






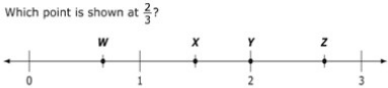

4th grade Math Standards, Benchmarks, Examples and Vocabulary

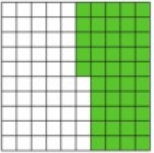
Strand	Standard	No.	Benchmark	Qtr.	Unit and Lessons	Example
Number & Operation	Demonstrate mastery of multiplication and division basic facts; multiply multidigit numbers; solve real-world and mathematical problems using arithmetic.	4.1.1.1	Demonstrate fluency with multiplication and division facts. <u>Item Specifications</u> <ul style="list-style-type: none"> Factors are limited 1–9 Vocabulary allowed in items: quotient “and vocabulary given at previous grades” 	1	JUMP Math Number Sense 4.27-4.38	There are 35 students going on a class trip. The students ride in vans. There are 7 students riding in each van. How many vans are needed to take all the students?
		4.1.1.2	Use an understanding of place value to multiply a number by 10, 100 and 1000. <u>Item Specifications</u> <ul style="list-style-type: none"> Numbers multiplied by 10, 100 and 1000 may contain at most, 2 digits Numbers must be whole numbers 	1	JUMP Math Number Sense 4.1-4.13	A truck has 50 boxes of jump ropes. Each box contains 100 jump ropes. How many jump ropes are on the truck?
		4.1.1.3	Multiply 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"> Items will contain multiplication of a one- or two-digit number by a two- or three-digit number Numbers must be whole numbers Items must not have context Vocabulary: factor 	1	JUMP Math Number Sense 4.27-4.38 JUMP Math Patterns and Algebra 4.23-4.29	406 x 58 What digit replaces the question mark? 724 x 8? = 62,264

		4.1.1.4	Estimate products and quotients of multi-digit whole numbers by using rounding, benchmarks and place value to assess the reasonableness of results.		JUMP Math Number Sense 4.39-4.46	53×38 is between 50×30 and 60×40 , or between 1500 and 2400, and $411/73$ is between 5 and 6.
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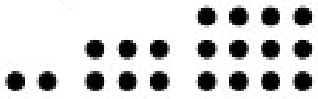
Strand	Standard	No.	Benchmark	Qtr.	Unit and Lessons	Example
		4.1.1.5	<p>solve multi-step real-world and mathematical problems requiring the use of addition, subtraction and multiplication of multi-digit whole numbers. Use various strategies, including the relationship between operations, the use of 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"> Solutions must be less than 100,000 Vocabulary items: operation, strategy, solve 	1	<p>JUMP Math Number Sense 4.14-4.38, 4.47-4.51. 4.119-4.120</p> <p>JUMP Math Measurement 4.19-4.29</p>	A camping group bought 15 bags that cost \$42 each and a tent that cost \$160. What was the total cost of the sleeping bags and the tent?
		4.1.1.6	Use strategies and algorithms based on knowledge of place value, equality and properties of operations to divide multi-digit whole numbers by one or two-digit numbers. Strategies may include mental strategies, partial quotients, the commutative, associative, and distributive properties and repeated subtraction.	1	JUMP Math Number Sense 4.52-4.69	<p>A group of 324 students is going to a museum in 6 buses. If each bus has the same number of students, how many students will be on each bus?</p> <p>Divide: $908 / 4$</p>





		<p><u>Item Specifications</u></p> <ul style="list-style-type: none"> • Dividend may contain at most, 3 digits • Vocabulary items: quotient, divisor, dividend 			
Represent and compare fractions and decimals in real-world and mathematical situations; use place value to understand how decimals represent quantities.	4.1.2.1	<p>Represent equivalent fractions using fraction models such as parts of a set, fraction circles, fraction strips, number lines and other manipulatives. Use the models to determine equivalent fractions.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> • Denominators are limited to 2, 3, 4, 5, 6, 8, 10 and 12 • Vocabulary items: equivalent, represent, numerator, denominator 	3	<p>JUMP Math Measurement 4.20</p> <p>JUMP Math Number Sense 4.70-4.73, 4.76-4.88, 4.91</p>	 <p>Which shows an equivalent fraction?</p> <p><input type="radio"/> A.  <input type="radio"/> B. </p> <p><input type="radio"/> C.  <input type="radio"/> D. </p>

