Eureka Math ${ }^{2}$ Level 1 Correlation to
Connecticut Model Curriculum

| Level 1: Units of Ten |  |  |  |
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| Model Unit Name | Model Unit Standards | Lessons | Pacing <br> Lessons that address concepts in more than one unit are only counted once. |
| Addition and Subtraction Within 20 | 1.OA.A. 1 | Module 2: Addition and Subtraction Relationships <br> Topic A: Reason About Take From Situations <br> Lesson 1: Represent result unknown problems and record as addition or subtraction number sentences. <br> Topic B: Relate and Distinguish Addition and Subtraction <br> Lesson 5: Use the Read-Draw-Write process to solve result unknown problems. <br> Lesson 6: Represent and solve related addition and subtraction result unknown problems. <br> Lesson 7: Count on or count back to solve related addition and subtraction problems. <br> Topic C: Find an Unknown Part in Change Unknown Problems <br> Lesson 8: Interpret and find an unknown change. <br> Lesson 9: Represent and solve add to with change unknown problems. <br> Lesson 11: Represent and solve take from with change unknown problems. <br> Lesson 13: Represent and solve add to and take from with change unknown problems. <br> Topic D: Find an Unknown Part by Using Addition and Subtraction <br> Lesson 14: Represent and solve put together/take apart with addend unknown problems. <br> Topic E: Represent and Solve Comparison Problems <br> Lesson 21: Represent and solve compare with difference unknown problems, part 1. <br> Lesson 22: Represent and solve compare with difference unknown problems, part 2. | 87 days |


| Addition and Subtraction Within 20 (cont.) |  | Module 3: Properties of Operations to Make Easier Problems <br> Topic C: Make Easier Addition Problems with a Linear Model <br> Lesson 11: Represent and compare related situation equations, part 1. <br> Lesson 12: Represent and compare related situation equations, part 2. <br> Topic D: Reason about Ten as a Unit to Add or Subtract <br> Lesson 19: Solve take from with change unknown problems with totals in the teens. <br> Topic E: Make Easier Problems to Subtract <br> Lesson 26: Pose and solve varied word problems. <br> Module 4: Comparison and Composition of Length Measurements <br> Topic C: Comparison Word Problems with Measurement <br> Lesson 10: Compare to find how much longer. <br> Lesson 11: Compare to find how much shorter. <br> Lesson 12: Find the unknown longer length. <br> Lesson 13: Find the unknown shorter length. <br> Module 6 Part 2: Advancing Place Value, Addition, and Subtraction <br> Topic E: Deepening Problem Solving <br> Lesson 20: Represent and solve put together and take apart word problems. <br> Lesson 21: Represent and solve add to and take from word problems. <br> Lesson 22: Represent and solve add to and take from with start unknown word problems. <br> Lesson 23: Represent and solve comparison word problems. <br> Lesson 24: Reason with nonstandard measurement units. <br> Lesson 25: Solve nonroutine problems. (Optional) |
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|  | 1.OA.A. 2 | Module 3: Properties of Operations to Make Easier Problems <br> Topic A: Make Easier Problems with Three Addends <br> Lesson 2: Make ten with three addends. <br> Lesson 3: Represent and solve three-addend word problems <br> Topic C: Make Easier Addition Problems with a Linear Model <br> Lesson 11: Represent and compare related situation equations, part 1. <br> Lesson 12: Represent and compare related situation equations, part 2. |




| Addition and Subtraction Within 20 (cont.) | 1.OA.C. 6 | Module 1: Counting, Comparison, and Addition <br> Topic C: Count On to Add <br> Lesson 14: Count on to find the total of an addition expression. <br> Lesson 17: Add 0 and 1 to any number. <br> Topic D: Make the Same Total in Varied Ways <br> Lesson 20: Find all two-part expressions equal to 6. <br> Lesson 21: Find all two-part expressions equal to 7 and 8. <br> Lesson 22: Find all two-part expressions equal to 9 and 10. <br> Lesson 23 : Find the totals of doubles +1 facts. <br> Lesson 24: Use known facts to make easier problems. <br> Module 2: Addition and Subtraction Relationships <br> Topic A: Reason About Take From Situations <br> Lesson 2: Subtract all or subtract 0. <br> Lesson 3: Subtract 1 or subtract 1 less than the total. <br> Lesson 4: Use fingers to subtract 4, 5, and 6 efficiently. <br> Topic B: Relate and Distinguish Addition and Subtraction <br> Lesson 7: Count on or count back to solve related addition and subtraction problems. <br> Topic D: Find an Unknown Part by Using Addition and Subtraction <br> Lesson 16: Compare the efficiency of counting on and counting back to subtract. <br> Module 3: Properties of Operations to Make Easier Problems <br> Topic A: Make Easier Problems with Three Addends <br> Lesson 1: Group to make ten when there are three parts. <br> Lesson 4: Use properties of addition to make three-addend expressions easier. <br> Topic B: Make Easier Problems to Add <br> Lesson 5: Make ten when an addend is 5. <br> Lesson 6: Make ten when the first addend is 9. <br> Lesson 7: Make ten when the first addend is 8 or 9. <br> Lesson 8: Make ten when the second addend is 8 or 9. <br> Lesson 9: Make ten with either addend. <br> Lesson 10: Make ten when there are three addends. |
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| Addition and Subtraction Within 20 (cont.) | 1.OA.D. 8 | Module 2: Addition and Subtraction Relationships <br> Topic C: Find an Unknown Part in Change Unknown Problems <br> Lesson 10: Represent and find an unknown addend in equations <br> Lesson 12: Represent and find an unknown subtrahend in equations. <br> Lesson 13: Represent and solve add to and take from with change unknown problems. <br> Topic D: Find an Unknown Part by Using Addition and Subtraction <br> Lesson 15: Relate counting on and counting back to find an unknown part. <br> Lesson 19: Determine the value of the unknown in various positions. <br> Module 1: Counting, Comparison, and Addition <br> Topic A: Count and Compare with Data <br> Lesson 1: Organize to find how many and compare. <br> Lesson 2: Organize and represent data to compare two categories. <br> Lesson 3: Sort to represent and compare data with three categories. <br> Lesson 4: Find the total number of data points and compare categories in a picture graph. <br> Lesson 5: Organize and represent categorical data. <br> Lesson 6: Use tally marks to represent and compare data. <br> Module 2: Reason About Take From Situations <br> Topic E: Represent and Solve Comparison Problems <br> Lesson 23: Compare categories in a graph to figure out how many more. |  |
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| Counting and Place Value | 1.NBT.A. 1 | Module 3: Properties of Operations to Make Easier Problems <br> Topic D: Reason about Ten as a Unit to Add or Subtract <br> Lesson 15: Count and record a collection of objects. <br> Lesson 16: Identify ten as a unit. <br> Module 5: Place Value Concepts to Compare, Add, and Subtract <br> Topic A: Grouping Units in Tens and Ones <br> Lesson 2: Count a collection and record the total in units of tens and ones <br> Lesson 3: Recognize the place value of digits in a two-digit number. <br> Lesson 5: Reason about equivalent representations of a number. | 17 days |


| Counting and Place Value (cont.) |  | Module 6 Part 2: Advancing Place Value, Addition, and Subtraction <br> Topic D: Count and Represent Numbers Beyond 100 <br> Lesson 16: Count and record totals for collections greater than 100 <br> Lesson 17: Read, write, and represent numbers greater than 100. <br> Lesson 18: Count up and down across 100. <br> Lesson 19: Write totals for collections larger than 100 shown in various groups of tens and ones. |
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|  | 1.NBT.B. 2 | Module 1: Counting, Comparison, and Addition <br> Topic B: Count On from a Visible Part Lesson 12: Count on from 10 to find an unknown total. |
|  |  | Module 3: Properties of Operations to Make Easier Problems <br> Topic D: Reason about Ten as a Unit to Add or Subtract. <br> Lesson 15: Count and record a collection of objects. <br> Lesson 16: Identify ten as a unit. <br> Lesson 17: Add a two-digit number and a one-digit number. <br> Lesson 18: Subtract a one-digit number from a two-digit number. <br> Lesson 19: Solve take from with change unknown problems with totals in the teens. |
|  |  | Module 4: Comparison and Composition of Length Measurements <br> Topic B: Length Measurement and Comparison <br> Lesson 8: Draw to represent a length measurement. <br> Lesson 9: Represent a total length as units of tens and ones. |
|  |  | Module 5: Place Value Concepts to Compare, Add, and Subtract <br> Topic A: Grouping Units in Tens and Ones <br> Lesson 2: Count a collection and record the total in units of tens and ones. <br> Lesson 3: Recognize the place value of digits in a two-digit number. <br> Lesson 4: Represent a number in multiple ways by trading 10 ones for a ten. <br> Lesson 5: Reason about equivalent representations of a number. <br> Topic B: Use Place Value to Compare <br> Lesson 8: Use place value reasoning to write and compare 2 two-digit numbers. |


