


### 3rd grade Math Standards, Benchmarks, Examples and Vocabulary

Strand	Standard	No.	Benchmark	Qtr.	Unit and Lessons	Example
Number and Operation	Compare and represent whole numbers up to 100,000 with an emphasis on place value and equality.	3.1.1.1	<p>Read, write and represent whole numbers up to 100,000. Representations may include numerals, expressions with operations, words, pictures, number lines, and manipulatives such as bundles of sticks and base 10 blocks.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>Vocabulary allowed in items: digits, value, plot, locate, point</li> </ul>	1	JUMP Math Number sense 3.1-3.14	<p>What is another way to show 4,608? <math>4,000 + 600 + 8</math></p> <p>Plot the number 205 on a number line.</p>
		3.1.1.2	<p>Use place value to describe whole numbers between 1000 and 100,000 in terms of ten thousands, thousands, hundreds, tens and ones.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>Allowable expanded forms: <math>300 + 60 + 5</math>, 3 hundreds + 6 tens + 5 ones.</li> <li>Items may ask to identify a place a digit is in or the value of the digit in a place</li> <li>Vocabulary allowed in items: digits, value, equal</li> </ul>	1	JUMP Math Number sense 3.1-3.14	Which number is in the thousands place?
		3.1.1.3	<p>Find 10,000 more or 10,000 less than a given five-digit number. Find 1000 more or 1000 less than a given four- or five-digit. Find 100 more or 100 less than a given four- or five-digit number.</p>	1	JUMP Math Number Sense 3.9-3.11, 3.21-3.22	There are 23,650 people in a stadium. The stadium can hold 1,000 more people. How many people can the stadium hold?

			<u>Item Specifications</u> <ul style="list-style-type: none"> <li>Vocabulary allowed in items: fewer, more, less, greater</li> </ul>			
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Strand	Standard	No.	Benchmark	Qtr.	Unit and Lessons	Example
Number & Operation		3.1.1.4	Round numbers to the nearest 10,000, 1000, 100 and 10. Round up and round down to estimate sums and differences.  Vocabulary allowed in items: estimate, round, nearest, closest	3	JUMP Math Number Sense 3.71-3.76, 3.88	8726 rounded to the nearest 1000 is 9000, rounded to the nearest 100 is 8700, and rounded to the nearest 10 is 8730.
		3.1.1.5	Compare and order whole numbers up to 100,000.  <u>Item Specifications</u> <ul style="list-style-type: none"> <li>&lt; and &gt; symbols are not allowed</li> <li>Vocabulary allowed in items: least, greatest, compare, order, value</li> </ul>	1	JUMP Math Number Sense 3.9-3.11	Connie lists her scores from a video game. 14,087 13,345 14,613 14,301  Put the scores in order from greatest to least.
	Add and subtract multidigit whole numbers; represent multiplication and division in various ways; solve realworld and	3.1.2.1	Add and subtract multi-digit numbers, using efficient and generalizable procedures based on knowledge of place value, including standard algorithms.  <u>Item Specifications</u> <ul style="list-style-type: none"> <li>Addition items may contain 3 whole number addends, at most</li> <li>Numbers used may contain 4 digits each</li> </ul>	1	JUMP Math Number sense 3.13-3.26	Subtract. 4,500 - 612

