WGSD Curriculum – Math 2nd Grade

In Grade 2, instructional time will focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure and (4) describing and analyzing 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 2nd Grade

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

Students will be able to reason abstractly and quantitatively.

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

Students will be able to model with mathematics.

Students will be able to use appropriate tools strategically.

Students will be able to attend to precision.

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

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

Students will understand place value.

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

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

Students will be able to add and subtract within 20.

Students will be able to work with equal groups of objects to gain foundations for multiplication.

Students will be able to measure and estimate lengths in standard units.

Students will be able to relate addition and subtraction to length.

Students will be able work with time and money.

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

Students will be able to represent and interpret data.

WGSD Curriculum – Math 2nd Grade
Mathematical Practices

High Priority Standards
CCSS.Math.Practice.MP1

Learning Goal

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

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:

- Discussing and explaining problems.
- Developing plans to solve problems in multiple ways.
- 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 for more than one attempt with prompting.

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
- Checks their thinking by asking themselves, “Does this make sense?”
- Listens to the strategies of others and tries different approaches
- Uses a different strategies to check answers
- Takes 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 2nd 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 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 both 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 2nd Grade

Mathematical Practices

High Priority Standards

CCSS.Math.Practice.MP3

Learning Goal

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

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:

- 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.
- Explaining other students' solutions and identifying strengths and weaknesses of the strategy.

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 2nd 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 2nd Grade
Mathematical Practices

High Priority Standards
CCSS.Math.Practice.MP5

Learning Goal	**Proficiency Scale**
Students will be able to use appropriate tools strategically.	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.

Learning Targets

- 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

Learning Design

- 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.)

WGSD Curriculum – Math 2nd 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 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 2nd Grade
Mathematical Practices

<table>
<tr><td colspan="2"><u>High Priority Standards</u>
CCSS.Math.Practice.MP7</td></tr>
<tr><td><u>Learning Goal</u>

Students will be able to look for and make use of structure.</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:
● 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.</td></tr>
<tr><td colspan="2"><u>Learning Targets</u>
● Look closely to discover a pattern or structure
○ For instance, students may adopt mental math strategies based on patterns (making ten, fact families, doubles, near doubles, etc.)</td></tr>
<tr><td colspan="2"><u>Learning Design</u>
● 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.</td></tr>
</table>

WGSD Curriculum – Math 2nd 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 and look for more shortcut methods</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 2nd Grade
Number Sense & Operations in Base Ten

High Priority Standards

2.NBT.A.1 Understand three-digit numbers are composed of hundreds, tens and ones.
2.NBT.A.2 Understand that 100 can be thought of as 10 tens – called a "hundred".
2.NBT.A.3 Count within 1000 by 1s, 10s and 100s starting with any number
2.NBT.A.4 Read and write numbers to 1000 using number names, base-ten numerals and expanded form.
2.NBT.A.5 Compare two three-digit numbers using the symbols >, = or <.

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:

- Reading and writing numbers within 1,000 using base-ten numerals, number names, and expanded form.
- Comparing two three-digit numbers based on the meanings of the hundreds, tens, and ones digits using <, >, and =.
- Composing and decomposing three digit numbers in multiple ways.

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

- Recognizing and recalling specific vocabulary, such as: Base-ten numeral, compare, count, decompose, digit, expanded form, hundreds, number, number name, ones, skip count, tens.
- Performing processes such as:
  - Decomposing the three digits of a three-digit number into hundreds, tens, and ones.
  - Counting within 1,000 starting at any number.
  - Skip counting by 5s, 10s, and 100s within 1000 starting at any number.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by decomposing the three digits of a three-digit number into hundreds, tens, and ones with help.

