

Mathematics Pacing Guide Alignment with Common Core Standards

Time Frame: 8 Weeks – September/October

Grade 5

Unit 1: Number and Operations of Base Ten

| Common Core | GLCE | Essential Questions | Assessment | Vocabulary | Resources |
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| <p>Understand the place value system 5. NBT.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.</p> <p>Understand the place value system 5. NBT.3 Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$. b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p> | <p>Understand meaning of decimal fractions and percentages N.ME.05.08 Understand the relative magnitude of ones, tenths and hundredths and the relationship of each place value to the place to its right, e.g., one is 10 tenths, one tenth is 10 hundredths.</p> | <p>What is a number?</p> <p>How can numbers be represented?</p> <p>What value does a number have?</p> <p>How do you explain the relationship between place value and the base 10 number system?</p> <p>What is a decimal?</p> <p>What are the various ways decimals may be used and intermitted?</p> <p>How are decimals used to solve problems?</p> | <p>Before KWL Chart</p> <p>During Daily Assignments Practice place value with base-ten blocks Project: students create their own place value chart</p> <p>After Test/quiz</p> | <p>Place value Decimal Tenths Hundredths Thousandths Hundred Thousands Ten thousands Millions Billions Number sentence Expanded form Rounding</p> | <p>Base-Ten Blocks</p> |
| <p>CRITICAL AREA: Extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing</p> | | | | | |

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| <p>understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operation</p> <p>Understand the place value system 5. NBT.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain pattern in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole number exponents to denote powers of 10.</p> <p>Perform operations with multi-digit whole numbers and with decimals to hundredths 5. NBT.5 Fluently multiply multi-digit whole numbers using the standard algorithm.</p> <p>5. NBT.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-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, rectangular arrays, and/or area models.</p> <p>5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths</p> | | | | | |
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| <p>using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.</p> <p>Convert like measurement units within a given measurement system 5. MD.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step real world problems.</p> | | | | | |
| <p>Moving to 6th Grade Compute fluently with multi-digit numbers and find common factors and multiples 6. NS. 2 Fluently divide multi-digit numbers using the standard algorithm.</p> | <p>Moving to 6th Grade Understand division of whole numbers N.MR.05.06 Divide fluently up to a four-digit number by a two-digit number.</p> | | <p>Before KWL Chart</p> <p>During Student created story problems</p> <p>Daily Assignments</p> <p>Promethean/ SmartBoard Response System (clickers)</p> <p>After Quiz</p> | <p>Factor Common Factor Multiple Common Multiple</p> | |
| <p>Moving to 6th Grade Apply and extend previous understandings of arithmetic to algebraic expressions</p> | <p>Moving to 6th Grade Find prime factorizations of whole numbers N.MR.05.07 Find the prime</p> | | <p>Before KWL Chart</p> <p>During</p> | <p>Exponents Prime Number Prime Factor-ization</p> | |

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| <p>6. EE.1 Write and evaluate numerical expressions involving whole-number exponents.</p> | <p>factorization of numbers from 2 through 50, express in exponential notation, e.g., $24 = 2^3 \times 3^1$, and understand that every whole number greater than 1 is either prime or can be expressed as a product of primes.</p> | | <p>Promethean/SmartBoard Response System (clickers)</p> <p>Daily Assignments</p> <p>After Quiz</p> | <p>Exponential notation Algebraic expression</p> | |
| <p>Moving to 6th Grade Summarize and describe distributions 6. SP.5 Summarize numerical data sets in relation to their context, such as by:</p> <ul style="list-style-type: none"> a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data was gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data was gathered. | <p>Moving to 6th Grade Find and interpret mean and mode for a given set of data D.AN.05.03 Given a set of data, find and interpret the mean (using the concept of fair share) and mode. D.AN.05.04 Solve multi-step problems involving means.</p> | | <p>Before KWL Chart</p> <p>During Promethean/SmartBoard Response System (clickers)</p> <p>Daily Assignments</p> <p>Drawings with Story Problems/ Illustrations</p> <p>Project: Using colorful candy give the students a predetermined amount of each color and have the students write the range, mean, median, and create a specific graph/chart using their data</p> <p>After Response System (clickers)</p> | <p>Measure of Center Mean Median Mode Quantitative Variability Interquartile range Deviation</p> | |