	<p>mathematical problems using arithmetic.</p>	<p>3.1.2.2</p>	<p>Use addition and subtraction to solve real-world and mathematical problems involving whole numbers. Use various strategies, including the relationship between addition and subtraction, the use of technology, and the context of the problem to assess the reasonableness of results.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>• Addition items may contain 3 whole number addends, at most</li> <li>• Numbers used may contain 4 digits each</li> <li>• Addition and subtraction can be used in the same item</li> </ul>	<p>1</p>	<p>JUMP Math Number sense 3.13-3.26</p>	<p>The calculation <math>117 - 83 = 34</math> can be checked by adding 83 and 34.</p> <p>Jeff had 1,350 glass beads and 695 clay beads. He sold 138 glass beads and 47 clay beads. How many beads did Jeff have left?</p>
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		3.1.2.3	<p>Represent multiplication facts by using a variety of approaches, such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line and skip counting. Represent division facts by using a variety of approaches, such as repeated subtraction, equal sharing and forming equal groups. Recognize the relationship between multiplication and division.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>• Factors limited 1–12</li> <li>• Variables are not used</li> <li>• Vocabulary: multiply, divide</li> </ul>	1	<p>JUMP Math Patterns and Algebra 3.1-3.9, 3.13-3.15</p> <p>JUMP Math Number Sense 3.27-3.45, 3.48-3.56</p>	<p>Draw a model that show <math>6 \times 3</math></p> 
		3.1.2.4	<p>Solve real-world and mathematical problems involving multiplication and division, including both "how many in each group" and "how many groups" division problems.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>• Factors limited 1–20; 1 factor has only 1 digit</li> <li>• Dividend is no greater than 100</li> <li>• Vocabulary: multiply, divide, product</li> </ul>	2	<p>JUMP Math Number Sense 3.27-3.47, 3.57-3.61</p> <p>JUMP Math Measurement 3.10-3.13</p>	<p>You have 27 people and 9 tables. If each table seats the same number of people, how many people will you put at each table?</p> <p>If you have 27 people and tables that will hold 9 people, how many tables will you need?</p> <p>Sam has 64 marbles. He puts an equal number of marbles into each of 4 jars. How many marbles are in each jar?</p>
		3.1.2.5	<p>Use strategies and algorithms based on knowledge of place value, equality and properties of addition and multiplication to multiply a two- or three-digit number by a one-digit number. Strategies may include mental</p>	2	<p>JUMP Math Number Sense 3.46-3.47</p>	<p><math>9 \times 26 = 9 \times (20 + 6) = 9 \times 20 + 9 \times 6 = 180 + 54 = 234.</math></p> <p><math>507 \times 6 = 3042</math></p>

			<p>strategies, partial products, the standard algorithm, and the commutative, associative, and distributive properties.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>The one-digit factor must be 2–6</li> </ul>			
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		3.1.3.1	<p>Read and write fractions with words and symbols. Recognize that fractions can be used to represent parts of a whole, parts of a set, points on a number line, or distances on a number line.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>Denominators are limited to 2, 3, 4, 6 and 8</li> <li>Fractions located on number lines are limited to denominators of 2 and 4</li> <li>Sets may contain no more than 12 objects</li> <li>Vocabulary allowed in items: fraction, plot, locate, point</li> </ul>	3	JUMP Math Number Sense 3.62-3.68	<p>Parts of a shape (<math>\frac{3}{4}</math> of a pie), parts of a set (3 out of 4 people), and measurements (<math>\frac{3}{4}</math> of an inch).</p> <p>Cory has 2 red crayons and 1 blue crayon. What fraction of Cory's crayons is red?</p>

Understand meanings and uses of fractions in real-world and mathematical situations.	3.1.3.2	<p>Understand that the size of a fractional part is relative to the size of the whole.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>• Denominators are limited to 2, 3, 4, 6 and 8</li> <li>• Sets may contain no more than 12 objects</li> <li>• Vocabulary allowed in items: fraction</li> </ul>	3	JUMP Math Number Sense 3.62-3.68	<p>One-half of a small pizza is smaller than one-half of a large pizza, but both represent one-half.</p> <p>Gravin has 4 green apples and 4 red apples. Tara has 4 green apples and 8 red apples. Who has a greater fraction of green apples?</p>
	3.1.3.3	<p>Order and compare unit fractions and fractions with like denominators by using models and an understanding of the concept of numerator and denominator.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>• Denominators are limited to 2, 3, 4, 6 and 8</li> <li>• Sets may contain no more than 12 objects</li> <li>• Vocabulary allowed in items: fraction, equal, least, greatest</li> </ul>	3	JUMP Math Number Sense 3.69-3.70	Ellen has a vase of flowers. Which is the greatest fraction?