Learning Targets

- Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones Understand the following as special cases:
  - 100 can be thought of as a bundle of ten tens — called a "hundred."
  - The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones)

- Count within 1000; skip-count by 5s, 10s, and 100s
- Read and write numbers to 1000 using base-ten numerals, number names, and expanded form
- Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons

Learning Design

Illustrative Mathematics Units 1 - 5, 7 & 9

WGSD Curriculum – Math 2nd Grade
Number Sense & Operations in Base Ten

High Priority Standards

2.NBT.B.6 Demonstrate fluency with addition and subtraction within 100.
2.NBT.B.7 Add up to four two-digit numbers.
2.NBT.B.8 Add or subtract within 1000, and justify the solution.
2.NBT.B.9 Use the relationship between addition and subtraction to solve problems.
2.NBT.B.10 Add or subtract mentally 10 or 100 to or from a given number within 1000.

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 and subtracting within 1,000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- Mentally adding or subtracting 10 or 100 to or from a given number between 100 and 900.
- Explaining why addition and subtraction strategies work, using place value and the properties of operations.

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

- Recognizing and recalling specific vocabulary, such as: place value, hundreds place, tens place, ones place.
- Performing processes such as:
    - Adding and subtracting fluently within 100.
    - Adding up to four two-digit numbers using strategies based on place value and properties of operations.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by adding and subtracting using manipulatives.

Learning Targets

- Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction
- Add up to four two-digit numbers using strategies based on place value and properties of operations
- Add and subtract within 1000, 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. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds
- Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900
- Explain why addition and subtraction strategies work, using place value and the properties of operations

Learning Design

Illustrative Mathematics Units 1 - 5, 7 & 9

WGSD Curriculum – Math 2nd Grade
Number Sense & Operations in Base Ten

High Priority Standards

2.NBT.C.11 Write and solve problems involving addition and subtraction within 100.

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:

- Using two or more strategies fluently to solve one- or two-step addition and subtraction word problems within 100.

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

- Recognizing and recalling specific vocabulary, such as: more than, in all, all together, have left.
- Performing processes such as:
  - Determining whether to use addition or subtraction to solve a one-step word problem within 100.
  - Using one strategy fluently to solve one-step addition and subtraction word problems within 100.

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

- Determining whether to use addition or subtraction to solve a one-step word problem within 100, with help.
- Using addition and subtraction to solve one-step word problems within 100 using a number line, number grid, manipulatives, or guiding questions from teacher.

Learning Targets

- Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem

Learning Design

Illustrative Mathematics Units 1 - 5, 7 & 9

WGSD Curriculum – Math 2nd Grade
Relationships & Algebraic Thinking

High Priority Standards

2.RA.A.1 Demonstrate fluency with addition and subtraction within 20.

Learning Goal	**Proficiency Scale**
Students will be able to add and subtract within 20.	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: communicate a deep understanding of ● Adding and subtracting fluently within 20 using mental strategies. ● Knowing automatically all sums of two one-digit numbers. Approaching: Student demonstrates they are nearing the learning goal by recognizing and recalling specific vocabulary, such as: sum, difference, addend. Beginning: Student demonstrates a limited understanding or skill with the learning goal by solving problems to 20 using a number line, number grid, manipulatives, or guiding questions from teacher.

Learning Targets

- Fluently add and subtract within 20 using mental strategies. By end of Grade 2, students will achieve automaticity for all sums of two one-digit numbers

Learning Design

Illustrative Mathematics Units 1 - 3, & 9
MobyMax Fact Fluency or Amplify Fact Fluency

WGSD Curriculum – Math 2nd Grade
Relationships & Algebraic Thinking

High Priority Standards

2.RA.B.2 Determine if a set of objects has an odd or even number of members. Count by 2s to 100 starting with any even number. Express even numbers as pairings/groups of 2, and write an expression to represent the number using addends of 2. Express even numbers as being composed of equal groups and write an expression to represent the number with 2 equal addends.

2.RA.B.3 Find the total number of objects arranged in a rectangular array with up to 5 rows and 5 columns, and write an equation to represent the total as a sum of equal addends.

Learning Goal

Students will be able to work with equal groups of objects to gain foundations for multiplication.

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:

- Using addition to find the total number of objects arranged in rectangular arrays with up to five rows and up to five columns and write an equation to express the total as a sum of equal addends.
- Counting by 2s to 100 starting with any even number.
- Expressing even numbers as pairings/groups of 2 and writing an expression to represent the number using addends of 2.