| Counting and Place Value (cont.) | 1.NBT.B. 3 | Module 1: Counting, Comparison, and Addition <br> Topic A: Count and Compare with Data <br> Lesson 2: Organize and represent data to compare two categories. <br> Lesson 3: Sort to represent and compare data with three categories. <br> Lesson 4: Find the total number of data points and compare categories in a picture graph. <br> Lesson 6: Use tally marks to represent and compare data. <br> Module 4: Comparison and Composition of Length Measurements <br> Topic B: Length Measurement and Comparison <br> Lesson 5: Measure and compare lengths. <br> Module 5: Place Value Concepts to Compare, Add, and Subtract <br> Topic B: Use Place Value to Compare <br> Lesson 7: Use place value reasoning to compare tow quantities. <br> Lesson 8: Use place value reasoning to write and compare 2 two-digit numbers. <br> Lesson 9: Compare two quantities and make them equal. |  |
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|  | 1.NBT.C. 5 | Module 5: Place Value Concepts to Compare, Add, and Subtract Topic A: Grouping Units in Tens and Ones Lesson 6: Add 10 or take 10 from a two-digit number. |  |
| Exploring Addition and Subtraction Within 100 | 1.NBT.C. 4 | Module 5: Place Value Concepts to Compare, Add, and Subtract <br> Topic C: Addition of One-Digit and Two-Digit Numbers <br> Lesson 10: Add the ones first <br> Lesson 11: Add the ones to make the next ten. <br> Lesson 12: Decompose an addend to make the next ten. <br> Lesson 13: Reason about related problems that make the next ten. <br> Lesson 14: Determine which equations make the next ten. <br> Topic D: Addition and Subtraction of Tens <br> Lesson 15: Count on and back by tens to add and subtract. <br> Lesson 16: Use related single-digit facts to add and subtract multiples of ten. <br> Lesson 17: Use tens to find an unknown part. <br> Lesson 18: Determine if number sentences involving addition and subtraction are true or false. | 17 days |


| Exploring Addition and Subtraction Within 100 (cont.) |  | Lesson 19: Add tens to a two-digit number. <br> Lesson 20:Add ones and multiples of ten to any number. <br> Topic E: Addition of Two-Digit Numbers <br> Lesson 21: Use varied strategies to add 2 two-digit addends. <br> Lesson 22: Decompose both addends and add like units. <br> Lesson 23: Decompose an addend and add tens first. <br> Lesson 24: Decompose an addend to make the next ten. <br> Lesson 25: Compare equivalent expressions used to solve two-digit addition equations. <br> Module 6 Part 2: Advancing Place Value, Addition, and Subtraction <br> Topic F: Extending Addition to 100 <br> Lesson 26: Make a total in more than one way. <br> Lesson 27: Add two-digit numbers in various ways, part 1. <br> Lesson 28: Add two-digit numbers in various ways, part 2. <br> Lesson 29: Add tens to make 100. <br> Lesson 30:Make the next ten and add tens to make 100. <br> Lesson 31: Add to make 100. |  |
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|  | 1.NBT.C. 6 | Module 5: Place Value Concepts to Compare, Add, and Subtract <br> Topic D: Addition and Subtraction of Tens <br> Lesson 15: Count on and back by tens to add and subtract. <br> Lesson 16: Use related single-digit facts to add and subtract multiples of ten. <br> Lesson 17: Use tens to find an unknown part. <br> Lesson 18: Determine if number sentences involving addition and subtraction are true or false. |  |
|  | 1.OA.B. 3 | Module 1: Counting, Comparison, and Addition <br> Topic B: Count On from a Visible Part <br> Lesson 9: Count on from both parts and record part-total relationships. <br> Topic C: Count On to Add <br> Lesson 15: Use the commutative property to count on from the larger addend. <br> Lesson 16: Use the commutative property to find larger totals. |  |


| Exploring Addition and Subtraction Within 100 (cont.) |  | Module 3: Properties of Operations to Make Easier Problems <br> Topic A: Make Easier Problems with Three Addends <br> Lesson 1: Group to make ten when there are three parts. <br> Lesson 2: Make ten with three addends. <br> Lesson 3: Represent and solve three-addend word problems. <br> Lesson 4: Use properties of addition to make three-addend expressions easier. <br> Topic B: Make Easier Problems to Add <br> Lesson 5: Make ten when an addend is 5. <br> Lesson 6: Make ten when the first addend is 9. <br> Lesson 7: Make ten when the first addend is 8 or 9. <br> Lesson 8: Make ten when the second addend is 8 or 9. <br> Lesson 9: Make ten with either addend. <br> Lesson 10: Make ten when there are three addends. <br> Topic C: Make Easier Addition Problems with a Linear Model <br> Lesson 11: Represent and compare related situation equations, part 1. <br> Lesson 12: Represent and compare related situation equations, part 2. <br> Lesson 13: Count on to make ten within 20. <br> Lesson 14: Count on to make the next ten within 100. <br> Topic E: Make Easier Problems to Subtract <br> Lesson 26: Pose and solve varied word problems. |
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|  | 1.OA.C. 5 | Module 1: Counting, Comparison, and Addition <br> Topic B: Count On from a Visible Part <br> Lesson 7: Count all or count on to solve put together with total unknown situations. <br> Lesson 8: Count on from a known part and identify both parts in a total. <br> Lesson 9: Count on from both parts and record part-total relationships. <br> Lesson 10: Count on from 5 within a set. <br> Lesson 11: See any part in a set and count on. <br> Lesson 12: Count on from 10 to find an unknown total. <br> Topic C: Count On to Add <br> Lesson 13: Count on from an addend in add to with result unknown situations. <br> Lesson 14: Count on to find the total of an addition expression. <br> Lesson 17: Add 0 and 1 to any number. |



| Exploring Addition and Subtraction Within 100 (cont.) | 1.NBT.A. 1 | Module 3: Properties of Operations to Make Easier Problems <br> Topic D: Reason about Ten as a Unit to Add or Subtract <br> Lesson 15: Count and record a collection of objects. <br> Lesson 16: Identify ten as a unit. <br> Module 5: Place Value Concepts to Compare, Add, and Subtract <br> Topic A: Grouping Units in Tens and Ones <br> Lesson 2: Count a collection and record the total in units of tens and ones <br> Lesson 3: Recognize the place value of digits in a two-digit number. <br> Lesson 5: Reason about equivalent representations of a number. <br> Module 6 Part 2: Advancing Place Value, Addition, and Subtraction <br> Topic D: Count and Represent Numbers Beyond 100 <br> Lesson 16: Count and record totals for collections greater than 100 <br> Lesson 17: Read, write, and represent numbers greater than 100. <br> Lesson 18: Count up and down across 100. <br> Lesson 19: Write totals for collections larger than 100 shown in various groups of tens and ones |
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|  | 1.NBT.B. 2 | Module 1: Counting, Comparison, and Addition <br> Topic B: Count On from a Visible Part <br> Lesson 12: Count on from 10 to find an unknown total. <br> Module 3: Properties of Operations to Make Easier Problems <br> Topic D: Reason about Ten as a Unit to Add or Subtract. <br> Lesson 15: Count and record a collection of objects. <br> Lesson 16: Identify ten as a unit. <br> Lesson 17: Add a two-digit number and a one-digit number. <br> Lesson 18: Subtract a one-digit number from a two-digit number. <br> Lesson 19: Solve take from with change unknown problems with totals in the teens. <br> Module 4: Comparison and Composition of Length Measurements <br> Topic B: Length Measurement and Comparison <br> Lesson 8: Draw to represent a length measurement. <br> Lesson 9: Represent a total length as units of tens and ones. |