Strand	Standard	No.	Benchmark	Qtr.	Unit and Lessons	Example
		4.1.2.2	<p>Locate fractions on a number line. Use models to order and compare whole numbers and fractions, including mixed numbers and improper fractions.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> Denominators are limited to 2, 3, 4, 5, 6, 8, 10 and 12 Vocabulary items: equivalent, numerator, denominator, improper fraction, mixed numbers, compare 	3	JUMP Math Number Sense 4.74-4.75, 4.89	<p>Which point is shown at $\frac{2}{3}$?</p>  <p> <input type="radio"/> A. W <input type="radio"/> B. X <input type="radio"/> C. Y <input type="radio"/> D. Z </p>
		4.1.2.3	<p>Use fraction models to add and subtract fractions with like denominators in real-world and mathematical situations. Develop a rule for addition and subtraction of fractions with like denominators.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> Denominators are limited to 2, 3, 4, 5, 6, 8, 10 and 12 Vocabulary items: numerator, denominator 	3	JUMP Math Number Sense 4.90, 4.96-4.98,	<p>Jason has 8 cupcakes.</p>  <p>He eats $\frac{1}{8}$ of the cupcakes and gives $\frac{2}{8}$ of the cupcakes to his friends.</p> <p>What fraction of the cupcakes are left?</p> <p> <input type="radio"/> A. $\frac{1}{8}$ <input type="radio"/> B. $\frac{3}{8}$ <input type="radio"/> C. $\frac{5}{8}$ <input type="radio"/> D. $\frac{3}{5}$ </p>
		4.1.2.4	<p>Read and write decimals with words and symbols; use place value to describe decimals in terms of thousands, hundreds, tens, ones, tenths, hundredths and thousandths.</p> <p><u>Item Specifications</u></p>	3	JUMP Math Number Sense 4.92-4.95, 4.100-4.106, 4.110-4.117	<p>Writing 362.45 is a shorter way of writing the sum: 3 hundreds + 6 tens + 2 ones + 4 tenths + 5 hundredths, which can also be written as: three hundred sixty-two and forty-five hundredths.</p> <p>In the number 200.358, which digit is in the</p>

			<ul style="list-style-type: none"> Vocabulary: decimal 			hundredths place?
		4.1.2.5	<p>Compare and order decimals and whole numbers using place value, a number line and models such as grids and base 10 blocks.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> Numbers used are from thousands to thousandths Symbols: < and > Vocabulary: decimal 	3	JUMP Math Number Sense 4.107-4.109	<p>A decimal number is shown on a grid.</p>  <p>Which number is less than the number shown on the grid?</p> <p><input type="radio"/> A. 0.9</p> <p><input type="radio"/> B. 0.48</p> <p><input type="radio"/> C. 0.450</p> <p><input type="radio"/> D. 0.275</p>

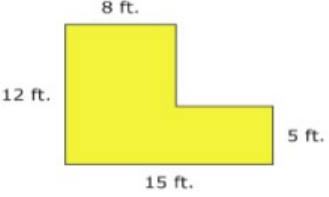





Strand	Standard	No.	Benchmark	Qtr.	Unit and Lessons	Example
		4.1.2.6	<p>Read and write tenths and hundredths in decimal and fraction notations using words and symbols; know the fraction and decimal equivalents for halves and fourths.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> Vocabulary items: decimal, equivalent 	3	JUMP Math Number Sense 4.100-4.109	<p>Which fraction is equivalent to 0.23?</p> <p><input type="radio"/> A. $\frac{1}{23}$</p> <p><input type="radio"/> B. $\frac{23}{10}$</p> <p><input type="radio"/> C. $\frac{23}{100}$</p> <p><input type="radio"/> D. $\frac{2}{3}$</p>
		4.1.2.7	<p>Round decimals to the nearest tenth.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> Numbers must be less than 500 Decimals may be given up to 	3	JUMP Math Number Sense 4.108-4.109, 4.115	The number 0.36 rounded to the nearest tenth is 0.4.

