WGSD Curriculum – Math 1st Grade

In Grade 1, instructional time will focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units and (4) reasoning about attributes of and composing and decomposing geometric shapes.

While the content learning goals describe the mathematics students should be able to understand and do, the first eight learning goals (The Standards for Mathematical Practice) describe how students should engage with these mathematical concepts and skills as they grow in mathematical maturity and expertise. Teachers will connect the mathematical practices to mathematical content in all mathematics instruction. These learning goals merit the most time, resources, innovation, and focus necessary to qualitatively improve the instruction, assessment, and student achievement in mathematics.

WGSD Curriculum – Math 1st Grade

Students will be able to make sense of problems and persevere in solving them. **3**

Students will be able to reason abstractly and quantitatively. **5**

Students will be able to construct viable arguments and critique the reasoning of others. **6**

Students will be able to model with mathematics. **7**

Students will be able to use appropriate tools strategically. **8**

Students will be able to attend to precision. **9**

Students will be able to look for and make use of structure. **10**

Students will be able to look for and express regularity in repeated reasoning. **11**

Students will be able to represent and solve problems involving addition and subtraction. **12**

Students will understand and apply properties of operations and the relationship between addition and subtraction. **13**

Students will be able to add and subtract within 20. **14**

Students will be able to work with addition and subtraction equations. **15**

Students will be able to extend the counting sequence. **16**

Students will understand place value. **17**

Students will be able to use place value understanding and properties of operations to add and subtract. **19**

Students will be able to measure lengths indirectly and by iterating length units. **20**

Students will be able to work with time and money. **21**

Students will be able to reason with shapes and their attributes. **22**

Students will be able to represent and interpret data. **24**

WGSD Curriculum – Math 1st Grade
Mathematical Practices

High Priority Standards
CCSS.Math.Practice.MP1

Learning Goal	**Proficiency Scale**
Students will be able to make sense of problems and persevere in solving them.	Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal. Meeting: Student demonstrates mastery with the learning goal as evidenced by: ● Discussing and explaining problems. ● Developing plans to solve problems. ● Struggling with various problem solving attempts over time. ● Learning from previous solution attempts. Approaching: Student demonstrates they are nearing proficiency by performing processes such as: ● Explaining his/her thought processes when solving a problem. ● Representing solutions in several ways. ● Trying several approaches to solve a problem with teacher support. Beginning: Student demonstrates a limited understanding or skill with the learning goal by: ● Explaining his/her thought processes when solving a problem one way. ● Staying with a challenging problem.

Learning Targets

- Explain the meaning of a problem and look for ways to solve it
- Use concrete objects or pictures to help conceptualize and solve problems
- Check their thinking by asking, “Does this make sense?”
- Listen to the strategies of others and try different approaches
- Use a different strategy to check answers
- Take time to thoughtfully consider problems

Learning Design

- Provides time and facilitates discussion in problem solutions.
- Facilitates discourse in the classroom so that students UNDERSTAND the approaches of others.
- Provides opportunities for students to explain themselves, the meaning of a problem, etc.
- Provides opportunities for students to connect concepts to “their” world.
- Provides students TIME to think and become “patient” problem solvers.

- Facilitates and encourages students to check their answers using different methods (not calculators).
- Provides problems that focus on relationships and are “generalizable”.

WGSD Curriculum – Math 1st Grade
Mathematical Practices

High Priority Standards
CCSS.Math.Practice.MP2

Learning Goal	**Proficiency Scale**
Students will be able to reason abstractly and quantitatively.	Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal. Meeting: Student demonstrates mastery with the learning goal as evidenced by: ● Converting situations into symbols (numbers and operation signs) to solve problems. ● Converting mathematical equations into meaningful situations. Approaching: Student demonstrates they are nearing proficiency by performing a process such as translating situations into symbols to solve problems. Beginning: Student demonstrates a limited understanding or skill with the learning goal by reasoning with models or pictorial representations to solve problems.

Learning Targets

- Recognize that a number represents a specific quantity
- Connect the quantity to written symbols and create a logical representation of the problem at hand
- Consider the appropriate units involved and the meaning of quantities

Learning Design

- Provides a range of representations of math problem situations and encourages various solutions.
- Provides opportunities for students to make sense of quantities and their relationships in problem situations.
- Provides problems that require flexible use of properties of operations and objects.
- Emphasizes quantitative reasoning which entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, **not just how to compute them and/or rules**; and knowing and flexibly using different properties of operations and objects.