| Exploring Addition and Subtraction Within 100 (cont.) |  | Module 5: Place Value Concepts to Compare, Add, and Subtract <br> Topic A: Grouping Units in Tens and Ones <br> Lesson 2: Count a collection and record the total in units of tens and ones. <br> Lesson 3: Recognize the place value of digits in a two-digit number. <br> Lesson 4: Represent a number in multiple ways by trading 10 ones for a ten. <br> Lesson 5: Reason about equivalent representations of a number. <br> Topic B: Use Place Value to Compare <br> Lesson 8: Use place value reasoning to write and compare 2 two-digit numbers. |  |
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| Defining Attributes of 2-D and 3-D Shapes | 1.G.A. 1 | Module 6 Part 1: Attributes of Shapes <br> Topic A: Attributes of Shapes <br> Lesson 1: Name two-dimensional shapes based on the number of sides. <br> Lesson 2: Sort and name two-dimensional shapes based on attributes. <br> Lesson 3: Draw two-dimensional shapes and identify defining attributes. <br> Lesson 4: Name solid shapes and describe their attributes. <br> Lesson 5: Reason about the functionality of three-dimensional shapes based on their attributes. | 9 days |
|  | 1.G.A. 2 | Module 6 Part 1: Attributes of Shapes <br> Topic B: Composition of Shapes <br> Lesson 6: Create composite shapes and identify shapes within two- and threedimensional composite shapes. <br> Lesson 7: Create new composite shapes by adding a shape. <br> Lesson 8: Combine identical composite shapes. <br> Lesson 9: Relate the size of a shape to how many are needed to compose a new shape. |  |
| Partitioning Circles and Rectangles | 1.G.A. 3 | Module 6 Part 1: Attributes of Shapes <br> Topic C: Halves and Fourths <br> Lesson 10: Reason about equal and not equal shares. <br> Lesson 11: Name equal shares as halves or fourths. <br> Lesson 12: Partition shapes into halves, fourths, and quarters. <br> Lesson 13: Relate the number of equal shares to the size of the shares. | 4 days |


| Measuring Length with Non-Standard Units | 1.MD.A. 1 | Module 4: Comparison and Composition of Length Measurements <br> Topic A: Direct and Indirect Length Comparison <br> Lesson 1: Compare and order objects by length. <br> Lesson 2: Reason to order and compare heights. <br> Lesson 3: Compare the lengths of two objects indirectly by using a third object. <br> Topic B: Length Measurement and Comparison <br> Lesson 5: Measure and compare lengths. <br> Lesson 6: Measure and order lengths. <br> Module 4: Comparison and Composition of Length Measurements <br> Topic B: Length Measurement and Comparison <br> Lesson 4: Measure accurately with centimeter cubes. <br> Lesson 5: Measure and compare lengths. <br> Lesson 6: Measure and order lengths. <br> Lesson 7: Use 10-centimeter sticks and centimeter cubes to measure. <br> Lesson 8: Draw to represent a length measurement. <br> Lesson 9: Represent a total length as units of tens and ones. <br> Topic C: Comparison Word Problems with Measurement <br> Lesson 10: Compare to find how much longer. <br> Lesson 11: Compare to find how much shorter. <br> Lesson 14: Measure to find patterns. (Optional) | 7 days |
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| Time to the Hour and Half-Hour | 1.MD.B. 3 | Module 5: Place Value Concepts to Compare, Add and Subtract <br> Topic A: Grouping Units in Tens and Ones <br> Lesson 1: Tell time to the hour and half hour by using digital and analog clocks. <br> Module 6 Part 1: Attributes of Shapes <br> Topic C: Halves and Fourths <br> Lesson 14: Tell time to the half hour with the term half past. <br> Lesson 15: Reason about the location of the hour hand to tell time. (Optional) | 3 days |
| Time to the Hour and Half-Hour (cont.) | 1.G.A. 3 | Module 6 Part 1: Attributes of Shapes <br> Topic C: Halves and Fourths <br> Lesson 10: Reason about equal and not equal shares. <br> Lesson 11: Name equal shares as halves or fourths. <br> Lesson 12: Partition shapes into halves, fourths, and quarters. <br> Lesson 13: Relate the number of equal shares to the size of the shares. |  |

## Eureka Math ${ }^{2}$ Scope and Sequence: Year at a Glance Level 1: Units of Ten

If a district uses this resource to implement the state model curriculum for grade 1, the following scope and sequence should be followed to ensure alignment and attention to the progressions of mathematics.

| Module 1 <br> Counting, Comparison, and Addition | Module 2 <br> Addition and Subtraction Relationships | Module 3 <br> Properties of Operations to Make Easier Problems | Module 4 <br> Comparison and Composition of Length Measurements | Module 5 <br> Place Value Concepts to Compare, Add, and Subtract | Module 6: Part 1 <br> Attributes of Shapes | Module 6: Part 2 <br> Advancing Place Value, Addition, and Subtraction |
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| Topic A: Count and Compare with Data <br> Lesson 1: Organize to find how many and compare. <br> MP6 <br> Lesson 2: Organize and represent data to compare two categories. <br> 1.NBT.B.3, 1.MD.C.4, MP2, <br> 1.Mod1.AD8, 1.Mod1.AD9 <br> Lesson 3: Sort to represent and compare data with three categories. <br> 1.NBT.B.3, 1.MD.C.4, MP4, <br> 1.Mod1.AD8, 1.Mod1.AD9 <br> Lesson 4: Find the total number of data points and compare categories in a picture graph. <br> 1.NBT.B.3, 1.MD.C.4, MP6, <br> 1.Mod1.AD8, 1.Mod1.AD9 <br> Lesson 5: Organize and represent categorical data. 1.MD.C.4, MP1, 1.Mod1.AD9 | Topic A: Reason About Take From Situations <br> Lesson 1: Represent result unknown problems and record as addition or subtraction number sentences. <br> 1.OA.A.1, MP2, 1.Mod2.AD1 <br> Lesson 2: Subtract all or subtract 0 . <br> 1.OA.C.5, 1.OA.C.6, MP3, MP8, <br> 1.Mod2.AD4, 1.Mod2.AD5 <br> Lesson 3: Subtract 1 or subtract <br> 1 less than the total. <br> 1.OA.C.5, 1.OA.C.6, MP3, MP8, <br> 1.Mod2.AD4, 1.Mod2.AD5 <br> Lesson 4: Use fingers to subtract 4,5 , and 6 efficiently. 1.OA.C.5, 1.OA.C.6, MP5, MP7, <br> 1.Mod2.AD4, 1.Mod2.AD5 <br> Topic B: Relate and Distinguish Addition and Subtraction | Topic A: Make Easier Problems with Three Addends <br> Lesson 1: Group to make ten when there are three parts. <br> 1.OA.B.3, 1.OA.C.6, MP7, <br> 1.Mod3.AD2 <br> Lesson 2: Make ten with three addends. <br> 1.OA.A.2, 1.OA.B.3, MP7, <br> 1.Mod3.AD1 <br> Lesson 3: Represent and solve three-addend word problems. <br> 1.OA.A.2, 1.OA.B.3, MP2, <br> 1.Mod3.AD1 <br> Lesson 4: Use properties of addition to make three-addend expressions easier. <br> 1.OA.B.3, 1.OA.C.6, MP7, <br> 1.Mod3.AD2, 1.Mod3.AD3 | Topic A: Direct and Indirect Length Comparison <br> Lesson 1: Compare and order objects by length. <br> 1.MD.A.1, MP6, 1.Mod4.AD4 <br> Lesson 2: Reason to order and compare heights. 1.MD.A.1, MP3, 1.Mod4.AD4 <br> Lesson 3: Compare the lengths of two objects indirectly by using a third object. <br> 1.MD.A.1, MP5, MP3, <br> 1.Mod4.AD5 <br> Topic B: Length <br> Measurement and Comparison <br> Lesson 4: Measure accurately with centimeter cubes. <br> 1.MD.A.2, MP5, MP6, <br> 1.Mod4.AD7 | Topic A: Grouping Units in Tens and Ones <br> Lesson 1: Tell time to the hour and half hour using digital and analog clocks. <br> 1.MD.B.3, MP6, 1.Mod5.AD10 <br> Lesson 2: Count a collection and record the total in units of tens and ones. <br> 1.NBT.A.1, 1.NBT.B.2.a, <br> 1.NBT.B.2, MP4, 1.Mod5.AD1, <br> 1.Mod5.AD3 <br> Lesson 3: Recognize the place value of digits in a two-digit number. <br> 1.NBT.A.1, 1.NBT.B.2.a, <br> 1.NBT.B.2, MP7, 1.Mod5.AD1, <br> 1.Mod5.AD3 <br> Lesson 4: Represent a number in multiple ways by trading 10 ones for a ten. 1.NBT.B.2, <br> 1.NBT.B.2.b, 1.NBT.B.2.c, MP2, <br> 1.Mod5.AD2, 1.Mod5.AD3 | Topic A: Attributes of Shapes <br> Lesson 1: Name twodimensional shapes based on the number of sides. <br> 1.G.A.1, MP7, 1.Mod6.AD2 <br> Lesson 2: Sort and name twodimensional shapes based on attributes. <br> 1.G.A.1, MP7, 1.Mod6.AD2 <br> Lesson 3: Draw twodimensional shapes and identify defining attributes. 1.G.A.1, MP4, 1.Mod6.AD2, 1.Mod6.AD3 <br> Lesson 4: Name solid shapes and describe their attributes. 1.G.A.1, MP7, 1.Mod6.AD2 <br> Lesson 5: Reason about the functionality of threedimensional shapes based on their attributes. <br> 1.G.A.1, MP6, 1.Mod6.AD2 | Topic D: Count and Represent Numbers Beyond 100 <br> Lesson 16: Count and record totals for a collection above 100. 1.NBT.A.1, MP6, 1.Mod6.AD8 <br> Lesson 17: Read, write and represent numbers greater than 100. <br> 1.NBT.A.1, MP7, 1.Mod6.AD8, <br> 1.Mod6.AD10 <br> Lesson 18: Count up and down across 100. <br> 1.NBT.A.1, MP7, 1.Mod6.AD10 <br> Lesson 19: Write totals for collections larger than 100 shown in various groups of tens and ones. <br> 1.NBT.A.1, MP3, 1.Mod6.AD8, <br> 1.Mod6.AD9 |