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

- Recognizing and recalling specific vocabulary, such as: Addend, addition, column, equal, equation, even number, odd number, rectangular array, row, sum, total.
- Performing processes such as determining whether a group of objects (up to 20) has an odd or even number of members; if the total is even, writing an equation to express the total as a sum of two equal addends.

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

- Determining whether a group of objects (up to 20) has an odd or even number of members; if the total is even, write an equation to express the total as a sum of two equal addends, with the help of the teacher.

Learning Targets

- Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends (e.g., 8 can be represented as 4 + 4.)
- Express even numbers as pairings/groups of 2 and write an expression to represent the number using addends of 2. (For example, 8 can be represented as 2 + 2 + 2 + 2.)
- Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends (e.g., a 3 x 4 array can be thought of as 4 groups of 3 and represented as 3 + 3 + 3 + 3 or as 3 groups of 4 and represented as 4 + 4 + 4.)

Learning Design

Illustrative Mathematics Unit 8

WGSD Curriculum – Math 2nd Grade
Geometry & Measurement

High Priority Standards

2.GM.B.4 Measure the length of an object by selecting and using appropriate tools.
2.GM.B.5 Analyze the results of measuring the same object with different units.
2.GM.B.6 Estimate lengths using units of inches, feet, yards, centimeters and meters.
2.GM.B.7 Measure to determine how much longer one object is than another.

Learning Goal

Students will be able to measure and estimate lengths in standard 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:

- Estimating length using units of feet, inches, centimeters, and meters.
- Measure to determine how much longer one object is than another, expressing the difference in standard units.

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

- Recognizing and recalling specific vocabulary, such as: Centimeter, compare, estimate, express, foot, inch, length, measure, measurement, measuring tape, meter, meter stick, ruler, tool, unit, yardstick.
- Performing processes such as:
    - Measuring length by selecting and using standard tools (for example, rulers, yardsticks, meter sticks, and measuring tapes).
    - Comparing two measurements of the same object made using different units.

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

- Measuring and estimating lengths using standard tools with help.
- Comparing two measurements of the same object using different units with help.

Learning Targets

- Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes
- Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen
- Estimate lengths using units of inches, feet, centimeters, and meters
- Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit

Learning Design

Illustrative Mathematics Units 3 & 9

WGSD Curriculum – Math 2nd Grade
Geometry & Measurement

High Priority Standards

2.GM.C.8 Use addition and subtraction within 100 to solve problems involving lengths that are given in the same units.

2.GM.C.9 Represent whole numbers as lengths on a number line, and represent whole-number sums and differences within 100 on a number line.

Learning Goal

Students will be able to relate addition and subtraction to length.

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 using addition and subtraction within 100 to solve word problems involving lengths that are given in the same units of measurement.

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

- Recognizing and recalling specific vocabulary, such as: length, number line, model, add, addition, subtract, subtraction, ruler.
- Performing processes such as representing whole-number sums and differences within 100 on a number line.

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

- Representing numbers on a number line.
- Representing sums and differences within 100 on a number line, with help.

Learning Targets

- Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem
- Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram

Learning Design

Illustrative Mathematics Units 1 - 5, 7 & 9

WGSD Curriculum – Math 2nd Grade
Geometry & Measurement

High Priority Standards

2.GM.D.10 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
2.GM.D.11 Describe a time shown on a digital clock as representing hours and minutes, and relate a time shown on a digital clock to the same time on an analog clock.
2.GM.D.12 Find the value of combinations of dollar bills, quarters, dimes, nickels and pennies, using $ and ¢ appropriately.
2.GM.D.13 Find combinations of coins that equal a given amount.

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 writing time fluently from analog and digital clocks to the nearest five minutes.
- Determining the total amount of a combination of dollar bills, quarters, dimes, nickels, and pennies using symbols appropriately.
- Finding multiple combinations of coins that equal a given amount.
- Solving word problems involving dollar bills, quarters, dimes, nickels, and pennies using symbols appropriately.