WGSD Curriculum – Math 1st Grade
Mathematical Practices

High Priority Standards
CCSS.Math.Practice.MP3

Learning Goal	**Proficiency Scale**
Students will be able to construct viable arguments and critique the reasoning of others.	Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal. Meeting: Student demonstrates mastery with the learning goal as evidenced by: ● Justifying and explaining, with accurate language and vocabulary, why his/her solution is correct. ● Comparing his/her strategy to other students' strategies, asking questions, and making connections with his/her own thinking. ● Explaining the reasoning of others. Approaching: Student demonstrates they are nearing proficiency by performing processes such as: ● Explaining his/her thinking and the thinking of others with accurate vocabulary. ● Checking other students' solutions for accuracy. Beginning: Student demonstrates a limited understanding or skill with the learning goal by: ● Explaining his/her solution. ● Discussing other ideas, approaches, and strategies.

Learning Targets

- Construct arguments using concrete referents, such as objects, pictures, drawings, and actions
- Refine their mathematical communication skills by answering questions like "How do you know?" and "Can you show me another way?"
- Refine their mathematical communication skills by asking others questions like "How do you know?" and "How did you get that?"
- Explain their thinking to others and respond to others' thinking

Learning Design

- Provides **ALL** students opportunities to understand and use stated assumptions, definitions, and previously established results in constructing arguments.
- Provides ample time for students to make conjectures and build a logical progression of statements to explore the truth of their conjectures.
- Provides opportunities for students to construct arguments and critique arguments of peers.
- Facilitates and guides students in recognizing and using counterexamples.
- Encourages and facilitates students justifying their conclusions, communicating, and responding to the arguments of others.
- Asks useful questions to clarify and/or improve students' arguments.

WGSD Curriculum – Math 1st Grade
Mathematical Practices

High Priority Standards
CCSS.Math.Practice.MP4

Learning Goal	**Proficiency Scale**
Students will be able to model with mathematics.	Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal. Meeting: Student demonstrates mastery with the learning goal as evidenced by: ● Recognizing math in everyday situations. ● Using a variety of models and symbolic representations to represent the solution to a problem. Approaching: Student demonstrates they are nearing proficiency by performing processes such as: ● Recognize math in everyday situations, when prompted. ● Using models and symbols to represent a problem. Beginning: Student demonstrates a limited understanding or skill with the learning goal by using models to represent a problem with teacher support.

Learning Targets

- Represents problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart, list, or graph, creating equations, etc. And use all of these representations as needed
- Connect different representations and explain the connections
- Evaluate results in the context of the situation and reflect on whether the results make sense

Learning Design

- Provides problem situations that apply to everyday life.
- Provides rich tasks that focus on conceptual understanding, relationships, etc.

WGSD Curriculum – Math 1st Grade
Mathematical Practices

<table>
<tr><td colspan="2"><u>High Priority Standards</u>
CCSS.Math.Practice.MP5</td></tr>
<tr><td><u>Learning Goal</u>

Students will be able to use appropriate tools strategically.</td><td><u>Proficiency Scale</u>
Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by combining various tools to explore and solve a problem as well as justifying his/her tool selection and problem solution.

Approaching: Student demonstrates they are nearing proficiency by performing processes such as selecting from a variety of provided tools the ones that can be used to solve a problem and explaining his/her reasoning for the selection.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by using the appropriate tool, when provided, to find a solution.</td></tr>
<tr><td colspan="2"><u>Learning Targets</u>
● Consider the available tools (including, but not limited to estimation, graph paper, manipulatives, table, list, etc.) when solving a mathematical problem and decide when certain tools might be helpful
○ For example, first graders may use colored chips to model an addition problem</td></tr>
<tr><td colspan="2"><u>Learning Design</u>
● Provides a variety of tools and technology for students to explore to deepen their understanding of math concepts.
● Provides problem solving tasks that require students to consider a variety of tools for solving. (Tools might include pencil/paper, concrete models, manipulatives, ruler, protractor, calculator, spreadsheet, computer algebra system, statistical package, or dynamic geometry software, etc.)</td></tr>
</table>

WGSD Curriculum – Math 1st Grade
Mathematical Practices

<table>
<tr><td colspan="2"><u>High Priority Standards</u>
CCSS.Math.Practice.MP6</td></tr>
<tr><td><u>Learning Goal</u>

Students will be able to attend to precision.</td><td><u>Proficiency Scale</u>
Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by using appropriate symbols, vocabulary, and labeling to communicate effectively and exchange ideas.