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Algebra	Use single operation input output rules to represent patterns and relationships and to solve realworld and mathematical problems.	3.2.1.1	<p>Create, describe, and apply single-operation input-output rules involving addition, subtraction and multiplication to solve problems in various contexts.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>At least 3 iterations of the pattern must be given</li> <li>Vocabulary allowed in items: rule, input, output, value</li> </ul>	1	JUMP Math Patterns and Algebra 3.9	<p>Describe the relationship between number of chairs and number of legs by the rule that the number of legs is four times the number of chairs.</p> <p>What is the output number when the input number is 12?</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>12</td> </tr> <tr> <td>4</td> <td>24</td> </tr> <tr> <td>8</td> <td>48</td> </tr> </tbody> </table>	Input	Output	2	12	4	24	8	48
	Input	Output												
	2	12												
4	24													
8	48													
Use number sentences involving multiplication and division basic facts and unknowns to represent and solve realworld and mathematical problems; create realworld situations corresponding to number sentences.	3.2.2.1	<p>Understand how to interpret number sentences involving multiplication and division basic facts and unknowns. Create realworld situations to represent number sentences.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>Variables, boxes or blanks may be used to represent unknown numbers</li> <li>Vocabulary allowed in items: number sentence, equation, value, represent</li> </ul>	3	JUMP Math Patterns and Algebra 3.16-3.19	<p>The number sentence <math>8 \times m = 24</math> could be represented by the question "How much did each ticket to a play cost if 8 tickets totaled \$24?"</p>									
	3.2.2.2	<p>Use multiplication and division basic facts to represent a given problem situation using a number sentence. Use number sense and multiplication and division basic facts to find values for the unknowns that make the number sentences true.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>Variables, boxes or blanks may be used to represent unknown numbers</li> </ul>	3	JUMP Math Patterns and Algebra 3.16-3.19	<p>Find values of the unknowns that make each number sentence true</p> $6 = p \div 9$ $24 = a \times b$ $5 \times 8 = 4 \times t$ <p>How many math teams are competing if there is a total of 45 students with 5 students on each team? This situation can be represented by <math>5 \times n = 45</math> or <math>45/5 = n</math> or <math>45/n = 5</math>.</p>									

			<ul style="list-style-type: none"> <li>Vocabulary allowed: number sentence, equation, value, represent</li> </ul>			Solve for the blank. $3 \times 7 = \underline{\quad} + 7$
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Geometry and Measurement	Use geometric attributes to describe and create shapes in various contexts.	3.3.1.1	Identify parallel and perpendicular lines in various contexts, and use them to describe and create geometric shapes, such as right triangles, rectangles, parallelograms and trapezoids.  <u>Item Specifications</u> <ul style="list-style-type: none"> <li>When identifying shapes by the attribute of parallel or perpendicular lines, shapes are limited to triangle, parallelogram, rectangle, rhombus, square and trapezoid</li> <li>Vocabulary in items: parallel, perpendicular, right, figure</li> </ul>	2	JUMP Math Geometry 3.9-3.11	Which shapes have parallel sides?  What describes the relationship between the lines?  
		3.3.1.2	Sketch polygons with a given number of sides or vertices (corners), such as pentagons, hexagons and octagons.  <u>Item Specifications</u> <ul style="list-style-type: none"> <li>Vocabulary in items: sides, angles, vertices, figure</li> </ul>	2	JUMP Math Geometry 3.1-3.8, 3.12-3.23	Which shape has the fewest angles? A hexagon, octagon, pentagon, or trapezoid?
	Understand	3.3.2.1	Use half units when measuring distances.	2	JUMP Math Measurement 3.1-3.6	Measure a person's height to the nearest half inch.