Mathematics Pacing Guide Alignment with Common Core Standards

Time Frame: 12 Weeks – November/December/January/February Grade 5

Unit 2: Numbers and Operations – Fractions

| Common Core | GLCE | Essential Questions | Assessment | Vocabulary | Resources |
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| <p>CRITICAL AREA: Developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions)</p> <p>Use equivalent fractions as a strategy to add and subtract fractions 5.NF.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$. (In general, $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$.)</p> <p>5.NF.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use</p> | <p>FOCAL POINT: Developing an understanding of and fluency with addition and subtraction of fractions and decimals</p> <p>Understand fractions as division statements; find equivalent fractions¹ N.ME.05.10 Understand a fraction as a statement of division e.g., $2 \div 3 = \frac{2}{3}$, using simple fractions and pictures to represent.</p> <p>N.ME.05.11 Given two fractions, e.g., $\frac{1}{2}$ and $\frac{1}{4}$, express them as fractions with a common denominator, but not necessarily least common denominator, e.g., $\frac{1}{2} = \frac{4}{8}$ and $\frac{3}{4} = \frac{6}{8}$; use denominators less than 12 or factors of 100.</p> <p>Multiply and divide fractions N.ME.05.12 Find the product of two unit fractions with small denominators using an area model.</p> <p>N.MR.05.13 Divide a fraction by</p> | <p>What is a fraction?</p> <p>What are the various ways fractions may be used?</p> <p>How are fractions used to solve problems?</p> <p>What is a mixed, improper, and common fraction?</p> <p>What are the various relationships between fractions, decimals, and percentages?</p> | <p>Before Teacher Created Pretest</p> <p>During Project: Take a candy bar and break it into pieces. Have students find the other student with the equivalent fraction.</p> <p>Students can quiz each other using Fraction flashcards, fraction strips, fraction circles, and fraction tiles</p> <p>Observations of students using fraction strips/tiles</p> <p>After Teacher Created Post Test</p> | <p>Whole number Fraction Mixed number Equivalent fractions Denominator Numerator Common denominator Least common denominator Lowest term fraction Estimate Factor Compute Product Quotient Fraction model Area model Line Graph Distance-time graph</p> | <p>Fraction flashcards Fraction strips Fraction circles Fraction tiles</p> |

¹ This topic was not linked to this focal point previously.

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| <p>benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result $2/5 + 1/2 = 3/7$ by observing that $3/7 < 1/2$.</p> <p>Apply and extend previous understandings of multiplication and division to multiply and divide fractions</p> <p>5. NF.3 Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. For example, interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3 and that when 3 wholes are shared equally among 4 people each person has a share of size $3/4$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?</p> <p>5. NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p> | <p>a whole number and a whole number by a fraction, using simplified unit fractions.</p> <p>Add and subtract fractions using common denominators</p> <p>N.FL.05.14 Add and subtract fractions with unlike denominators through 12 and/or 100, using the common denominator that is the product of the denominators of the 2 fractions, e.g., $3/8 + 7/10$: use 80 as the common denominator.</p> <p>Solve applied problems with fractions</p> <p>N.FL.05.18 Use mathematical statements to represent an applied situation involving addition and subtraction of fractions.</p> <p>N.MR.05.19 Solve contextual problems that involve finding sums and differences of fractions with unlike denominators using knowledge of equivalent fractions.</p> <p>N.FL.05.20 Solve applied problems involving fractions and decimals; include rounding of answers and checking reasonableness.</p> <p>N.MR.05.21 Solve for the unknown in equations such as $1/4 + x = 7/12$.</p> | | | | |
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| <p>b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.</p> <p>5. NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.</p> <p>5. NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.</p> <p>a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for $(1/3) \div 4$ and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.</p> <p>b. Interpret division of a whole number by a unit fraction, and compute such quotients. For</p> | <p>Construct and interpret line graphs²</p> <p>D.RE.05.01 Read and interpret line graphs, and solve problems based on line graphs, e.g., distance-time graphs, and problems with two or three line graphs on same axes, comparing different data.</p> <p>D.RE.05.02 Construct line graphs from tables of data; include axis labels and scale.</p> | | | | |
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| <p>example, create a story context for $4 \div (1/5)$ and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.</p> <p>c. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $1/3$-cup servings are in 2 cups of raisins?</p> <p>Represent and interpret data</p> <p>5. MD.2 Make a line plot to display a data set of measurements in fractions of a unit ($1/2, 1/4, 1/8$). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.</p> | | | | | |
| <p>Moving Into 5th Grade Apply and extend previous understandings of</p> | | | <p>Before Pre-Test</p> | <p>Fraction Whole number Product</p> | |