Approaching: Student demonstrates they are nearing proficiency by performing a process such as incorporating appropriate vocabulary and symbols in most mathematical communications.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by communicating his/her reasoning and solution to others, with support.</td></tr>
<tr><td colspan="2"><u>Learning Targets</u>
● Use clear and precise language and vocabulary in their discussions with others and in their own reasoning
● Specify units of measure and state the meaning of the symbols used
● Report answers that appropriately address the context of a problem</td></tr>
<tr><td colspan="2"><u>Learning Design</u>
● Facilitates, encourages and <u>expects</u> precision in communication.
● Provides opportunities for students to explain and/or write their reasoning to others.</td></tr>
</table>

WGSD Curriculum – Math 1st Grade
Mathematical Practices

High Priority Standards
CCSS.Math.Practice.MP7

Learning Goal	**Proficiency Scale**
Students will be able to look for and make use of structure.	Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal. Meeting: Student demonstrates mastery with the learning goal as evidenced by: ● Composing and decomposing shapes and numbers. ● Using mathematical generalizations to make predictions about or solve mathematical situations. Approaching: Student demonstrates they are nearing proficiency by performing processes such as: ● Composing and decomposing shapes and numbers. ● Noticing mathematical generalizations. Beginning: Student demonstrates a limited understanding or skill with the learning goal by composing and decomposing shapes and numbers.

Learning Targets

- Look closely to discover a pattern or structure
  - For example, student may recognize that if they know 12+3=15, then they also know 3+12=15 (commutative property of addition).
  - They may also notice to add 4+6+4, they could add the first two number to make ten, so 4+6+4=10+4=14

Learning Design

- Provides opportunities and time for students to explore patterns and relationships to solve problems.
- Provides rich tasks and facilitates pattern seeking and understanding of relationships in numbers rather than following a set of steps and/or procedures.

WGSD Curriculum – Math 1st Grade
Mathematical Practices

<table>
<tr><td colspan="2"><u>High Priority Standards</u>
CCSS.Math.Practice.MP8</td></tr>
<tr><td><u>Learning Goal</u>

Students will be able to look for and express regularity in repeated reasoning.</td><td><u>Proficiency Scale</u>
Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by noticing patterns, making generalizations and predicting patterns.

Approaching: Student demonstrates they are nearing proficiency by performing processes such as finding and explaining patterns.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by connecting prior knowledge to new situations and noticing patterns with prompting from a teacher or peer.</td></tr>
<tr><td colspan="2"><u>Learning Targets</u>
● Notice repetitive actions in counting and computation
○ For example, when students have multiple opportunities to add and subtract ten and multiples of ten they notice the pattern and gain a better understanding of place value
● Continually check their work by asking, “Does this make sense?”</td></tr>
<tr><td colspan="2"><u>Learning Design</u>
● Provides problem situations that allow students to explore regularity and repeated reasoning.
● Provides rich tasks that encourage students to use repeated reasoning to form generalizations and provides opportunities for students to communicate these generalizations.</td></tr>
</table>

WGSD Curriculum – Math 1st Grade
Relationships & Algebraic Thinking

High Priority Standards

1.RA.A.1 Use addition and subtraction within 20 to solve problems.
1.RA.A.2 Solve problems that call for addition of three whole numbers whose sum is within 20.

Learning Goal

Students will be able to represent and solve problems involving addition and subtraction.

Proficiency Scale

Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by:

- Solving word problems accurately and consistently involving addition and subtraction within 20, using an effective strategy.
- Solving word problems accurately and consistently involving addition of three whole numbers (sum less than or equal to 20) using an effective strategy.