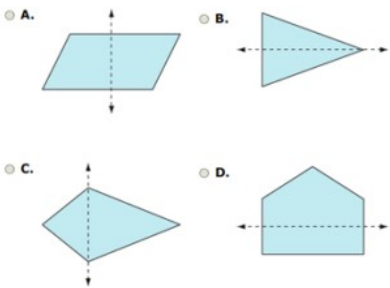

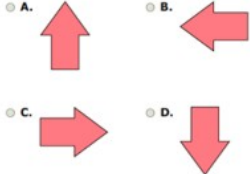

			thousandths											
Algebra	Use input-output rules, tables and charts to represent patterns and relationships and to solve real-world and mathematical problems.	4.2.1.1	<p>Create and use input-output rules involving addition, subtraction, multiplication and division to solve problems in various contexts. Record the inputs and outputs in a chart or table.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> When creating a rule from pairs, 3 input-output pairs must be given; pairs are not required to be consecutive Output should not exceed 100 	1	JUMP Math Patterns and Algebra 4.1-4.15	<p>Identify a pattern that is consistent with these figures, create an input-output rule that describes the pattern, and use the rule to find the number of dots in the 10th figure.</p>  <p>A table is shown.</p> <table border="1" data-bbox="1633 678 1738 792"> <thead> <tr> <th><i>f</i></th> <th><i>g</i></th> </tr> </thead> <tbody> <tr> <td>4</td> <td>2</td> </tr> <tr> <td>8</td> <td>4</td> </tr> <tr> <td>16</td> <td>8</td> </tr> </tbody> </table> <p>What rule was used to make the table?</p> <p>$g = f/2$</p>	<i>f</i>	<i>g</i>	4	2	8	4	16	8
	<i>f</i>	<i>g</i>												
4	2													
8	4													
16	8													
Use number sentences involving multiplication, division and unknowns to represent and solve real-world and math problems; create real-world situations corresponding to number sent.	4.2.2.1	<p>Understand how to interpret number sentences involving multiplication, division and unknowns. Use real-world situations involving multiplication or division to represent number sentences.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> Numbers must be less than 100 Variables, boxes or blanks may be used to represent unknowns 	3	JUMP Math Patterns and Algebra 4.30-4.33	<p>The number sentence $a \times b = 60$ can be represented by the situation in which chairs are being arranged in equal rows and the total number of chairs is 60.</p>									


Strand	Standard	No.	Benchmark	Qtr.	Unit and Lessons	Example
		4.2.2.2	<p>Use multiplication, division and unknowns to represent a given problem situation using a number sentence. Use number sense, properties of multiplication, and the relationship between multiplication and division 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"> Numbers must be less than 100 Variables, boxes or blanks may be used to represent unknowns Vocabulary: variable 	3	JUMP Math Patterns and Algebra 4.30-4.33	<p>If \$84 is to be shared equally among a group of children, the amount of money each child receives can be determined using the number sentence $84 \div n = d$.</p> <p>Find values of the unknowns that make each number sentence true: $12 \times m = 36$ $s = 256 \div t$.</p>
Geometry & Measurement	Name, describe, classify and sketch polygons.	4.3.1.1	<p>Describe, classify and sketch triangles, including equilateral, right, obtuse and acute triangles. Recognize triangles in various contexts.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> Naming of triangles is limited to equilateral, right, obtuse and acute Allowable notation: 90° Vocabulary items: vertex 	2	JUMP Math Geometry 4.15	<p>Describe an obtuse triangle?</p> <p>It has 2 acute angles and one obtuse angle.</p>
		4.3.1.2	<p>Describe, classify and draw quadrilaterals, including squares, rectangles, trapezoids, rhombuses, parallelograms and kites. Recognize quadrilaterals in various contexts.</p> <p><u>Item Specifications</u></p>	2	JUMP Math 4.15-4.19, 4.30-4.41	<p>Which shape is a rhombus?</p> <p> <input type="radio"/> A.  <input type="radio"/> B.  <input type="radio"/> C.  <input type="radio"/> D.  </p>

			<ul style="list-style-type: none"> Naming of quadrilaterals is limited to quadrilateral, square, rectangle, trapezoid, rhombus, parallelogram and kite Allowable notation: 90° Vocabulary: vertex, congruent 			
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Strand	Standard	No.	Benchmark	Qtr.	Unit and Lessons	Example
	Understand angle and area as measurable attributes of realworld and mathematical objects. Use various tools to measure angles and areas.	4.3.2.1	Measure angles in geometric figures and real-world objects with a protractor or angle ruler.	2	JUMP Math Measurement 4.1-4.18	
		4.3.2.2	Compare angles according to size. Classify angles as acute, right and obtuse. <u>Item Specifications</u> <ul style="list-style-type: none"> Allowable notation: 90°, angle, arc 	2	JUMP Math Geometry 4.1-4.9	Compare different hockey sticks according to the angle between the blade and the shaft.
		4.3.2.3	Understand that the area of a two-dimensional figure can be found by counting the total number of same size square units that cover a shape without gaps or overlaps. Justify why length and width are multiplied to find the area of a	2	JUMP Math Measurement 4.30-4.32	How many copies of a square sheet of paper are needed to cover the classroom door? Measure the length and width of the door to the nearest inch and compute the area of the door.

