| Grade 4: | Unit: Numbers and Operations in Base 10 (Units-3-10) | | Time: | |
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| Critical Skills: (Student Outcomes) | NJ Learning Standards: | Samples/Exemplars: | Resources: | Assessments: |
| A. Generalize place value understanding for multi-digit whole numbers. | 4.NBT.A.1: Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. | 700/7=10 by applying concepts of place value and division | Text (Units/Pages)<br><br>Lessons 3-2 and 3-6<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Ordering Digits | Grade 4 Unit 1 MC Assessment<br>Grade 4 Unit 2 MC Assessment<br>Grade 4 Unit 3 MC Assessment<br>Grade 4 Unit 4 Assessment<br>Grade 4 Unit 5 MC Assessment |
| | 4.NBT.A.2: Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi -digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. | 1,035 ☐ 1,305<br><br>2,000 + 300 + 10 +5 ☐ 3,000 + 200 + 30 +7 | Text (Units/Pages)<br><br>Lessons 3-1, 3-3 and 3-4<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite | |
| | 4.NBT.A.3: Use place value | Which number when rounded to the nearest ten | Text (Units/Pages)<br>Lessons 3-5 | |

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| | understanding to round multi-digit whole numbers to any place | thousand has a value of 290,000?<br><br>a. 286,314<br>b. 298,947<br>c. 281,769<br>d. 295,986 | Lessons 4-1 and 4-2<br>Lessons 7-1<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Thousands of Fourth Graders<br>Rounding | |
| B. Use place value understanding and properties of operations to perform multi-digit arithmetic. | 4.NBT.B.4:Fluently add and subtract multi-digit whole numbers using the standard algorithm | Use the standard algorithm to add or subtract each.<br><br>8,765 + 1,768<br><br>63,004 – 27 | Text (Units/Pages)<br><br>Lessons 4-3 thru 4-6<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>To Regroup or Not | |
| | 4.NBT.B.5: Multiply a whole number of up to four digits by a one digit whole number, and multiply two, two-digit | Maria was asked to multiply 23 by 18. She showed the following work. | Text (Units/Pages)<br><br>Lessons 5-1 thru 5-5<br>Lessons 6-1 thru 6-6<br>Lessons 7-1, 7-2,7-4 and 7-5<br>Lessons 8-1 thru 8-5 | |

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| | numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. | $\begin{array}{r} 23 \\ \times\ 18 \\ \hline 200 \\ 160 \\ 30 \\ +\ 24 \\ \hline 414 \end{array}$<br><br>Draw an area model and use it to explain how Maria got her answer. | Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite | |
| | 4.NBT.B.6: Find whole number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, | Use an area model to explain how to find $192 \div 8$. | Text (Units/Pages)<br><br>Lessons 9-1 thru 9-6<br>Lessons 10-1 thru 10-7<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Mental Division Strategy | |

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| | rectangular arrays, and/or area models. | | | |

| Grade 4: | Unit: Operations and Algebraic Thinking (Units 1 and 2 and some 11) | | Time: | |
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| Critical Skills: (Student Outcomes) | NJ Learning Standards: | Samples/Exemplars: | Resources: | Assessments: |
| A. Use the four operations with whole numbers to solve problems. | 4.OA.A.1: Interpret a multiplication equation as a comparison, represent verbal statements of multiplicative comparisons as multiplication equations. | Use the equation to complete the following statement:<br><br>72 is 8 times as many as _____ and 9 times as many as _____. | Text (Units/Pages)<br><br>Lessons 1-1, 1-3 and 1-7<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite | Grade 4 Unit 1 MC Assessment<br>Grade 4 Unit 2 MC Assessment<br>Grade 4 Unit 3 MC Assessment<br>Grade 4 Unit 4 Assessment<br>Grade 4 Unit 5 MC Assessment |
| | 4.OA.A.2: Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison. | A school auditorium has 32 rows of seats. Each row has 15 seats. The letter ***k*** represents the total number of seats. Write an equation that can be used to find ***k***. | Text (Units/Pages)<br><br>Lessons 1-6, 1-8 thru 1-10<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Comparing Money Raised | |