Approaching: Student demonstrates they are nearing the learning goal by:

- Recognizing and recall specific vocabulary, such as: Add, addition, count, decompose, digit, equal sign, equation, equivalent, false, model, multiple, number, reasoning, relate, relationship, strategy, subtract, subtraction, sum, true, unknown, whole number, word problem.
- Performing processes such as:
    - Representing and solving problems involving addition and subtraction using objects, drawings and equations.
    - Recognizing symbols, such as +, −, and =.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by representing and solving problem involving addition and subtraction with help.

Learning Targets

- Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem
- Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem

Learning Design

Illustrative Mathematics Units 1 - 5, & 8

WGSD Curriculum – Math 1st Grade
Relationships & Algebraic Thinking

High Priority Standards

1.RA.B.5 Use properties as strategies to add and subtract.
1.RA.B.6 Demonstrate that subtraction can be solved as an unknown addend problem.

Learning Goal

Students will understand and apply properties of operations and the relationship between addition and subtraction.

Proficiency Scale

Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by applying properties of operations as strategies to add and subtract (for example, commutative, associative*).

Approaching: Student demonstrates they are nearing the learning goal by:

- Recognizing and recalling specific vocabulary, such as: Add, addend, operation, strategy, subtract, subtraction, unknown.
- Performing processes such as solving subtraction problems using a known addition fact (for example, subtracting 10 − 8 by finding the number that makes 10 when added to 8).

Beginning: Student demonstrates a limited understanding or skill with the learning goal by applying properties as strategies to add and subtract with help.

Learning Targets

- Apply properties of operations as strategies to add and subtract
    - *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known (commutative property of addition*). To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12 (associative property of addition*)*
- Understand subtraction as an unknown-addend problem
    - *For example, subtract 10 – 8 by finding the number that makes 10 when added to 8*

Learning Design

Illustrative Mathematics Units 1-5 & 8

*Students do not need to use formal terms for these properties however, the teacher should use the correct mathematical vocabulary in class.

WGSD Curriculum – Math 1st Grade
Relationships & Algebraic Thinking

High Priority Standards

1.RA.C.7 Add and subtract within 20.
1.RA.C.8 Demonstrate fluency with addition and subtraction within 10.

Learning Goal

Students will be able to add and subtract within 20.

Proficiency Scale

Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by:
- Adding and subtracting within 20 using various strategies.
- Adding and subtracting fluently within 10.

Approaching: Student demonstrates they are nearing the learning goal by:
- Recognizing and recalling specific vocabulary, such as: add, subtract, fluent, strategies.
- Performing processes such as adding and subtracting within 20 using strategies with help.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by adding and subtracting within 10 using strategies with help.

Learning Targets

- Relate counting to addition and subtraction (e.g., by counting on 2 to add 2)
- Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13)

Learning Design

Illustrative Mathematics Units 1 - 5, & 8
MobyMax Fact Fluency or Amplify Fact Fluency

WGSD Curriculum – Math 1st Grade
Relationships & Algebraic Thinking

High Priority Standards

1.RA.A.3 Develop the meaning of the equal sign and determine if equations involving addition and subtraction are true or false.
1.RA.A.4 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.

Learning Goal

Students will be able to work with addition and subtraction equations.

Proficiency Scale

Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by:

- Determining the unknown whole number in an addition or subtraction equation relating three whole numbers. i.e. *8 + ? = 11, 5 = _ – 3, 6 + 6 = _*.

Approaching: Student demonstrates they are nearing the learning goal by:

- Recognizing and recalling specific vocabulary, such as: add, addition, difference, digit, equal sign, equivalent, false, subtract, subtraction, sum, unknown.
- Performing processes such as:
  - Determining if addition and subtraction equations are true or false.
  - Recognizing symbols, such as +, -, and =.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by solving addition and subtraction problems with help.

Learning Targets

- Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false
  - For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2
- Determine the unknown whole number in an addition or subtraction equation relating three whole numbers
  - *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = _ – 3, 6 + 6 = _*

Learning Design

Illustrative Mathematics Units 1 - 5, & 8

WGSD Curriculum – Math 1st Grade
Number Sense

High Priority Standards

1.NS.A.1 Count to 120, starting at any number less than 120.
1.NS.A.2 Read and write numerals and represent a number of objects with a written numeral.
1.NS.A.3 Count backward from a given number between 20 and 1.
1.NS.A.4 Count by 5s to 100 starting at any multiple of five.