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| represent and compare dat 1.NBT.B.3, 1.MD.C.4, MP5, | Write process to solve result unknown problems. 1.OA.A. | Topic B: Make Easie | MD.A.2, | lent representations of a r. | osition | Seepening |
| 1.Mod1.AD8, 1.Mod1.AD9 | MP | Problem | MP2, |  | Shapes | Problem Solving |
| Topic B: Count On from a Visible Part | Lesson 6: Represent and solve related addition and subtraction result unknown problems. 1.OA.A.1, MP4, 1.Mod2.AD1 | Lesson 5: Make ten when an addend is 5 . <br> 1.OA.B.3, 1.OA.C.6, MP7, | Lesson 6: Measure and order lengths. <br> 1.MD.A.1, 1.MD.A.2, MP2, MP6, <br> 1.Mod4.AD6 | 1.Mod5.AD1, 1.Mod5.AD2, <br> 1.Mod5.AD3 <br> Lesson 6: Add 10 or take 10 | Lesson 6: Create composite shapes and identify shapes within two- and three-dimensional composite shapes. | Lesson 20: Represent and solve put together and take apart word problems. <br> 1.OA.A.1, MP4, 1.Mod6.AD7 |
| Lesson 7: Count all or count on to solve put together with total unknown situations. 1.OA.C.5, MP8, 1.Mod1.AD2 | Lesson 7: Count on or count back to solve related addition and subtraction problems. 1.OA.A.1, 1.OA.C.5, 1.OA.C.6, MP7, 1.Mod2.AD1, 1.Mod2.AD4 | 1.Mod3.AD3 | Lesson | from a two-digit number. <br> 1.NBT.C.5, MP8, 1.Mod5.A | 1.G.A.2, MP2, 1.Mod6.AD4 |  |
|  |  | Lesson 6: Make ten when the first addend is 9 . | sticks and centimeter cubes to measure. |  | Lesson 7: Create new composit | add to and take from word problems. |
|  |  | 1.OA.B.3, 1.OA.C.6, MP2 | 1.MD.A.2, MP5, MP <br> 1.Mod4.AD7 | Topic B: Use Place Value Compare | 1.G.A.2, MP8, 1.Mod6.AD | 1.OA.A.1, MP2, 1.Mod6.AD |
| Lesson 8: Count on from a known part and identify both parts in a total. <br> 1.OA.C.5, MP6, 1.Mod1.AD2 |  | 1.Mod3.A |  | par |  |  |
|  | Topic C: Find an Unknown Part in Change Unknown Problems | Lesson 7: Make ten when the first addend is 8 or 9 . 1.OA.B.3, 1.OA.C.6, MP3, | Lesson 8: Draw to represent length measurement. <br> 1.NBT.B.2, 1.NBT.B.2.a, <br> 1.NBT.B.2.b, 1.MD.A.2, MP4, | Lesson 7: Use place value reasoning to compare two quantities. | composite shapes. <br> 1.G.A.2, MP1, 1.Mod6.AD4 | add to and take from with start unknown word problems. <br> 1.OA.A.1, MP4, 1.Mod6.AD7 |
| Lesson 9: Count on from both parts and record part-total relationships. <br> 1.OA.B.3, 1.OA.C.5, MP2, <br> 1.Mod1.AD1, 1.Mod1.AD2 |  | 1.Mod3.AD | 1.Mod4.AD2, 1 Mod4.AD7 | 1.NBT.B.3, MP7, 1.Mod5.AD | Lesson 9: Relate the size of a shape to how many are needed | Lesson 23: Represent and solve |
|  | Lesson 8: Interpret and find an unknown change. <br> 1.OA.A.1, MP1, 1.Mod2.AD1 | Lesson 8: Make ten when the second addend is 8 or 9 . <br> 1.OA.B.3, 1.OA.C.6, MP7, | Lesson 9: Represent a total length as units of tens and ones. 1.NBT.B.2, 1.NBT.B.2.a, | Lesson 8: Use place value reasoning to write and compare 2 two-digit numbers. | to compose a new shape. <br> 1.G.A.2, MP8, 1.Mod6.AD4 | comparison word problems. 1.OA.A.1, MP7, 1.Mod6.AD7 |
| Lesson 10: Count on from 5 within a set. <br> 1.OA.C.5, MP7, 1.Mod1.AD2 | Lesson 9: Represent and solve add to with change unknown problems. <br> 1.OA.A.1, MP4, 1.Mod2.AD1 | 1.Mod3.AD3 | 1.NBT.B.2.b, 1.MD.A.2, MP <br> 1.Mod4.AD2, 1.Mod4.AD7 | 1.Mod5.AD3, 1.Mod5.AD4 | Topic C: Halves and Fourt | standard measurement units. <br> 1.OA.A.1, MP6, 1.Mod6.AD7 |
|  |  | Lesson 9: Make ten with either addend. | parison | sson 9: Compare two antities and make them equal. | Lesson 10: Reason about equal and not equal shares. 1.G.A.3, |  |
| Lesson 11: See any part in a set and count on. <br> 1.OA.C.5, MP3, 1.Mod1.AD2 | Lesson 10: Represent and find an unknown addend in equations. <br> 1.OA.D.8, MP5, 1.Mod2.AD7 | $\begin{aligned} & \text { 1.OA.B.3, 1.OA.C.6, MP } \\ & \text { 1.Mod3.AD3 } \end{aligned}$ | Problems with | .B.3, MP3, 1.Mod5.A | MP4 | Solve non-routine problems. (Optional) |
|  |  |  |  |  | Lesson 11: Name equal shares as | 1.OA.A.1, MP1, 1.Mod6.AD7 |
| Lesson 12: Count on from 10 to find an unknown total. 1.OA.C.5, 1.NBT.B.2, 1.NBT.B.2.b, MP7, 1.Mod1.AD2, 1.Mod1.AD7 |  | there are three addends 1.OA.B.3, 1.OA.C.6, MP1 | Lesson 10: Compare to find how much longer. <br> 1.OA.A.1, 1.MD.A.2, MP7, | One-Digit and Two-Digit Numbers | 1.G.A.3, MP5, 1.Mod6.AD5 Lesson 12: Partition shapes into | Topic F: Extending Addition |
|  | Lesson 11: Represent and solve take from with change unknown problems. <br> 1.OA.A.1, MP4, 1.Mod2.AD1 | 1.Mod2.AD2 | 1.OA.A.1, 1.MD.A.2, MP7, <br> 1.Mod4.AD1, 1.Mod4.AD | the ones | Lesson 12: Partition shapes into halves, fourths, and quarters. 1.G.A.3, MP3, 1.Mod6.AD5 | to 100 Lesson 26: Make a total in more |
|  |  |  | Lesson 11: Compare to find how much shorter. |  | Lesson 13: Relate the number of equal shares to the size of the | than one way. |
|  | Lesson 12: Represent and find an unknown subtrahend in equations. <br> 1.OA.D.8, MP3, 1.Mod2.AD7 | Linear Model | 1.O.A.1, 1.MD.A.2, MP4, <br> 1.Mod4.AD1, 1.Mod4.AD7 | Lesson 11: Add the ones to make the next ten. <br> 1.NBT.C.4, MP8, 1.Mod5.AD7 | shares. <br> 1.G.A.3, MP8, 1.Mod6.AD6 | 1.NBT.C.4, MP7, 1.Mod6.AD12 <br> Lesson 27: Add two-digit numbers in various ways, part 1. 1.NBT.C.4, MP3, 1.Mod6.AD11, 1.Mod6.AD12 |

