Understanding Content Standards

Clicking on each of the standards below will provide a brief description of the standard along with a breakdown of the standard through its learning objectives. For more detailed information about how to help students build toward mastery of these standards and background information, visit *Explanation of the Mathematics Content Standards*.

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Understanding the Content Standards

MATHEMATICAL PRACTICES STANDARD/KEY COMPETENCY
MATHEMATICAL PRACTICES – *reasoning and explaining, modeling and using tools, seeing structure and generalizing*
1.MP: Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback. Set and monitor goals. **Understanding the Intent and Rigor of the Standard** *This standard consists of a breakdown through several learning objectives. These learning objectives are not meant to be taught in isolation, but rather in clusters of related learning objectives. The Grade 1 curriculum map provides suggestions for clustering learning objectives within each unit.* The Mathematical Practices describe the reasoning behaviors students should develop as they build an understanding of mathematics – the "habits of mind" that help students become mathematical thinkers. There are eight standards, which apply to all grade levels and conceptual categories. These mathematical practices describe how students should engage with the mathematics content for their grade level. Developing these habits of mind builds students' capacity to become mathematical thinkers. These practices can be applied individually or together in mathematics lessons, and no particular order is required. In well-designed lessons, there are often two or more Mathematical Practices present.
Breakdown of Standard/Key Competency (Expectation/Learning Objective)
1.MP.1 Make sense of problems and persevere in solving them.
1.MP.2 Reason abstractly and quantitatively.
1.MP.3 Construct viable arguments and critique the reasoning of others.
1.MP.4 Model with mathematics.
1.MP.5 Use appropriate tools strategically.
1.MP.6 Attend to precision.
1.MP.7 Look for and make use of structure.
1.MP.8 Look for and express regularity in repeated reasoning.

STANDARD/KEY COMPETENCY 1

NUMERICAL REASONING – *counting, numbers, equality, place value, addition, subtraction*

1.NR.1: Extend the count sequence to 120. Read, write, and represent numerical values to 120 and compare numerical values to 100.

Understanding the Intent and Rigor of the Standard

This standard consists of a breakdown through several learning objectives. These learning objectives are not meant to be taught in isolation, but rather in clusters of related learning objectives. The Grade 1 curriculum map provides suggestions for clustering learning objectives within each unit.

When learning this standard, students are building on their understanding of the patterns and number sequence established in kindergarten to extend the count sequence to 120. As students engage in tasks to learn this standard, they will make sense of the idea that the two digits in two-digit numbers represent the amounts of tens and ones. As students read and write numbers from a variety of contexts, they will compare and order these two-digit numbers using base ten materials and drawings, using the symbols <, >, =.

Breakdown of Standard/Key Competency 1 (Expectation/Learning Objective)

1.NR.1.1 Count within 120, forward and backward, starting at any number. In this range, read and write numerals and represent a number of objects with a written numeral.

1.NR.1.2 Explain that the two digits of a 2-digit number represent the amounts of tens and ones.

1.NR.1.3 Compare and order whole numbers up to 100 using concrete models, drawings, and the symbols >, =, and <.

STANDARD/KEY COMPETENCY 2
NUMERICAL REASONING – *counting, numbers, equality, place value, addition, subtraction*
1.NR.2: Explain the relationship between addition and subtraction and apply the properties of operations to solve real-life addition and subtraction problems within 20. **Understanding the Intent and Rigor of the Standard** *This standard consists of a breakdown through several learning objectives. These learning objectives are not meant to be taught in isolation, but rather in clusters of related learning objectives. The Grade 1 curriculum map provides suggestions for clustering learning objectives within each unit.* When learning this standard, students will develop strategies using pictures, drawings, and equations to solve addition and subtraction problems within 20. Students will develop an understanding of the equal sign as a symbol that identifies two quantities with the same value and use this idea to identify whether addition and subtraction equations are true or false. Students will use properties of operations as strategies to solve real-life addition and subtraction problems.
Breakdown of Standard/Key Competency 2 (Expectation/Learning Objective)
1.NR.2.1 Use a variety of strategies to solve addition and subtraction problems within 20..
1.NR.2.2 Use pictures, drawings, and equations to develop strategies for addition and subtraction within 20 by exploring strings of related problems.
1.NR.2.3 Recognize the inverse relationship between subtraction and addition within 20 and use this inverse relationship to solve authentic problems.
1.NR.2.4 Fluently add and subtract within 10 using a variety of strategies.
1.NR.2.5 Use the meaning of the equal sign to determine whether equations involving addition and subtraction are true or false.
1.NR.2.6 Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers.
1.NR.2.7 Apply properties of operations as strategies to solve addition and subtraction problem situations within 20.