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| | 4.OA.A.3: Solve multistep word problems posed with whole numbers and having whole number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding | Raja worked 40 hours per week for 4 weeks. Frank worked half the amount of time Raja worked. How many hours did Frank work during each of the 4 weeks? Show your work. | Text (Units/Pages)<br><br>Lesson 1-5<br><br>Technology/Open Resources<br><br>Learn Zillion<br>Study Island<br>Super Teacher Worksheets<br>Karl's Garden<br>Carnival Tickets | |
| B. Gain familiarity with factors and multiples. | 4.OA.B.4: Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. | • List all the factor pairs for 72<br>• Put a check mark in the oval to indicate whether the number is prime or composite. | Text (Units/Pages)<br><br>Lessons 1-4, and 11-1 thru 11-3<br><br>Technology/Open Resources | |

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| | Determine whether a given whole number in the range 1-100 is a multiple o f a given one digit number. Determine whether a given whole number in the range 1-100 is prime or composite. | <table><tr><th>Number</th><th>Prime</th><th>Composite</th></tr><tr><td>99</td><td>◯</td><td>◯</td></tr><tr><td>51</td><td>◯</td><td>◯</td></tr><tr><td>41</td><td>◯</td><td>◯</td></tr><tr><td>23</td><td>◯</td><td>◯</td></tr></table> | Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Identifying Multiples<br>Multiplication Chart<br>Patterns | |
| C. Generate and analyze patterns. | 4.OA.C.5: Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. | Sunila described a number pattern below.<br>• The starting number is 13.<br>• The rule is to add 5.<br><br>Part A: Fill in the blanks below with the first six numbers in the number pattern that Sunila described.<br>_____, _____, _____, _____, _____, _____<br><br>Part B: Describe one thing you notice about the pattern. | Text (Units/Pages)<br><br>Lessons 1-2<br>Lessons 2-2 (Lessons 2-1 and 2-3 thru 2-6 can be skipped)<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Super Teacher Worksheets<br>Double Plus One | |

| Grade 4: | Unit: Number and Operations-Fractions (Units 11 and 13) | | Time: | |
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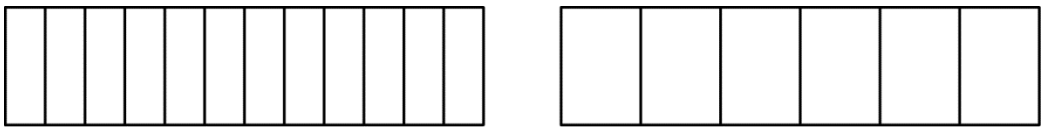
| Critical Skills: (Student Outcomes) | NJ Learning Standards: | Samples/Exemplars: | Resources: | Assessments: |
| A. Extend understanding of fraction equivalence and ordering | 4.NF.A.1: Explain why a fraction a/b is equivalent to a fraction (n×a)/(n×b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. | Draw a model and use it to explain why $\frac{2}{5}$ is equivalent to $\frac{4}{10}$. | Text (Units/Pages)<br><br>Lessons 11-4 and 11-5<br><br>Technology/Open Resources<br>Equivalent Fractions<br>Fractions-Equivalent using multiplication | Grade 4 Unit 1 MC Assessment<br>Grade 4 Unit 2 MC Assessment<br>Grade 4 Unit 3 MC Assessment<br>Grade 4 Unit 4 Assessment<br>Grade 4 Unit 5 MC Assessment |
| | 4.NF.A.2: Compare two fractions with different numerators and different denominators, e.g., | Shade a fractional part of each drawing. Write the fractions in the comparison to make it true.<br>  | Text (Units/Pages)<br><br>Lessons 11-6 thru 11-8<br><br>Technology/Op | |