Topic C: Count On to Add
Lesson 13: Count on from an
addend in add to with result
unknown situations.
1.OA.C.5, MP5, 1.Mod1.AD

Lesson 14: Count on to find the total of an addition expression.
1.OA.C.5, 1.OA.C.6, MP3,
1.Mod1.AD3

## Lesson 15: Use th

commutative property to count on from the larger addend. 1.OA.B.3, MP7, 1.Mod1.AD1

## Lesson 16: Use the

commutative property to find larger totals.
1.OA.B.3, MP3, 1.Mod1.AD1

Lesson 17: Add 0 and 1 to any number.
1 OA.C.5, 1.OA.C.6, MP8
1.Mod1.AD3, 1.Mod1.AD4

Topic D: Make the Same
Total in Varied Ways
Lesson 18: Determine whether number sentences are true or false.
1.OA.D.7, MP2, 1.Mod.1.AD6

Lesson 19: Reason about the meaning of the equal sign 1.OA.D.7, MP3, MP5, 1.Mod1.AD6

Lesson 13: Represent and solve add to and take from with
change unknown problems.
1.OA.A.1, 1.OA.D.8, MP7,
1.Mod2.AD1, 1.Mod2.AD7

Topic D: Find an Unknown Part by Using Addition and Subtraction

Lesson 14: Represent and solve put together/take apart with addend unknown problems. 1.OA.A.1, MP1, 1 Mod2.AD1

Lesson 15: Relate counting on and counting back to find an unknown part.
1.OA.D.8, MP2, 1.Mod2.AD7

Lesson 16: Compare the efficiency of counting on and counting back to subtract. 1.OA.C.5, 1.OA.C.6, MP3, 1.Mod2.AD4

## Lesson 17: Use related additio

facts to subtract from 10 .
1.OA.B.4, MP7, 1.Mod2.AD3

Lesson 18: Use related addition facts to subtract. 1.OA.B.4, MP7, 1.Mod2.AD3

Lesson 19: Determine the value of the unknown in various positions.
1.OA.B.4, 1.OA.D.8, MP3, 1.Mod2.AD3, 1.Mod2.AD7

Topic E: Represent and Solve Comparison Problems

Lesson 11: Represent and compare related situation equations, part 1.
1.OA.A.1, 1.OA.A.2, 1.OA.B.3,

MP7, 1.Mod.2.AD1, 1.Mod3.AD1
Lesson 12: Represent and compare related situation equations, part 2 .
1.OA.A.1, 1.OA.A.2, 1.OA.B.3, MP1, MP4, 1.Mod2.AD1, 1.Mod3.AD1

Lesson 13: Count on to mak ten within 20.
1.OA.B.3, 1.OA.C.6, MP3, MP5, 1.Mod3.AD3

Lesson 14: Count on to make the next ten within 100 . 1.OA.B.3, 1.OA.C.6, MP8, 1.Mod3.AD3

Topic D: Reason About Ten as a Unit to Add or Subtract

Lesson 15: Count and record a collection of objects.
1.NBT.A.1, 1.NBT.B.2,
1.NBT.B.2.a, MP4, 1.Mod3.AD7

Lesson 16: Identify ten as a unit. 1.NBT.A.1, 1.NBT.B.2,
1.NBT.B.2.a, 1.NBT.B.2.b,
1.NBT.B.2.c, MP6, 1.Mod3.AD7 1.Mod3.AD8

Lesson 17: Add a two-digit number and a one-digit number. 1.OA.C.6, 1.NBT.2, 1.NBT.B.2.b, 1.NBT.B.2.c, MP7, 1.Mod3.AD5, 1.Mod3.AD8

Lesson 12: Find the unknow longer length. 1.OA.A.1, MP5, 1.Mod4.AD1 shorter length. 1.OA.A.1, MP2, 1.Mod4.AD1

Lesson 14: Measure to find patterns. (Optional) 1.MD.A.2, MP1, MP8, 1.Mod4.AD7

Lesson 12: Decompose an 1.NBT.C.4, MP4, 1.Mod5.AD7

Lesson 13: Reason about related problems that make the next ten 1.NBT.C.4, MP3, 1.Mod5.AD7

Lesson 14: Determine which equations make the next ten. 1.NBT.C.4, MP7, MP8

## 1.Mod5.AD7

Topic D: Addition and Subtraction of Tens

Lesson 15: Count on and back by tens to add and subtract. 1.NBT.C.4, 1.NBT.C.6, MP5, 1.Mod5.AD5

Lesson 16: Use related single digit facts to add and subtract multiples of ten
1.NBT.C.4, 1.NBT.C.6, MP2, 1.Mod5.AD5

Lesson 17: Use tens to find an unknown part.
1.NBT.C.4, 1.NBT.C.6, MP7, 1.Mod5.AD5

Lesson 18: Determine if number sentences involving addition and subtraction are true or false.
1.OA.D.7, 1.NBT.C.4,
1.NBT.C.6, MP3, 1.Mod5.AD5,

## 1.Mod1.AD6

## Lesson 19: Add tens to a two

 digit number.1.NBT.C.4, MP8, 1.Mod5.AD6

## 20: Find all two-

 expressions equal to 6 .1.Mod1.AD5

Lesson 21: Find all two-part expressions equal to 7 and 8 . 1.OA.C.6, MP8, 1.Mod1AD4, 1.Mod1.AD5

Lesson 22: Find all two-part expressions equal to 9 and 10 1.OA.C.6, MP7, 1.Mod1.AD4, 1.Mod1.AD5

## Lesson 23: Find the totals of

 doubles +1 facts1.OA.C.5, 1.OA.C.6, MP8,
1.Mod1.AD3

Lesson 24: Use known facts to make easier problems. 1.OA.C.5 1.OA.C.6, 1.OA.D.7, MP3, 1.Mod1.AD3, 1.Mod1.AD6

Lesson 25: Organize, count, and record a collection of objects. (Optional)

## MP4

Lesson 20: Add or subtract to make groups equal. 1.OA.D.7, MP6, 1.Mod2.AD6

Lesson 21: Represent and solve compare with difference unknown problems, part 1. 1.OA.A.1, MP4, 1 Mod2.AD2

Lesson 22: Represent and solve compare with difference unknown problems, part 2 1.OA.A.1, MP2, 1.Mod2.AD2

