

# Mathematics

## Number Sense

<b>Read and write whole numbers in the millions.</b>				
1.1 Read and write whole numbers in the millions.				
5 - Advanced	4 - Proficient	3 - Basic	2 - Below Basic	1 - Far Below Basic
<p>Student often <b>exceeds</b> the grade level standards and produces work that demonstrates a <b>thorough</b> knowledge of grade level standards.</p> <p>Student consistently demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• read and write whole numbers to one billion and above in standard, expanded, word, and short word form,</li> <li>• identify place values to the billions place and above.</li> </ul>	<p>Student regularly demonstrates <b>proficient</b> performance of the grade level standards and produces work that demonstrates <b>adequate</b> knowledge of grade level standards.</p> <p>Student demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• read and write whole numbers through 999,999,999 in standard, expanded, word, and short word form,</li> <li>• identify place values up to the hundred millions place.</li> </ul>	<p>Student often demonstrates <b>basic</b> performance on grade level standards and produces work that demonstrates <b>partial</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student often demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• read and write whole numbers through 999,999,999 in standard, expanded, word, and short word form,</li> <li>• identify place values up to the hundred millions place.</li> </ul> <p>Student <b>may</b> be able to:</p> <ul style="list-style-type: none"> <li>• count and read whole numbers through 999,999,999,</li> <li>• write whole numbers through 100,000 in standard, expanded, word, and short word form,</li> <li>• identify place value to the 100,000 place.</li> </ul>	<p>Student often demonstrates <b>below basic</b> performance on grade level standards and produces work that demonstrates a <b>limited</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student may demonstrate <b>limited</b> ability to:</p> <ul style="list-style-type: none"> <li>• read and write whole numbers through 999,999,999 in standard, expanded, word, and short word form,</li> <li>• identify place values up to the hundred millions place.</li> </ul> <p>Student <b>may</b> be able to:</p> <ul style="list-style-type: none"> <li>• count and read whole numbers up to 10,000,</li> <li>• write numbers to 10,000 in standard, expanded, word, and short word form,</li> <li>• identify place value to the 100,000 place.</li> </ul>	<p>Student is <b>not meeting grade level</b> standards and produces work that demonstrates <b>little</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student may be <b>unable</b> to:</p> <ul style="list-style-type: none"> <li>• read and write whole numbers through 999,999,999 in standard, expanded, word, and short word form,</li> <li>• identify place values up to the hundred millions place.</li> </ul> <p>Student <b>may</b> be able to:</p> <ul style="list-style-type: none"> <li>• count and read whole numbers up to 10,000,</li> <li>• write numbers to 10,000 in standard, expanded, word, and short word form,</li> <li>• identify place value to the 100,000 place.</li> </ul>

**Order and compare whole numbers and decimals to two decimal places.**

1.2 Order and compare whole numbers and decimals to two decimal places.

5 - Advanced	4 - Proficient	3 - Basic	2 - Below Basic	1 - Far Below Basic
<p>Student often <b>exceeds</b> the grade level standards and produces work that demonstrates a <b>thorough</b> knowledge of grade level standards.</p> <p>Student consistently demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• order and compare whole numbers to one billion and above,</li> <li>• compare amounts of money.</li> </ul>	<p>Student regularly demonstrates <b>proficient</b> performance of the grade level standards and produces work that demonstrates <b>adequate</b> knowledge of grade level standards.</p> <p>Student demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• order and compare whole numbers through 999,999,999,</li> <li>• compare amounts of money.</li> </ul>	<p>Student often demonstrates <b>basic</b> performance on grade level standards and produces work that demonstrates <b>partial</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student often demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• order and compare whole numbers through 999,999,999,</li> <li>• compare amounts of money.</li> </ul>	<p>Student often demonstrates <b>below basic</b> performance on grade level standards and produces work that demonstrates a <b>limited</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student may demonstrate <b>limited</b> ability to:</p> <ul style="list-style-type: none"> <li>• order and compare whole numbers through 999,999,999,</li> <li>• compare amounts of money.</li> </ul> <p>Students <b>may</b> be able to:</p> <ul style="list-style-type: none"> <li>• order and compare whole numbers through 99,999.</li> <li>• compare amounts of money.</li> </ul>	<p>Student is <b>not meeting grade level</b> standards and produces work that demonstrates <b>little</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student may be <b>unable</b> to:</p> <ul style="list-style-type: none"> <li>• order and compare whole numbers through 999,999,999,</li> <li>• compare amounts of money.</li> </ul> <p>Students <b>may</b> be able to:</p> <ul style="list-style-type: none"> <li>• order and compare whole numbers through 9,999.</li> <li>• compare amounts of money.</li> </ul>