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

- Recognizing and recalling specific vocabulary, such as: Analog, digital, clock, minute, nearest, time, dime, dollar bill, nickel, penny, quarter, symbol, value.
- Performing processes such as:
    - Telling and writing time from analog and digital clocks to the nearest 15 minutes.
    - Using symbols $ and ¢ appropriately.
    - Recognizing or recalling the values of dollar bills, quarters, dimes, nickels, and pennies.

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

- Telling and writing time from analog and digital clocks to the nearest half-hour.
- Identifying coins.

Learning Targets

- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?
- Find and represent the value of combinations of dollar bills, quarters, dimes, nickels and pennies, using $ and ¢ appropriately.
- Find combinations of coins that equal a given amount. For example, 50¢ can be shown as two quarters, five dimes, ten nickels;or one quarter, two dimes and one nickel, etc.

Learning Design

Illustrative Mathematics Unit 8

WGSD Curriculum – Math 2nd Grade
Geometry & Measurement

High Priority Standards

2.GM.A.1 Recognize and draw shapes having specified attributes, such as a given number of angles or sides. Identify triangles, quadrilaterals, pentagons, hexagons, circles and cubes. Identify the faces of three-dimensional objects.
2.GM.A.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of squares.
2.GM.A.3 Partition circles and rectangles into two, three or four equal shares, and describe the shares and the whole. Demonstrate that equal shares of identical wholes need not have the same shape.

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:

- Drawing shapes that have specific attributes, such as a number of equal faces or number of equal angles.
- Describing the shares of a partitioned circle or rectangle using the words halves, thirds, half of, and a third of, and so on.
- Describing the whole as two halves, three thirds, four fourths.
- Determining that equal shares of identical wholes need not have the same shape.
- Identifying the two-dimensional faces of three-dimensional objects (prisms and pyramids).

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

- Recognizing and recalling specific vocabulary, such as: Angle, attribute, cube, equal, face, hexagon, number, pentagon, quadrilateral, shape, triangle, circle, column, count, equal, fourth, half, identical, number, partition, rectangle, row, shape, share, size, square, third, total, whole.
- Performing processes such as:
    - Identifying triangles, quadrilaterals, pentagons, hexagons, and cubes.
    - Partitioning a rectangle into rows and columns of the same size squares and count to find the total number.
    - Partitioning circles and rectangles into two, three, or four equal shares.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by identifying ½, $\frac{1}{3}$, and ¼ of an object.

Learning Targets

- Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.[1] Identify triangles, quadrilaterals, pentagons, hexagons, and cubes
- Partition a rectangle into rows and columns of same-size squares and count to find the total number of them
- Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape

Learning Design

Illustrative Mathematics Unit 6

WGSD Curriculum – Math 2nd Grade
Data & Statistics

High Priority Standards

2.DS.A.1 Create a line plot to represent a set of numeric data, given a horizontal scale marked in whole numbers.
2.DS.A.2 Generate measurement data to the nearest whole unit, and display the data in a line plot.
2.DS.A.3 Draw a picture graph or a bar graph to represent a data set with up to four categories.
2.DS.A.4 Solve problems using information presented in line plots, picture graphs and bar graphs.
2.DS.A.5 Draw conclusions from line plots, picture graphs and bar graphs.

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:

- Making a line plot in whole number units to display data.
- Solving simple put-together and take-apart problems and comparing problems using information presented in line plots, picture graphs, and bar graphs.

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

- Recognizing and recalling specific vocabulary, such as: Bar graph, category, compare problem, data, line plot, picture graph, scale, unit, whole number.
- Performing processes such as:
  - Drawing a picture graph and/or a bar graph with a single unit scale and up to four categories.
  - Drawing conclusions from line plots, picture graphs and bar graphs.

Beginning: Student demonstrates a limited understanding or skill with the learning goal by drawing a picture graph, bar graph, and/or line plot with help.

Learning Targets

- Students will generate a graph
- Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units
- Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph

Learning Design

Illustrative Mathematics Units 1 & 9

WGSD Curriculum – Math 2nd Grade

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