## Lesson 23: Compare categories

 in a graph to figure out how many more.1.MD.C.4, MP6, 1.Mod2.AD8

Lesson 18: Subtract a one-digt number from a two-digit number.
1.OA.C.6, 1.NBT.B.2, 1.NBT.B.2.b, 1.NBT.B.2.c, MP8, 1.Mod3.AD6, 1.Mod3.AD8

## Lesson 19: Solve take from with

 change unknown problems with otals in the teens.1.OA.A.1, 1.NBT.B.2, 1.NBT.B.2.b, 1.NBT.2.c, MP2, 1. Mod2.AD1, 1.Mod3.AD8

Topic E: Make Easier
Problems to Subtract
Lesson 20: Use strategies to
subtract from a teen number 1.OA.C.6, MP4, 1.Mod3.AD4

Lesson 21: Take from ten to subtract from a teen number, part 1.
1.OA.C.6, MP7, 1.Mod3.AD4

Lesson 22: Take from ten to subtract from a teen number, part 2.
1.OA.C.6, MP5, 1.Mod3.AD4

Lesson 23: Subtract by counting on.
1.OA.C.6, MP2, 1.Mod3.AD4

Lesson 24: Decompose the subtrahend to count back 1.OA.C.6, MP6, 1.Mod3.AD4

Lesson 25: Choose a strategy to make an easier problem. 1.OA.C.6, MP5, 1.Mod3.AD4

Lesson 20: Add ones and multiples of ten to any number.
1.NBT.C.4, MP7,
1.Mod5.AD6, 1.Mod.AD7

Topic E: Addition of
Two-Digit Numbers
Lesson 21: Use varied strategies
to add 2 two-digit addends. 1.NBT.C.4, MP1, 1.Mod5.AD8

## Lesson 22: Decompose both

addends and add like units.
1.OA.D.7, 1.NBT.C.4, MP7
1.Mod1.AD6, 1.Mod5.AD8

Lesson 23: Decompose an addend and add tens first. 1.OA.D.7, 1.NBT.C.4, MP5, 1.Mod1.AD6, 1.Mod5.AD8

## esson 24: Decompose an

addend to make the next ten 1.OA.D.7, 1.NBT.C.4, MP3, 1.Mod1.AD6, 1.Mod5.AD8

Lesson 25: Compare equivalent expressions used to solve two
digit addition equations.
1.OA.D.7, 1.NBT.C.4, MP3 1.Mod1.AD6, 1.Mod5.AD8

MP1, MP4, 1.Mod2.AD1,
1.Mod3.AD1

## Year-Long Curriculum Overview: Levels K-2 \| STORY OF UNITS

Trimester and quarter indicators are provided as a guide for pacing. A few optional lessons in each grade level are included in the total number of lessons. About thirty additional days are allotted at each level for assessment and responsive teaching.


## Supports of Diversity, Equity, and Inclusion

## Providing Culturally Responsive Instruction

Eureka Math ${ }^{2}$ values the funds of knowledge that students bring into the classroom and acknowledges that deep learning happens when all students are able to leverage their diverse life experiences while learning mathematics.

## Launch

10

Students solve and compare related addition and subtraction problems. Gather students and present the following situation.

There are 7 pencils on my desk. (Display the picture of
7 pencils.)
I put some more pencils on my desk. (Display the picture
of 9 pencils.)
Now there are 9 pencils on my desk.
How many pencils did I put on my desk? How do you know?
Have students think-pair-share to determine how many pencils were put on the desk. Invite students to explain their thinking.
If possible, include someone who counted on to find the unknown part.
2 pencils. We counted on: Sevennnn, 8, 9.
2 pencils. We know $7+2=9$.
Ask students to write a number sentence that corresponds to the story and $t$ unknown. Have the class discuss how the number sentence represents the st the idea that the unknown represents the added part, or the pencils put on

$$
7+2=9
$$

Continue to display the picture of 9 pencils.


## UDL: Engagement

The pencil context is one option for presenting the situations in this lesson. If desired, use a context that is more relevant or engaging to your students. Be sure that it works for the actions of both adding to and taking away.

One of the ways Eureka Math ${ }^{2}$ invites students into mathematics and celebrates the diversity present in every classroom is by highlighting for teachers those specific lesson moments that can be tailored to bring students' experiences from their home and communities into the classroom. For example, a strategically placed Universal Design for Learning margin note in grade 1 module 2 lesson 11 (page 176) suggests that teachers leverage students' interests when solving and comparing related addition and subtraction problems.

Adjusting contexts to make them more meaningful to students provides options for recruiting interest by personalizing the content to learners' lives. In kindergarten module 3 lesson 11 (page 128), teachers draw on students' experiences from their homes by modifying the baked goods to types of baked goods that relate to students' cultures. Students' experiences from their homes and communities are also leveraged through Family Math. Family Math is a letter to families that describes the major concepts in the current topic. Each letter uses words and phrases that should be familiar to the student from the lessons in the topic. It includes visual supports that students can use to explain the concepts or strategies to their family or that can help adults at home understand or unpack a concept. Family Math also includes simple and practical at-home activities to extend learning and help students see mathematics in their world.
Students are diverse, and any one classroom can have students from either an individualist frame of reference or a collectivist frame of reference. The teacher-writers of Eureka Math ${ }^{2}$ considered both frames of reference in intentionally balancing activities that build off individualism as well as collectivism.
In her book Culturally Responsive Teaching and the Brain, Zaretta Hammond references collectivism as emphasizing relationships, interdependence within a community, and cooperative learning (page 25). In Eureka Math ${ }^{2}$, a collectivist approach to learning mathematics is present in the embedded cooperative learning structures in open-middle and open-ended tasks. Specifically, the instructional routines Numbered Heads and Co-construction are rooted in students
Language Support
Consider using strategic flexible groupinthroughout the module.

- Pair students who have different levels of mathematical proficiency.
- Pair students who have different levels of English language proficiency.
Join pairs of students to form small groups of four.
As applicable, complement any of these groupings by pairing students who speak the same native language.
working cooperatively in groups to deepen their mathematical conceptual understanding. See grade 2 module 3 lesson 10 (pages 163-165) for an example of Co-construction and grade 2 module 1 lesson 34 (pages 487-488) for an example of Numbered Heads. In grade 1 module 1 lesson 16 (page 224) there is an example of Numbered Heads modified for younger students.
Beyond the instructional routines, Eureka Math ${ }^{2}$ taps the power of student relationships and interdependence through frequent partner and group work. For any partner or group work referenced in the instructional materials, teachers may make use of strategic, flexible groupings that build off students' strengths, including home language. A Language Support margin note in the first lesson of every module serves to remind teachers to leverage students' cultural perspectives when strategically placing students in partners.

| Learn 35 | Language Support |
| :---: | :---: |
| Halves and Quarters |  |
| Students identify whether an object is partitioned into halves or fourths and justify their thinking. | Support student-to-student discourse by pointing out the sentence stems on the $\qquad$ |
| Display each of the pictures of partitioned pies. | sentence stems to build on one another' |
| Engage students in a variation of the Take a Stand routine as each picture is displayed. Have students stand if they think the picture shows an object cut into halves. Invite students who stand to explain their reasoning. | "I disagree that this pie shows halves because the 2 parts are not the same size." |



Hammond references individualism as emphasizing individual achievement and independence (page 25). In Eureka Math², an individualist approach to learning mathematics may be seen in the embedded systems for independent practice in every lesson, such as Exit Tickets and Problem Sets. Additionally, the instructional routines Critique a Flawed Response and Take a Stand both start with
students working on a math problem individually before engaging in discourse. See grade 2 module 3 lesson 12 (page 195) for an example of the Critique a Flawed Response routine and grade 1 module 6 lesson 12 (pages 185-186) for an example of the Take a Stand routine, shown in the image to the left.