Learning Goal

Students will be able to extend the counting sequence.

Proficiency Scale

Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by:

- Counting numbers to 120, starting at any number less than 120.
- Represent a number of objects with a written numeral.
- Counting backwards by one, starting at any number less than 120 and more than zero.
- Counting by 5s to 100 starting at any multiple of 5.

Approaching: Student demonstrates they are nearing the learning goal by:

- Recognizing and recalling specific vocabulary, such as: count, number, numeral, ones, tens, hundreds, sequence, represent, compose, decompose.
- Performing processes such as counting and writing numbers up to 120.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by counting to 120 with help.

Learning Targets

- Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral
- Count backwards by one, starting at any number less than 120 and more than zero

Learning Design

Illustrative Mathematics Units 2 - 6, & 8

WGSD Curriculum – Math 1st Grade
Number Sense & Operations in Base Ten

High Priority Standards

1.NBT.A.1 Understand that 10 can be thought of as a bundle of 10 ones – called a "ten".
1.NBT.A.2 Understand two-digit numbers are composed of ten(s) and one(s).
1.NBT.A.3 Compare two two-digit numbers using the symbols >, = or
1.NBT.A.4 Count by 10s to 120 starting at any number.

Learning Goal

Students will understand place value.

Proficiency Scale

Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by:

- Comparing and ordering two-digit numbers based on the meaning of the tens and ones using <, >, or =.
- Decomposing two-digit numbers in groups of tens and ones.

Approaching: Student demonstrates they are nearing the learning goal by:

- Recognizing and recalling specific vocabulary, such as: amount, compare, digit, less, more, number, ones, tens, order.
- Performing processes such as:
  - Recognizing symbols such as <, >, and =.
  - Representing the two digits of a two-digit number as amounts of tens and ones.
  - Counting by 10s to 120 starting at any number.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by describing a two-digit number in tens and ones with help.

Learning Targets

- Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
  - 10 can be thought of as a bundle of ten ones — called a "ten."
  - The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones
  - The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones)
- Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <

Learning Design

Illustrative Mathematics Units 3 & 4

WGSD Curriculum – Math 1st Grade
Number Sense & Operations in Base Ten

High Priority Standards

1.NBT.B.5 Add within 100.
1.NBT.B.6 Calculate 10 more or 10 less than a given number mentally without having to count.
1.NBT.B.7 Add or subtract a multiple of 10 from another two-digit number, and justify the solution.

Learning Goal

Students will be able to use place value understanding and properties of operations to add and subtract.

Proficiency Scale

Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by:

- Adding within 100, including adding a two-digit number to a one-digit number and adding a two-digit number and a multiple of 10, and explain the strategies and reasoning used.
- Subtracting multiples of 10 in the range of 10-90 and explain the strategies and reasoning used.
- Given a two-digit number, mentally finding 10 more or 10 less than the number.

Approaching: Student demonstrates they are nearing the learning goal by:

- Recognizing and recalling specific vocabulary, such as: two-digit, strategies.
- Performing processes such as:
    - Adding a two-digit number to a one-digit number using concrete models .
    - Subtracting multiples of 10 in the range of 10 to 90 using concrete models.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by

- Finding 10 more or 10 less than a number using concrete models.
- Adding and subtracting multiples of 10 within 100, with help.

Learning Targets

- Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten
- Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used
- Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used

Learning Design

Illustrative Mathematics Units 1 - 5, & 8

WGSD Curriculum – Math 1st Grade
Geometry & Measurement

High Priority Standards

1.GM.B.5 Order three or more objects by length.
1.GM.B.6 Compare the lengths of two objects indirectly by using a third object.
1.GM.B.7 Demonstrate the ability to measure length or distance using objects.

Learning Goal

Students will be able to measure lengths indirectly and by iterating length units.

Proficiency Scale

Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by measuring the length of an object as a whole number of length units.

Approaching: Student demonstrates they are nearing the learning goal by:

- Recognizing and recalling specific vocabulary, such as: compare, length, order, unit, whole number.
- Performing a process such as comparing the length of two objects indirectly by using a third object.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by ordering three objects by length.