		<p>rectangle by breaking the rectangle into one unit by one unit squares and viewing these as grouped into rows and columns.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> Vocabulary items: area 			
	4.3.2.4	<p>Find the areas of geometric figures and real-world objects that can be divided into rectangular shapes. Use square units to label area measurements.</p> <p><u>Item Specifications</u> Vocabulary items: area</p>	2	JUMP Math Measurement 4.33-4.39	<p>The shape of a floor is shown.</p>  <p>What is the area of the floor?</p>
Use translations, reflections and rotations to establish congruency and understand symmetries.	4.3.3.1	<p>Apply translations (slides) to figures.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> Vocabulary items: translation, reflection, rotation, symmetry, congruent, transformation, image, 	2	JUMP Math Geometry 4.11-4.14, 4.20-4.23	<p>A shape is shown.</p>  <p>Which shows a translation of the shape over the line?</p> <p><input type="radio"/> A. </p> <p><input type="radio"/> B. </p> <p><input type="radio"/> C. </p> <p><input type="radio"/> D. </p>

Strand	Standard	No.	Benchmark	Qtr.	Unit and Lessons	Example
		4.3.3.2	<p>Apply reflections (flips) to figures by reflecting over vertical or horizontal lines and relate reflections to lines of symmetry.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> Vocabulary items: translation, reflection, rotation, symmetry, congruent, vertical, horizontal, transformation, image, 	2	JUMP Math Geometry 4.11-4.14, 4.24-4.27	<p>Which shows a line of symmetry?</p> 
		4.3.3.3	<p>Apply rotations (turns) of 90° clockwise or counterclockwise.</p> <p><u>Item Specifications</u> Vocabulary items: translation, reflection, rotation, symmetry, congruent, clockwise, counterclockwise, transformation, image,</p>	2	JUMP Math Geometry 4.11-4.14, 4.28-4.29	<p>A figure is shown.</p>  <p>Which shows a 90° counterclockwise rotation of the figure?</p> 
		4.3.3.4	<p>Recognize that translations, reflections and rotations preserve congruency and use them to show that two figures are congruent.</p>	2	JUMP Math Geometry 4.11-4.14, 4.20-4.23	<p>Ron draws a trapezoid, then rotates it 90°.</p>  <p>Which statement is true about the 2 trapezoids?</p> <ul style="list-style-type: none"> A. They are congruent because all trapezoids are congruent. B. They are congruent because rotating a trapezoid does not change its size and shape. C. They are not congruent because rotating the trapezoid changes its side lengths. D. They are not congruent because rotating the trapezoid changes its angle measures.

Data Analysis	Collect, organize, display and interpret data, including data collected over a period of time and data represented by fractions and decimals.	4.4.1.1	<p>Use tables, bar graphs, timelines and Venn diagrams to display data sets. The data may include fractions or decimals. Understand that spreadsheet tables and graphs can be used to display data.</p> <p><u>Item Specifications</u></p> <ul style="list-style-type: none"> • Denominators are limited to 2, 3, 4, 5, 6, 8, 10 and 12 • Decimals are limited to hundredths • Displays may include tables, bar graphs, timelines, Venn diagrams, line plots and pictographs 	2	JUMP Math Probability and Data Management 4.1-4.23	<p>Rita counted the number of different types of games she has.</p> <table border="1" data-bbox="1593 305 1764 431"> <thead> <tr> <th>Type of Game</th> <th>Number of Games</th> </tr> </thead> <tbody> <tr> <td>Board</td> <td>4</td> </tr> <tr> <td>Card</td> <td>6</td> </tr> <tr> <td>Lawn</td> <td>5</td> </tr> <tr> <td>Video</td> <td>3</td> </tr> </tbody> </table> <p>Use the information in the table to complete the bar graph.</p> 	Type of Game	Number of Games	Board	4	Card	6	Lawn	5	Video	3
Type of Game	Number of Games															
Board	4															
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