Beyond balancing individualism and collectivism, Eureka Math ${ }^{2}$ activities and problems provide students with mirrors in which to see their own cultural perspectives reflected, as well as windows through which to view others' cultural perspectives.
Eureka Math ${ }^{2}$ is an inclusive mathematics curriculum that represents diverse doers of math. The curriculum's images, fine art, and pictures of people represent diversity through problems and exercises related to real-life experiences, perspectives, and contributions of people from various cultures, ethnicities, and gender identities. These representations affirm student identities while rejecting the stereotypes and biases that have excluded many students from mathematical learning in favor of a more robust and inclusive perspective. Representing a diverse array of doers
 of mathematics in the curriculum inspires all students to think of themselves as mathematicians.
For example, Eureka Math ${ }^{2}$ includes various mathematical activities that involve counting on hands or simulating a number line with one's fingers. In images throughout the curriculum, care was taken to include a variety of body types and skin tones.

The names used in word problems and for sample students in the lesson vignettes are intentionally diverse to represent the wide variety of students who use the curriculum.
The names in student-facing word problems are also designed for readability to ensure that they are not a barrier to accessing the math.

## Story of Units ${ }^{\text {® }}$

Tam, Kit, Zan, Ren, Mac, Jon, Baz, Liv, Jade, Ling, Sal, Deepa, Oka, Mia, Gabe, Pablo, Shea, Jayla, Shen, Lacy, Sasha, Yuna, Leo, Adesh, Toby

According to CAST, "individuals are engaged by information and activities that are relevant and valuable to their interests and goals." (UDL Guidelines, Engagement, Checkpoint 7.2) Eureka Math also leverages students' experiences, goals, and interests through Math Pasts (described below), art connections, and wordless context videos.

To honor the diverse contributions to the development of the field of mathematics, to build knowledge about our shared math history, and to empower every child to see themselves as able to do mathematics, nearly every module in Eureka Math ${ }^{2}$ includes a feature called Math Past. Each Math Past tells the history of some big ideas in the module, recounting the story of the mathematics through artifacts, discoveries, and other contributions from cultures around the world. Math Past also provides ideas about how to engage students in the history of mathematics. Math Past counters the
traditional Eurocentric perspective and celebrates the many contributions of Black, Indigenous, and People of Color communities to the history of mathematics.
For example, a real-world lesson in grade 2 module 5 about determining when and why precise measurements are needed highlights the biography of Katherine Johnson, who was the first African American to work with the American Space Task Group. Her calculations were crucial for allowing NASA to safely send and return the first astronauts to space in 1961 and to the moon. Students discuss why Johnson needed exact numbers rather than estimates in her calculations. Students go on to reason about what real-life situations require precision rather than estimation. Later, they measure accurately, solve word problems with lengths, and label their answers with an appropriate unit (addressing the mathematical habit of mind of attending to precision).
 The Math Past Teacher Resource (pages 274-275)
highlights the esteemed group of women known as Hidden Figures at NASA. Students are asked to think about what it means to be a human computer, why precision is important in mathematics, and the invaluable contributions made by this team of women.

In a similar vein, Eureka Math ${ }^{2}$ connects works of fine art to the standards of each grade level.
Each Teach book opens with a stunning work of fine art that has a connection to the math learned in the grade. There is also a wide variety of additional pieces of art embedded in each grade's lessons. For example:

- Launch (the opening section of each lesson) in grade $K$ module 6 lesson 21 relates Faith Ringgold's The Sunflower Quilting Bee at Arles to both estimating and recognizing and writing numerals to 20 and beyond.
- Land in grade 2 module 6 lesson 8 connects the painting Castle and Sun by Paul Klee to a foundational understanding of multiplication when students locate as many arrays as possible in the artwork.
Additionally, Eureka Math² lessons include more than 190 videos. These wordless context-building videos highlight how we use math

to solve problems in our everyday lives and make sense of the world around us. Three types of highly engaging videos may be found in the curriculum: character animation, collage animation, and live action.
Students can identify with the diverse set of actors and characters in the videos, which helps them visualize how math is part of their own lives. Through these videos, students will more readily realize that

Display Castle and Sun, 1928, by Paul Klee Invite students to be detectives and find as many
arrays as they can in the artwork. Choose a few arrays as they can in the artwork. Choose a few array, invite students to share the matching repeated addition equation for both rows and columns. Then choose one array to focus the discussion. Invite students to think-pair-share about the effect of describing an array by rows or by columns.
If we look at the rows, the repeated addition
equation is $5+5=10$.
If we look at the columns, the repeated addition
equation is $2+2+2+2+2=10$.
The total doesn't change because the array is just
flipped.
islay the pictures of arrays that show 3 rows of 2 .

Klee, Paul (1879-1940) 2020 Artists Rights Society © 2020 Artists Rig
(ARS), New York.
Photo Credit : Erich Lessing / Art
Resource, NY math surrounds them and that they, too, can engage in mathematical pursuits. The videos allow students to see themselves in the math problems they encounter, which lowers the barrier to engagement and makes the math classroom a more welcoming place.

Wordless videos in lessons serve many other purposes as well, such as the following

- They make the context for a given problem come alive, putting all students on the same footing by activating or building the requisite background knowledge.
- They remove any language and reading barriers to the written word problem.
- They raise the accessibility of mathematics through accurate and inclusive representation.
- They show the many ways in which we interact with math in the world around us and how these interactions spark curiosity and joy.
- They help students see the delight and wonder associated with being a mathematician.
- They create excitement and buzz in the classroom about the content of the new word problem.
- They invite students to tell the story of the math problem, to notice, to wonder, and to drive the discussion.


## Examples include:

- Grade K module 6 lesson 8: Craft Fair
- Grade 1 module 2 lesson 13: Crunchy Carrots
- Grade 2 module 2 lesson 27: Imani's Wish

Specific instructional prompts, engaging word problems, accessible and engaging tasks, art connections, Math Past connections, and context videos throughout Eureka Math ${ }^{2}$ work together to create a powerful curriculum that welcomes all students and invites them to become doers of mathematics.

## Addressing Learner Variance

To ensure success of all learners, every Eureka Math ${ }^{2}$ lesson includes Universal Design for Learning (UDL) strategies and scaffolds that address learner variance These suggestions promote flexibility with engagement, representation, and action and expression, the three UDL principles described by CAST. These strategies and scaffolds are complements to the curriculum's overall alignment with the UDL Guidelines and were designed to support educators in effectively teaching students who experience difficulty in mathematics. The strategies are based on research specific to mathematics instruction.
According to Teaching Mathematics Meaningfully: Solutions for Reaching Struggling Learners, Second Edition, (page 71) "Students who have learning difficulties that affect their ability to do well in mathematics come from a variety of backgrounds and experiences. Although each of these students is individual and unique, students often demonstrate one or more of the nine learning characteristics..." The nine learning characteristics described include: learned helplessness, passive learning, knowledge and skills gaps, math anxiety, memory disabilities, attention disabilities, metacognitive thinking disabilities, processing disabilities, and reading disabilities. Some of these characteristics can affect all students who may be struggling in math regardless of whether they have learning-related disabilities (learned helplessness, passive learning, knowledge and skills gaps, math anxiety). Other characteristics result from learningrelated disabilities (memory disabilities, attention disabilities, metacognitive thinking disabilities, processing disabilities, and reading disabilities). These learning characteristics as well as curriculum factors can result in common mathematics performance traits of students who struggle in mathematics.
According to Allsopp et. al (2018), "Mathematics visuals appear to be most effective when used in conjunction

UDL: Action \& Expression
Consider presenting the information in a different format. Invite students to use a number bond to show the shaded and unshaded parts of the array in unit form.


## UDL: Representation

Demonstrate partitioning, or cutting, the array into two parts. Highlight the connection between the array and the number bond by pushing the two parts from the bottom left and bottom right to the top center while aring " 12 and 12 make 24 " Similarly, pul saying 12 and 12 make 24 ." Similarly, pull the two parts back to the original positions and say, " 24 decomposed into two parts is 12 and 12 ."