Learning Targets

- Order three objects by length; compare the lengths of two objects indirectly by using a third object
- Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps*

Learning Design

Illustrative Mathematics Unit 6

WGSD Curriculum – Math 1st Grade
Geometry & Measurement

High Priority Standards

1.GM.C.8 Tell and write time in hours and half-hours using analog and digital clocks.
1.GM.C.9 Know the value of a penny, nickel, dime and quarter.

Learning Goal

Students will be able to work with time and money.

Proficiency Scale

Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by:

- Telling and displaying time in hours and half-hours using analog clocks.
- Reading and writing time in hours and half-hours using digital clocks and analog clocks.
- Stating the value of a penny, nickel, dime and quarter.

Approaching: Student demonstrates they are nearing the learning goal by:

- Recognizing and recalling specific vocabulary, such as: Analog, digital, clock, half hour, hour, time.
- Performing processes such as:
  - Telling time to the hour using analog clocks.
  - Telling time to the hour using digital clocks.
  - Telling time to the half hour with help using digital and analog clocks.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by telling time to the nearest hour with help.

Learning Targets

- Tell and write time in hours and half-hours using analog and digital clocks

Learning Design

Illustrative Mathematics Unit 7

WGSD Curriculum – Math 1st Grade
Geometry & Measurement

High Priority Standards

1.GM.A.1 Distinguish between defining attributes versus non-defining attributes; build and draw shapes that possess defining attributes.
1.GM.A.2 Compose and decompose two- and three-dimensional shapes to build an understanding of part-whole relationships and the properties of the original and composite shapes.
1.GM.A.3 Recognize two- and three-dimensional shapes from different perspectives and orientations.
1.GM.A.4 Partition circles and rectangles into two or four equal shares, and describe the shares and the wholes verbally.

Learning Goal

Students will be able to reason with shapes and their attributes.

Proficiency Scale

Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by:

- Distinguishing between the defining and non-defining attributes of a variety of shapes (for example, defining attributes of triangles: closed, three-sided; non-defining attributes include color, orientation, and overall size).
- Creating two- and three-dimensional shapes.
- Describing the shares of partitioned circles and rectangles as halves, fourths, and quarters.
- Recognizing two- and three- dimensional shapes from different perspectives and orientations.

Approaching: Student demonstrates they are nearing the learning goal by:

- Recognizing and recalling specific vocabulary, such as: attribute, closed, color, shape, size, three sided, triangle, circle, cube, equal, fourth, half, half-circle, quarter, quarter-circle, rectangle, cone, cylinder, rectangular prism, shape, share, square, three dimensional, trapezoid, triangle, two dimensional.
- Performing processes such as:
  - Identifying the attributes of various shapes.
  - Identifying halves of circles and rectangles.
  - Partitioning circles and rectangles into two and four equal shares.
  - Creating two-dimensional shapes.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by:

- Identifying attributes of shapes with help.
- Identifying halves of circles and rectangles with help.

Learning Targets

- Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes
- Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. (Students do not need to learn formal names such as “right rectangular prism”.)
- Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares

Learning Design

Illustrative Mathematics Unit 7

WGSD Curriculum – Math 1st Grade
Data & Statistics

High Priority Standards

1.DS.A.1 Collect, organize and represent data with up to three categories.
1.DS.A.2 Draw conclusions from object graphs, picture graphs, T-charts and tallies.

Learning Goal

Students will be able to represent and interpret data.

Proficiency Scale

Innovating: Student demonstrates an in-depth inference or advanced application, or innovates with the learning goal.

Meeting: Student demonstrates mastery with the learning goal as evidenced by representing and interpreting data with up to three categories using picture graphs, T-charts, and tallies.

Approaching: Student demonstrates they are nearing the learning goal by:

- Recognizing and recalling specific vocabulary, such as: category, data, interpret, less, more, number, organize, point, question, represent, representation.
- Performing processes such as:
  - Organizing data into up to three categories.
  - Asking and answering questions about data and representations of data (for example, total number of data points, number in each category, how many more or less in one category).

Beginning: Student demonstrates a limited understanding or skill with the learning goal by:

- Organizing data into categories with help.
- Asking and answering questions about data with help.

Learning Targets

- Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another

Learning Design

Illustrative Mathematics Unit 1

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