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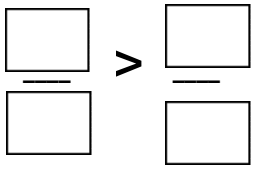
| | by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model |  | en Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Comparing Fractions<br>Doubling Numerators and Denominators | |
| B. Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers | 4.NF.B.3: Understand a fraction a/b with a > 1 as a sum of fractions 1/b | Write an equation to show $\frac{5}{8}$ as a sum of two or more fractions. Draw a model that represents the equation. | Text (Units/Pages)<br><br>Lessons 12-1<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy | |

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| | | | Study Island<br>Edcite | |
| | 4.NF.B.3a:<br>Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. | In two weeks a flower grew $\frac{11}{12}$ of a foot. The first week it grew $\frac{3}{12}$ of a foot.<br><br>How much did the flower grow in the second week? Show your work with a model or expression. | Text (Units/Pages)<br><br>Lessons 12-2 thru 12-4<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Super Teacher Worksheets<br>Comparing Sums of Fractions | |
| | 4.NF.B.3b:<br>Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions | 3/8=1/8+1/8+1/8<br>2 1/8= 1+1+ 1/8 | Text (Units/Pages)<br><br>Lessons 12-10<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite | |

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| | | | Different Ways | |
| | 4.NF.B.3c: Add and subtract mixed numbers with like denominators | $2\frac{5}{6} + 4\frac{1}{6} =$ $5\frac{7}{12} - 4\frac{1}{12} =$ | Text (Units/Pages)<br><br>Lessons 12-6 thru 12-9<br><br>Technology/Open Resources<br>Cynthia's Perfect Punch Peaches | |
| | 4.NF.B.3d: Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators | Train A and train B left a train station at the same time and headed in the same direction. After five minutes, train A was $5\frac{1}{10}$ miles from the station and train B was $2\frac{7}{10}$ miles from the station. How much farther from the station is train A than train B? Show your work with an equation or a model. | Text (Units/Pages)<br><br>Lessons 12-5 and 12-11<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite | |
| | 4.NF.B.4: Apply and extend previous understandings of | Draw a fraction model that can be used to solve the problem $3 \times \frac{2}{5}$ ? | | |

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| | multiplication to multiply a fraction by a whole number. | | | |
| | 4.NF.B.4a: Understand a fraction a/b as a multiple of 1/b | 5/4 as the product 5 × (1/4) | Text (Units/Pages)<br><br>Lesson 13-1<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite | |
| | 4.NF.B.4b: Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. | The distance of one lap around a track is $\frac{1}{4}$ mile. Casey ran 12 laps.<br><br>Part A: Write an expression that can be used to find the total number of miles that Casey ran.<br>Part B: How many miles did Casey run? Show your work. | Text (Units/Pages)<br><br>Lessons 13-2<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite | |
| | 4.NF.B.4c Solve word problems | If each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the | Text (Units/Pages) | |

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| | involving multiplication of a fraction by a whole number | party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie? | Lessons 13-3<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Sugar in Soda | |
| C. Understand decimal notation for fractions, and compare decimal fractions. | 4.NF.C.5:Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. | express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100. | Text (Units/Pages)<br><br>Lessons 13-4 and 13-5<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Adding Tenths and Hundreths | |
| | 4.NF.C.6: Use decimal notation for fractions with denominators 10 or 100. | rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram. | Text (Units/Pages)<br><br>Lessons 13-6 and 13-10 | |

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| | | | Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Dimes and Pennies<br>Expanding Fractions and Decimals | |
| | 4.NF.C.7: Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions | Compare the following decimals and explain how you know which one is greater. 0.98 ___ 0.89 | Text (Units/Pages)<br><br>Lessons 13-7 and 13-8<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Using Place Value with Decimals | |