STANDARD/KEY COMPETENCY 3
PATTERNING & ALGEBRAIC REASONING – *repeating patterns, growing, patterns, and shrinking patterns*
1.PAR.3: Identify, describe, extend, and create repeating patterns, growing patterns, and shrinking patterns found in real-life situations. **Understanding the Intent and Rigor of the Standard** *This standard consists of a breakdown through several learning objectives. These learning objectives are not meant to be taught in isolation, but rather in clusters of related learning objectives. The Grade 1 curriculum map provides suggestions for clustering learning objectives within each unit.* When learning this standard, students will generate, describe, and extend repeating patterns, growing patterns and shrinking patterns. They will make predictions about these patterns and through investigations, will apply addition and subtraction to growing and shrinking patterns to describe how they are growing and shrinking. Students may use materials, drawings, and organizational tools to make sense of and describe the growth in these patterns.
Breakdown of Standard/Key Competency 3 (Expectation/Learning Objective)
1.PAR.3.1 Investigate, create, and make predictions about repeating patterns with a core of up to 3 elements resulting from repeating an operation, as a series of shapes, or a number string.
1.PAR.3.2 Identify, describe, and create growing, shrinking, and repeating patterns based on the repeated addition or subtraction of 1s, 2s, 5s, and 10s.

STANDARD/KEY COMPETENCY 4

GEOMETRIC & SPATIAL REASONING – *shapes, attributes, partitions of circles and rectangles*
1.GSR.4: Compose shapes, analyze the attributes of shapes, and relate their parts to the whole. **Understanding the Intent and Rigor of the Standard** *This standard consists of a breakdown through several learning objectives. These learning objectives are not meant to be taught in isolation, but rather in clusters of related learning objectives. The Grade 1 curriculum map provides suggestions for clustering learning objectives within each unit.* When learning this standard, students use visual fraction models to make sense of fractions. These may include area models, number lines or collection/set models. This standard extends the work in third grade with the addition of denominators of 5, 10, 12, and 100. Students also compare fractions with visual fraction models, including number lines, reasoning that comparisons are only valid if the wholes are the same size.
Breakdown of Standard/Key Competency 4 (Expectation/Learning Objective)
1.GSR.4.1 Identify common two-dimensional shapes and three-dimensional figures, sort and classify them by their attributes and build and draw shapes that possess defining attributes.
1.GSR.4.2 Compose two-dimensional shapes (rectangles, squares, triangles, half-circles, and quarter-circles) and three-dimensional figures (cubes, rectangular prisms, cones, and cylinders) to create a shape formed of two or more common shapes and compose new shapes from the composite shape.
1.GSR.4.3 Partition circles and rectangles into two and four equal shares.

STANDARD/KEY COMPETENCY 5
NUMERICAL REASONING – *base ten structure, addition and subtraction within 100*

1.NR.5: Use concrete models, the base ten structure, and properties of operations to add and subtract within 100.

Understanding the Intent and Rigor of the Standard

This standard consists of a breakdown through several learning objectives. These learning objectives are not meant to be taught in isolation, but rather in clusters of related learning objectives. The Grade 1 curriculum map provides suggestions for clustering learning objectives within each unit.

When learning this standard, students will extend their work with addition and subtraction to include numbers within 100. Students will choose from a variety of strategies to solve addition and subtraction problems with one- and two-digit numbers. Students will use numerical reasoning and patterning and algebraic reasoning to find ten more or ten less than an given two-digit number and they will add and subtract multiples of ten within 100.

Breakdown of Standard/Key Competency 5 (Expectation/Learning Objective)
1.NR.5.1 Use a variety of strategies to solve applicable, mathematical addition and subtraction problems with one- and two-digit whole numbers.
1.NR.5.2 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
1.NR.5.3 Add and subtract multiples of 10 within 100.

STANDARD/KEY COMPETENCY 6
MEASUREMENT & DATA REASONING – *length, time, money*

1.MDR.6: Use appropriate tools to measure, order, and compare intervals of length and time, as well as denominations of money to solve real-life, mathematical problems and answer relevant questions.

Understanding the Intent and Rigor of the Standard

This standard consists of a breakdown through several learning objectives. These learning objectives are not meant to be taught in isolation, but rather in clusters of related learning objectives. The Grade 1 curriculum map provides suggestions for clustering learning objectives within each unit.

When learning this standard, students will use appropriate tools to measure, compare, and order intervals of length and time. Students in first grade will measure length in non-standard units such as cubes, or paper clips to allow students to focus on the attribute being measured. Students will also tell and write time in hours and half hours. The progression of elapsed time begins in 1st grade with a focus on elapsed time to the hour on the hour using a predetermined number line. Students will also identify the value of quarters and compare the values of coins (pennies, nickels, dimes, and quarters). Additionally, students will ask statistical questions and answer them based on gathered information, observations, and appropriate graphical displays.

Breakdown of Standard/Key Competency 6 (Expectation/Learning Objective)
1.MDR.6.1 Estimate, measure, and record lengths of objects using non-standard units, and compare and order up to three objects using the recorded measurements. Describe the objects compared.
1.MDR.6.2 Tell and write time in hours and half-hours using analog and digital clocks, and measure elapsed time to the hour on the hour using a predetermined number line.
1.MDR.6.3 Identify the value of quarters and compare the values of pennies, nickels, dimes, and quarters.
1.MDR.6.4 Ask questions and answer them based on gathered information, observations, and appropriate graphical displays to compare and order whole numbers.

SECTION 9: Instructional Supports