF)<br>• 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**

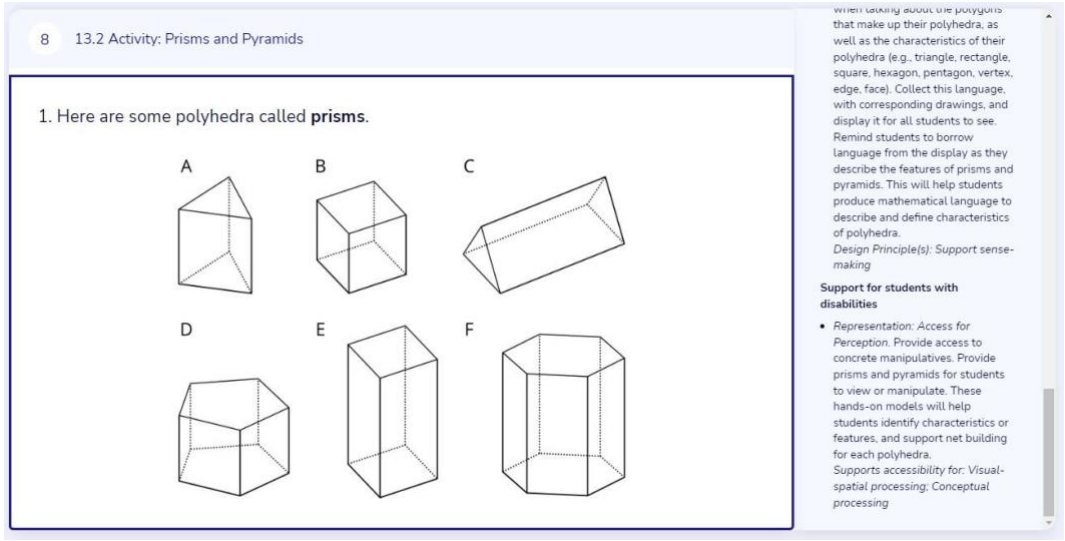
Giving students opportunities to apply the mathematics they learn clarifies and deepens their understanding of core math concepts and skills and provides motivation and support. Mathematical modeling is a powerful activity for all students, but especially students with disabilities. Each unit has a culminating 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.



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.