| Grade 4: | Unit: Measurement and Data (Topics 14 and 15) | | Time: | |
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| Critical Skills: (Student Outcomes) | NJ Learning Standards: | Samples/Exemplars: | Resources: | Assessments: |
| A. Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. | 4.MD.A.1: Know relative sizes of measurement units within one system of units including km, m, cm., mm;kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. | For example, know that 1 ft is 12 times as long as 1in. Express the length of a 4 ft snake as 48 in. | Text (Units/Pages)<br><br>Lessons 14-1 thru 14-4, 14-6 thru 14-6<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Who is the Tallest? | Grade 4 Unit 1 MC Assessment<br>Grade 4 Unit 2 MC Assessment<br>Grade 4 Unit 3 MC Assessment<br>Grade 4 Unit 4 Assessment<br>Grade 4 Unit 5 MC Assessment |
| | 4.MD.A.2: Use the four operations to solve word problems involving distances, intervals of time, liquid | The students in a study group each measured the thickness of their math notebooks. The results are shown in the lineplot below. | Text (Units/Pages)<br><br>Lessons 13-9<br>Lessons 14-11<br>Lessons 15-2, 15- | |

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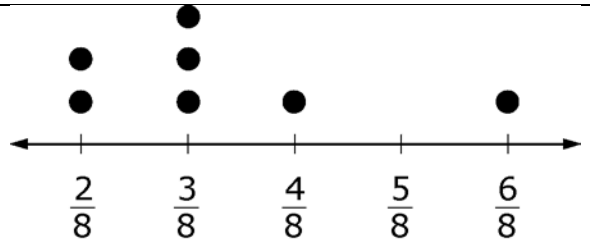
| | volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. |  Thickness of Notebook (inches)<br><br>If the students stack their notebooks one on top the other, what will be the total thickness of the stack? | 3 and 15-5<br><br>Technology/Open Resources<br>Margie Buys Apples | |
| | 4.MD.A.3: Apply the area and perimeter formulas for rectangles in real world and mathematical problems. | Kim's back yard is in the shape of a rectangle and has an area of 4,000 square meters. Kim wants to walk around the outside of the yard to exercise. She measures the width of the yard and finds it to be 20 meters. If Kim walks around the outside of the yard once, how many meters has she walked? Show your work. | Text (Units/Pages)<br><br>Lessons 15-1 and<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy | |

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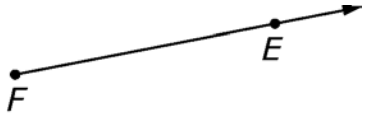
| | | | Study Island<br>Edcite | |
| B. Represent and interpret data | 4.MD.B.4: Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. | create a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collect | Text<br>(Units/Pages)<br><br>Lessons 15-4<br><br>Technology/Open Resources<br>Button Diameters | |
| C. Geometric measurement: understand concepts of angle and measure angles | 4.MD.C.5: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement | Ray *FE* is given below. Draw ray *FG* so that angle *EFG* is an obtuse angle.<br>  <br> | | |

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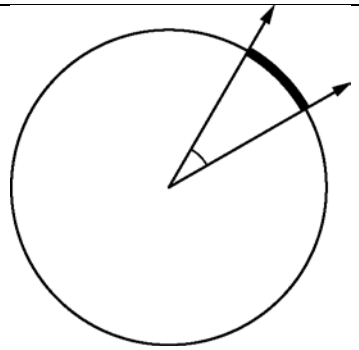
| | 4.MD.C.5a: An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. |  The figure above shows a circle where the center is the common endpoint of two rays. The shaded arc is $\frac{1}{12}$ of the whole circle. What is the measure, in degrees, of the angle formed between the two rays? | Text (Units/Pages)<br><br>Lessons 16-3<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite | |
| | 4.MD.C.5b: An angle that turns through n one-degree angles is said to have an angle measure of n degrees. | Every second, a security camera turns 1° clockwise and takes a photograph. The camera does this for 75 seconds. What is the total measure, in degrees, of the angle turned by the camera? | Text (Units/Pages)<br><br>Lessons 16-4<br><br>Technology/Open Resources | |
| | 4.MD.C.6: Measure angles in | Ray *KL* is given below. Draw ray *KM* so that angle *LKM* | Text (Units/Pages) | |