Round whole numbers through the millions to the nearest ten, hundred, thousand, ten thousand, or hundred thousand.				
1.3 Round whole numbers through the millions to the nearest ten, hundred, thousand, ten thousand, or hundred thousand.				
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<p>Student often <b>exceeds</b> the grade level standards and produces work that demonstrates a <b>thorough</b> knowledge of grade level standards.</p> <p>Student consistently demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>round whole numbers in the millions and above to the nearest ten, hundred, thousand, ten thousand, hundred thousand, million, ten million, or hundred million.</li> </ul>	<p>Student regularly demonstrates <b>proficient</b> performance of the grade level standards and produces work that demonstrates <b>adequate</b> knowledge of grade level standards.</p> <p>Student demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>round whole numbers through the millions to the nearest ten, hundred, thousand, ten thousand, or hundred thousand.</li> </ul>	<p>Student often demonstrates <b>basic</b> performance on grade level standards and produces work that demonstrates <b>partial</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student often demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>round whole numbers through the millions to the nearest ten, hundred, thousand, ten thousand, or hundred thousand.</li> </ul>	<p>Student often demonstrates <b>below basic</b> performance on grade level standards and produces work that demonstrates a <b>limited</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student may demonstrate <b>limited</b> ability to:</p> <ul style="list-style-type: none"> <li>round whole numbers through the millions to the nearest ten, hundred, thousand, ten thousand, or hundred thousand.</li> </ul>	<p>Student is <b>not meeting grade level</b> standards and produces work that demonstrates <b>little</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student may be <b>unable</b> to:</p> <ul style="list-style-type: none"> <li>round whole numbers through the millions to the nearest ten, hundred, thousand, ten thousand, or hundred thousand.</li> </ul>

<b>Use concepts of negative numbers (e.g., on a number line, in counting, temperature, in "owing").</b>				
1.8 Use concepts of negative numbers (e.g., on a number line, in counting, temperature, in "owing").				
Standard not taught this quarter.				

**Identify on a number line the relative position of positive fractions, positive mixed numbers, and positive decimals to two decimal places.**

1.9 Identify on a number line the relative position of positive fractions, positive mixed numbers, and positive decimals to two decimal places.

Standard not taught this quarter.

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**Estimate and compute the sum or difference of whole numbers and positive decimals two places.**

2.1 Estimate and compute the sum or difference of whole numbers and positive decimals to two places.

5 - Advanced	4 - Proficient	3 - Basic	2 - Below Basic	1 - Far Below Basic
<p>Student often <b>exceeds</b> the grade level standards and produces work that demonstrates a <b>thorough</b> knowledge of grade level standards.</p> <p>Student consistently demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• round whole numbers in order to estimate sums or differences,</li> <li>• round dollar amounts in order to estimate sums or differences,</li> <li>• compute the sums or differences of whole numbers,</li> <li>• compute the sum or difference of money.</li> </ul>	<p>Student regularly demonstrates <b>proficient</b> performance of the grade level standards and produces work that demonstrates <b>adequate</b> knowledge of grade level standards.</p> <p>Student demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• round whole numbers in order to estimate sums or differences,</li> <li>• round dollar amounts in order to estimate sums or differences,</li> <li>• compute the sums or differences of whole numbers,</li> <li>• compute the sum or difference of money.</li> </ul>	<p>Student often demonstrates <b>basic</b> performance on grade level standards and produces work that demonstrates <b>partial</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student often demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• round whole numbers in order to estimate sums or differences,</li> <li>• round dollar amounts in order to estimate sums or differences,</li> <li>• compute the sums or differences of whole numbers,</li> <li>• compute the sum or difference of money.</li> </ul> <p>Student <b>may</b> be able to:</p> <ul style="list-style-type: none"> <li>• find the sum or difference of two numbers up to 10,000 with regrouping.</li> </ul>	<p>Student often demonstrates <b>below basic</b> performance on grade level standards and produces work that demonstrates a <b>limited</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student may demonstrate <b>limited</b> ability to:</p> <ul style="list-style-type: none"> <li>• round whole numbers in order to estimate sums or differences,</li> <li>• round dollar amounts in order to estimate sums or differences,</li> <li>• compute the sums or differences of whole numbers,</li> <li>• compute the sum or difference of money.</li> </ul> <p>Student <b>may</b> be able to:</p> <ul style="list-style-type: none"> <li>• find the sum or difference of two numbers up to 10,000 without regrouping.</li> </ul>	<p>Student is <b>not meeting grade level</b> standards and produces work that demonstrates <b>little</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student may be <b>unable</b> to:</p> <ul style="list-style-type: none"> <li>• round whole numbers in order to estimate sums or differences,</li> <li>• round dollar amounts in order to estimate sums or differences,</li> <li>• compute the sums or differences of whole numbers,</li> <li>• compute the sum or difference of money.</li> </ul> <p>Student <b>may</b> be able to:</p> <ul style="list-style-type: none"> <li>• compute sums but not differences.</li> </ul>