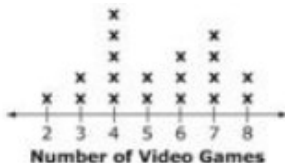


perimeter as a measurable attribute of real-world and mathematical objects. Use various tools to measure distances.	3.3.2.2	<p>Find the perimeter of a polygon by adding the lengths of the sides.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>• Polygons may have 6 sides, at most</li> <li>• Items may require finding the length of an unknown side given the lengths of the other sides and the perimeter</li> <li>• Units are limited to inches, feet, yards, centimeters and meters</li> <li>• Vocabulary in items: perimeter, length, width, side, figure</li> </ul>		JUMP Math Measurement 3.7-3.8	<p>The perimeter of a rectangle is 16 inches. It's length is 5 inches. What is it's width?</p> <p>What is the perimeter of a given shape?</p>
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Strand	Standard	No.	Benchmark	Qtr.	Unit and Lessons	Example
		3.3.2.3	<p>Measure distances around objects.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>• Items may require identification of appropriate tools or procedures for measuring distance</li> <li>• Vocabulary: tool, ruler, yardstick, meter stick, tape measure</li> </ul>	2	JUMP Math Measurement 3.7-8.8	Measure the distance around a classroom, or measure a person's wrist size.
		3.3.3.1	<p>Tell time to the minute, using digital and analog clocks. Determine elapsed time to the minute</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>• Elapsed time must be within a two-hour span</li> <li>• Vocabulary: a.m., p.m.</li> </ul>	3	JUMP Math Measurement 3.14-3.22	<p>Your trip began at 9:50 a.m. and ended at 3:10 p.m. How long were you traveling?</p> <p>Alice starts reading a book at 4:00pm. She stops reading 1 hour and 12 minutes later. What time does Alice stop reading?</p>

Use time, money and temperature to solve realworld and mathematical problems.	3.3.3.2	<p>Know relationships among units of time.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>• Conversions: minutes to hours, hours to minutes, hours to days, days to hours, days to weeks, weeks to days, months to years, years to months</li> <li>• Items may require finding a conversion with mixed units in the answer (e.g., 12 days = 1 week and 5 days)</li> </ul>	3	JUMP Math Measurement 3.14-3.22	<p>Know the number of minutes in an hour, days in a week and months in a year.</p> <p>A movie is 2 hours and 28 minutes long. How many minutes long is the movie?</p>
	3.3.3.3	<p>Make change up to one dollar in several different ways, including with as few coins as possible.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>• Allowable notation: \$5, \$0.75, 75¢</li> <li>• When calculating change, the amount tendered is \$10, at most</li> <li>• Vocabulary: greatest, least, fewest, most, value</li> </ul>	3	JUMP Math Number Sense 3.77-3.87, 3.89	<p>A chocolate bar costs \$1.84. You pay for it with \$2. Give two possible ways to make change.</p> <p>Gina buys a snack for 59 cents. She pays with a 1 dollar bill. She receives the fewest possible coins in change. What change does Gina receive?</p>

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		3.3.3.4	Use an analog thermometer to determine temperature to the nearest degree in Fahrenheit and Celsius.	3	JUMP Math 3.29	Read the temperature in a room with a thermometer that has both Fahrenheit and Celsius scales. Use the thermometer to compare Celsius and Fahrenheit readings.

			<p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>Allowable notation: 15°F, 37°C</li> <li>Temperatures must be given in whole numbers</li> <li>Vocabulary allowed in items: thermometer, temperature, degrees, increase, decrease</li> </ul>		
Data Analysis	Collect, organize, display, and interpret data. Use labels and a variety of scales and units in displays.	3.4.1.1	<p>Collect, display and interpret data using frequency tables, bar graphs, picture graphs and number line plots having a variety of scales. Use appropriate titles, labels and units.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> <li>Scale increments will not exceed 5</li> <li>Pictograph keys will not exceed 5</li> <li>Total number on graph or chart will not exceed 500</li> <li>Vocabulary allowed in items: pictograph, tally chart, bar graph, line plot, table, data, title, label, key, represent</li> </ul>	3	<p>JUMP Math Probability and Data Management 3.1-3.16</p> <p>Kyle asked his classmates how many video games they have. He put the information in a line plot. Then 2 new students joined the class.</p> <ul style="list-style-type: none"> <li>James has 3 video games</li> <li>Theo has 5 video games.</li> </ul> <p>JUMP Math Geometry 3.1-3.4</p> <p>Complete the line plot to show the information for James and Theo.</p>  <p>Leon asked his friends to choose a favorite dessert. How many more friends chose ice cream than pie?</p> 