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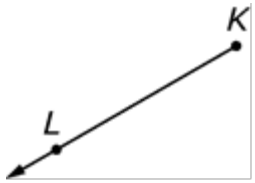
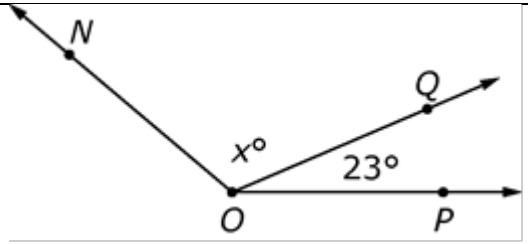
| | whole-number degrees using a protractor. Sketch angles of specified measure. | measures $165°$.<br>  | Lessons 16-5<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Measuring Angles | |
| | 4.MD.C.7: Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems. |  <br>The measure of angle *NOP* is $140°$. What is the value of $x$ ? | Text (Units/Pages)<br><br>Lessons 16-6<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Measuring Angles<br>Finding an Unknown Angle | |

| Grade 4: | Unit: Geometry (Unit 16) | | Time: | |
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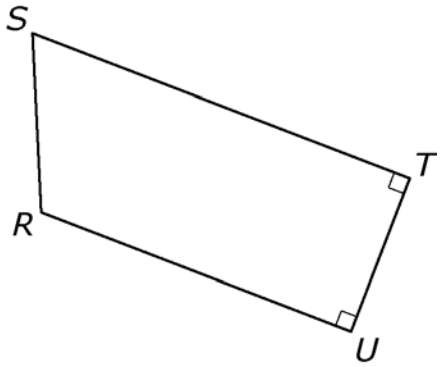
| Critical Skills: (Student Outcomes) | NJ Learning Standards: | Samples/Exemplars: | Resources: | Assessments: |
| A. Draw and identify lines and angles, and classify shapes by properties of their lines and angles | 4.G.A.1: Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. | The figure below shows trapezoid *RSTU*.<br>  <br><br>Name one pair of parallel line segments in trapezoid *RSTU*.<br>Name one pair of perpendicular line segments in trapezoid *RSTU*.<br>Name one right angle in trapezoid *RSTU*.<br>Name one acute angle in trapezoid *RSTU*.<br>Name one obtuse angle in trapezoid *RSTU*. | Text (Units/Pages)<br><br>Lessons 16-1 and 16-2<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Geometry of Letters<br>What's the Point? | Grade 4 Unit 1 MC Assessment<br>Grade 4 Unit 2 MC Assessment<br>Grade 4 Unit 3 MC Assessment<br>Grade 4 Unit 4 Assessment<br>Grade 4 Unit 5 MC Assessment |
| | 4.G.A.2: Classify two-dimensional figures based on the presence or | | Text (Units/Pages)<br><br>Lessons 16-7 | |

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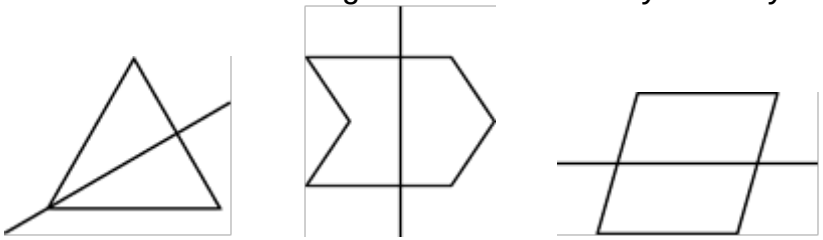
| | absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles | | thru 16-9 and 16-11<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Are These Right?<br>Defining Shapes | |
| | 4.G.A.3: Recognize a line of symmetry for a two- dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry. | Which of the following shows a line of symmetry for the figure?<br>  | Text (Units/Pages)<br><br>Lessons 16-10<br><br>Technology/Open Resources<br>Learn Zillion<br>Kahn Academy<br>Study Island<br>Edcite<br>Lines of Symmetry | |