<b>Solve problems involving multiplication of multi-digit numbers by two-digit numbers.</b>				
3.3 Solve problems involving multiplication of multi-digit numbers by two-digit numbers.				
Standard not taught this quarter.				

**Solve problems involving division of multi-digit numbers by one-digit numbers.**

3.4 Solve problems involving division of multi-digit numbers by one-digit numbers.

Standard not taught this quarter.

## Algebra and Functions

<b>Simplify expressions and equations that may include variables or symbols</b>				
1.1 Use letters, boxes, or other symbols to stand for any number in simple expressions or equations (e.g. demonstrate an understanding and the use of the concept of a variable).				
1.4 Use and interpret formulas (e.g., area= length X width or $A=LW$ ) to answer questions about quantities and their relationships.				
1.5 Understand that an equation such as $y = 3x + 5$ is a prescription for determining a second number when a first number is given.				
5 - Advanced	4 - Proficient	3 - Basic	2 - Below Basic	1 - Far Below Basic
<p>Student often <b>exceeds</b> the grade level standards and produces work that demonstrates a <b>thorough</b> knowledge of grade level standards.</p> <p>Student consistently demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• write and simplify expressions and equations with a variable,</li> <li>• write and evaluate addition and subtraction expressions containing variables,</li> <li>• evaluate expressions and equations that use symbols,</li> <li>• evaluate equations with two variables,</li> <li>• evaluate equations with two variables in a function table.</li> </ul>	<p>Student regularly demonstrates <b>proficient</b> performance of the grade level standards and produces work that demonstrates <b>adequate</b> knowledge of grade level standards.</p> <p>Student demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• write and simplify expressions and equations with a variable,</li> <li>• write and evaluate addition and subtraction expressions containing variables,</li> <li>• evaluate expressions and equations that use symbols,</li> <li>• evaluate equations with two variables,</li> <li>• evaluate equations with two variables in a function table.</li> </ul>	<p>Student often demonstrates <b>basic</b> performance on grade level standards and produces work that demonstrates <b>partial</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student often demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• write and simplify expressions and equations with a variable,</li> <li>• write and evaluate addition and subtraction expressions containing variables,</li> <li>• evaluate expressions and equations that use symbols,</li> <li>• evaluate equations with two variables,</li> <li>• evaluate equations with two variables in a function table.</li> </ul>	<p>Student often demonstrates <b>below basic</b> performance on grade level standards and produces work that demonstrates a <b>limited</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student may demonstrate <b>limited</b> ability to:</p> <ul style="list-style-type: none"> <li>• write and simplify expressions and equations with a variable,</li> <li>• write and evaluate addition and subtraction expressions containing variables,</li> <li>• evaluate expressions and equations that use symbols,</li> <li>• evaluate equations with two variables,</li> <li>• evaluate equations with two variables in a function table.</li> </ul>	<p>Student is <b>not meeting grade level</b> standards and produces work that demonstrates <b>little</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student may be <b>unable</b> to:</p> <ul style="list-style-type: none"> <li>• write and simplify expressions and equations with a variable,</li> <li>• write and evaluate addition and subtraction expressions containing variables,</li> <li>• evaluate expressions and equations that use symbols,</li> <li>• evaluate equations with two variables,</li> <li>• evaluate equations with two variables in a function table.</li> </ul>
Algebra and Functions - Fourth Grade, First Quarter				