UDL: Action \& Expression

Consider adapting the process for making the numberless ruler to reduce barriers posed by the motor demands of the task. For example, students might work in pairs to create rulers. Have one student hold the paper and the tiles while the other student makes tick marks. Then have partners switch tasks.
with other effective instructional practices. An example of this is the use of explicit instruction techniques in conjunction with visuals. (page 192)." "Explicit cueing techniques can be utilized with visuals in ways that help students attend to the visual's most important features and its representation of the mathematical idea. Simple techniques, such as color-coding, using directional arrows, and highlighting, can help students focus on what is most relevant."
A variety of other strategies suggested in the literature are the foundation of all UDL margin notes found in Eureka Math ${ }^{2}$. Each margin note is aligned to a strategy found to minimize the impacts of one of the nine learning characteristics listed above. Strategies include, but are not limited to

- Break down tasks into manageable chunks.
- Demonstrate the belief that students can be successful.
- Visually organize to cue student to important aspects of concept.
- Teach students to change their frame of thinking.
- Embed math in relevant contexts.
- Help students make connections to prior knowledge.
- Engage students by addressing interests.
- Celebrate progress and success.
- Cultivate a growth mindset.
- Relate math to students' lives.
- Use concrete materials.
- Associate content with meaningful context
- Use a variety of strategies (visual, auditory, tactile, or kinesthetic).


## Launch

Students become familiar with ancient Egyptian measurement tools.
Activate prior knowledge by asking students what tools they use to measure length.
Introduce the idea that people in Egypt long ago used different tools to measure length. Display the pictures of ancient Egypt to help establish a sense where Egypt is where Egypt is on a map.
Long ago, Egyptians measured length using a unit called a cubit.


- Provide visual organizers.
- Provide think alouds.
- Use novel learning contexts.
- Help students focus on what is important rather than on things that are irrelevant.

Eureka Math ${ }^{2}$ embeds differentiation through the simple-to-complex sequencing of lesson and Practice problems. This logical sequence gradually reduces scaffolds and builds in complexity, allowing teachers to differentiate assignments for either individual or small-group work. For all students, including those working above grade level, the gradual reduction of support and increase in complexity builds independent thinking and encourages productive struggle. Problems toward the end of the Problem Set (a lesson's daily independent practice) are often open-ended, at Depth of Knowledge (DOK) levels 2 and 3, and integrate two or more standards and/or Standards for Mathematical Practice. Teachers can assign problems of different complexities to students according to their needs or allow students to select problems in the 10-minute (approximate) timeframe. Lessons provide differentiation suggestions at the point of instruction to support a wide variety


## Differentiation: Support

The cards include times to the hour and half hour in variations: analog, digital, and word form. Support the needs of your students by removing some forms from the set as necessary. of learners. Differentiation margin notes found in the Teach book offer guidance for adapting instruction so that all students can successfully access grade-level content. There are two types of Differentiation margin notes: Support and Challenge. Challenge boxes suggest ways to keep students working at a more advanced level engaged by providing opportunities for extension while Support boxes offer specific, lesson-based scaffolds for helping students access content.

In this example from grade 1 module 6 lesson 25 , the Differentiation: Challenge margin note offers a suggestion for students to interact with the lesson objective of solving nonroutine problems in a deeper way. During the lesson, students use the shape of a set of dice to count a total by recognizing patterns. The margin note suggests students consider dice with other totals, which raises the ceiling to another level of thinking about patterns and counting with efficiency.

This Differentiation: Support margin note from grade 1 module 6 lesson 14 encourages teachers to alter the number of representations used in instruction to support students for whom too many stimuli may be problematic.

## Supporting Multilanguage Learners

Eureka Math ${ }^{2}$ writers relied on language development research to outline and build in the language support needed for multilanguage learners to engage with the language-rich lessons. With the goal of supporting the clear, concise, and precise use of reading, writing, speaking, and listening in English, Eureka Math ${ }^{2}$ supports multilanguage learners through each lesson's instructional design. It does this by including instructional best practices, support for mathematical discourse, and support for the different tiers of terminology. Additionally, Language Support margin notes provide just-in-time, targeted instructional recommendations to support multilanguage learners.

## Instructional Best Practices

The following table outlines the instructional best practices included in Eureka Math².

| Practice |  |
| :---: | :---: |
| Activate prior knowledge <br> (mathematics content, terminology, contexts) | The daily Fluency and Launch lesson components activate prior knowledge to <br> prepare students for new learning. Context videos demonstrate math <br> concepts in a concrete or real-world context. |
| Provide multiple entry point to the mathematics | Recurring Notice and Wonder routines and frequent open-middle and open- <br> ended tasks provide multiple points of entry for students to participate. The <br> inclusion of fine art and Math Past history components engages students <br> with math in the real world. |
| Use clear, concise student-facing language | Readability guidelines ensure that words are never an obstacle to math |
| learning. |  |

(See more at the Great Minds MLL blog at https://gm.greatminds.org/how-to-support-multilingual-learners-in-engaging-in-math-conversations-in-the-classroom.)

## Mathematical Discourse

To support all learners, lessons provide ample authentic and engaging opportunities for students to read, write, speak, and listen. Eureka Math ${ }^{2}$ supports teachers in creating language-rich
classrooms by modeling teacher-student discourse and by providing suggestions for supported student-to-student discourse. Because curricula in general have an abundance of receptive language experiences (reading and listening), Eureka Math ${ }^{2}$ focuses specific supports on language production (speaking and writing) in mathematics.
The instructional routines that promote discourse are aligned with Stanford's Language Design Principles of supporting sense-making, optimizing output, cultivating conversation, and maximizing linguistic and cognitive meta-awareness.

Eureka Math ${ }^{2}$ periodically includes Language Support notes that suggest specific sentence frames and sentence starters to support multilanguage learners in student-to-student discussions, such as those used in instructional routines. General sentence frames and sentence starters are provided in the Talking Tool which is referenced often during times of student-to-student discourse.

## Terminology

Eureka Math ${ }^{2}$ lessons give students experience with a new mathematical concept before naming it with a precise mathematical term. Students may see a mathematical concept come to life in a digital interactive, manipulate counters in groups, or use an instructional routine to engage in mathematical discourse before the teacher gives that concept a name. In addition, teachers are provided with educative guidance, either in the body of the lesson or in a Language Support margin note, to support students in pairing the written term with a visual representation.
Eureka Math ${ }^{2}$ highlights domain-specific terms from previous lessons in the current lesson, along with instructional recommendations for supporting those terms. These instructional recommendations focus on previewing the meaning of the terms before students are expected to interact with them in the mathematics of the lesson. Additionally, domain-specific terms from previous lessons are also supported by pairing the written term with a visual representation. For each grade, the academic verbs needed to engage with the mathematics were considered. Each grade in Eureka Math ${ }^{2}$ offers a carefully curated list of targeted academic verbs that appear in the lessons for students to preview before they are expected to understand and use the language For
example, before students are asked to combine in grade 1 module 2 lesson 23 (page 350), teachers are encouraged to preview the meaning of the academic verb, supporting the meaning of the term in a class discussion by emphasizing various familiar contexts in which that verb is used.

Multiple-meaning terms encompass homophones like whole and hole, homographs like scale and scale, and other pronunciation-based challenges, like the difference between estimate (as a noun, as in, What is your estimate?) and estimate (as a verb, as in, Estimate the sum.). Lessons call out multiple-meaning terms that could affect emergent bilingual learners' understanding of the mathematics. Lessons also include Language Support notes to preview the meaning of the term in the lesson. These previews include pairing the term with a visual, with real items, or with a video to highlight the different meanings of the term and emphasize the specific meaning used in the lesson.

## Language Support Boxes

Language Support margin notes often prompt teachers to consider using strategic, flexible grouping in each activity of the module to support multilanguage learners. These grouping suggestions invite teachers to use students' knowledge and home language by pairing students in different ways. Each of these different ways of pairing students has specific benefits for multilanguage learners. The Language Support margin notes also highlight discourse, language, or terminology supports.

## Language Support

This is the first occurrence of the term combine in grade 1 lessons. Support understanding of this term by sharing some examples used in real life.

- We combine all the grade 1 classes in one school bus when we go on a field trip.
We combine all our school supplies and share them.
When we cook, we combine the ingredients in the recipe.


## Language Support

Support students' language development by pointing out that table has multiple meanings.

Point to a tabletop and say, "This is one kind of table. We can sit at a table when we eat lunch." Then point to the chart and say, "This is another kind of table. We use it to show information."
The term key is introduced later in the lesson Consider using a similar support as you introduce that term.

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