<b>Understand Order of Operation</b>				
1.2 Interpret and evaluate mathematical expressions that now use parentheses.				
1.3 Use parentheses to indicate which operation to perform when writing expressions containing more than two terms and different operations.				
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## Measurement and Geometry

### **Understand and solve area and perimeter.**

- 1.0 Students understand perimeter and area:
- 1.1 Measure the area of rectangular shapes by using appropriate units.
- 1.2 Recognize that rectangles that have the same area can have different perimeters.
- 1.3 Understand that rectangles that have the same perimeter can have different areas.
- 1.4 Understand and use formulas to solve problems involving perimeters and areas of rectangles and squares. Use those formulas to find the areas of more complex figures by dividing the figures into basic shapes.

Standard not taught this grading period.

**Plot and understand coordinates on a two-dimensional grid.**

2.0 Students use two-dimensional coordinate grids to represent points and graph lines and simple figures:

2.1 Draw the points corresponding to linear relationships on graph paper.

2.2 Understand that the length of a horizontal line segment equals the difference of the  $x$ -coordinates.

2.3 Understand that the length of a vertical line segment equals the difference of the  $y$ -coordinates.

Standard not taught this grading period.

## Statistics, Data Analysis, and Probability

### **Collect, organize, and analyze data.**

1.1 Formulate survey questions; systematically collect and represent data on a number line; and coordinate graphs, tables, and charts.

1.3 Interpret one- and two-variable data graphs to answer questions about a situation.

Standard not taught this grading period.

<b>Make predictions based on probability.</b>				
2.0 Make predictions for simple probability situations:				
2.1 Represent all possible outcomes for a simple probability situation in an organized way (e.g., tables, grids, tree diagrams).				
Standard not taught this grading period,				

## Mathematical Reasoning

<b>Problem Solve</b>				<b>page 1 of 2</b>
<p>1.1 Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.</p> <p>2.2 Apply strategies and results from simpler problems to more complex problems.</p> <p>2.3 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.</p> <p>2.4 Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.</p> <p>2.6 Make precise calculations and check the validity of the results from the context of the problem.</p>				
5 - Advanced	4 - Proficient	3 - Basic	2 - Below Basic	1 - Far Below Basic
<p>Student often <b>exceeds</b> the grade level standards and produces work that demonstrates a <b>thorough</b> knowledge of grade level standards.</p> <p>Student consistently demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• determine the appropriate operation (e.g. identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns),</li> <li>• determine the appropriate strategy,</li> </ul>	<p>Student regularly demonstrates <b>proficient</b> performance of the grade level standards and produces work that demonstrates <b>adequate</b> knowledge of grade level standards.</p> <p>Student demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• determine the appropriate operation (e.g. identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns),</li> <li>• determine the appropriate strategy,</li> </ul>	<p>Student often demonstrates <b>basic</b> performance on grade level standards and produces work that demonstrates <b>partial</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student often demonstrates the ability to:</p> <ul style="list-style-type: none"> <li>• determine the appropriate operation (e.g. identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns),</li> <li>• determine the appropriate strategy,</li> </ul>	<p>Student often demonstrates <b>below basic</b> performance on grade level standards and produces work that demonstrates a <b>limited</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student may demonstrate <b>limited</b> ability to:</p> <ul style="list-style-type: none"> <li>• determine the appropriate operation (e.g. identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns),</li> <li>• determine the appropriate strategy,</li> </ul>	<p>Student is <b>not meeting grade level</b> standards and produces work that demonstrates <b>little</b> knowledge of grade level standards.</p> <p><b>With direct instruction and teacher support</b>, student may be <b>unable</b> to:</p> <ul style="list-style-type: none"> <li>• determine the appropriate operation (e.g. identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns),</li> <li>• determine the appropriate strategy,</li> </ul>

**Problem Solve**

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- 2.3 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
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