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| <p>multiplication and division to multiply and divide fractions</p> <p>5. NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p> <p>a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)</p> <p>5. NF.5 Interpret multiplication as scaling (resizing) by:</p> <p>a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.</p> <p>b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating th</p> | | | <p>During</p> <p>Have students draw/illustrate a picture showing their understanding of mixed numbers using real life situations ex. eating pizzas (each of the 4 students comes up and removes one slice from each of the 3 pizzas)</p> <p>Students create fraction multiplication problems from repeated addition problems</p> <p>After</p> <p>Give a picture of a rectangle with the dimensions of $5 \times 1 \frac{1}{2}$ to students. Do not label the dimensions on the rectangle. Students are to give the dimensions by looking at the picture.</p> | <p>Partition Scaling</p> | |
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| <p>principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.</p> | | | | | |
| <p>Moving to 6th Grade Understand ratio concepts and use ratio reasoning to solve problems 6. RP.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, “The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.” “For every vote candidate A received, candidate C received nearly three votes.”</p> <p>Understand ratio concepts and use ratio reasoning to solve problems 6. RP.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.</p> <p>c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means $30/100$ times the quantity); solve problems involving finding the whole, given a part and the percent.</p> | <p>Moving to 6th grade Understand meaning of decimal fractions and percentages N.ME.05.09 Understand percentages as parts out of 100, use % notation, and express a part of a whole as a percentage.</p> <p>Moving to 6th grade Express, interpret, and use ratios; find equivalences N.MR.05.22 Express fractions and decimals as percentages and vice versa.</p> <p>N.ME.05.23 Express ratios in several ways given applied situations, e.g., 3 cups to 5 people 3:5, $3/5$; recognize and find equivalent ratios.</p> | | <p>Before Pretest on knowledge of fact families of whole numbers and fractions.</p> <p>During Student created word problems with visual representation</p> <p>Class demonstration: Using one piece of paper, divide among 3 students. Each student will have $1/3$ of the whole. Each of those 3 students will divide their third with 4 students equally. Each of those 4 students is holding $1/12$ of the original whole.</p> <p>Daily Assignments</p> <p>Real life story problems with illustrations</p> <p>After Post test</p> | <p>Ratio Ratio relationship Rate Percentage Percent notation Equivalent Equivalent ratios Quantities Number line</p> | |

Mathematics Pacing Guide Alignment with Common Core Standards

Time Frame: 8 Weeks – February/March/April

Grade 5

Unit 3: Measurement and Data

| Common Core | GLCE | Essential Questions | Assessment | Vocabulary | Resources |
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| <p>CRITICAL AREA: Developing understanding of volume</p> <p>Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition</p> <p>5. MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.</p> <p>a. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.</p> <p>b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.</p> <p>5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.</p> <p>5. MD.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving</p> | <p>Know, and convert among, measurement units within a given system³</p> <p>M.UN.05.01 Recognize the equivalence of 1 liter, 1,000 ml and 1,000 cm³ and include conversions among liters, milliliters, and cubic centimeters.</p> <p>M.UN.05.02 Know the units of measure of volume: cubic centimeter, cubic meter, cubic inches, cubic feet, cubic yards, and use their abbreviations (cm³, m³, in³, ft³, yd³).</p> <p>M.UN.05.03 Compare the relative sizes of one cubic inch to one cubic foot, and one cubic centimeter to one cubic meter.</p> <p>Understand the concept of volume</p> <p>M.TE.05.08 Build solids with unit cubes and state their volumes.</p> <p>M.TE.05.09 Use filling (unit cubes or liquid), and counting or measuring to find the volume of a cube and rectangular prism.</p> <p>M.PS.05.10 Solve applied</p> | <p>What are the various measurement tools?</p> <p>How can I determine which measurement tool to use when presented with a project that involves measuring?</p> <p>How do we convert measurement?</p> | <p>Before</p> <p>Students demonstrate the concept of volume using base ten blocks</p> <p>During</p> <p>Daily Assignments</p> <p>Real life story problems with illustrations</p> <p>After</p> <p>Teacher created assessment</p> | <p>Volume</p> <p>Solid figure</p> <p>Cube</p> <p>Unit cube</p> <p>Formula</p> <p>Centimeter (cm)</p> <p>Inch (in)</p> <p>Foot (ft)</p> <p>Liter (L)</p> <p>Milliliter (mL)</p> <p>Cubic centimeter (cm³)</p> <p>Cubic meter (m³)</p> <p>Cubic inch (in³)</p> <p>Cubic feet (ft³)</p> <p>Cubic yard (yd³)</p> <p>Cubic measurement</p> <p>Rectangular prism</p> <p>Associative property</p> <p>Compare</p> | <p>Promethean Board Flipcharts</p> <p>Promethean Planet website</p> <p>Additional Math Resources: http://www.svsu.edu/mathsci-center/uploads/math/Elementary.htm</p> |

³ Topic originally was linked to division focal point

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| <p>volume.</p> <p>a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent three-fold whole-number products as volumes, e.g., to represent the associative property of multiplication.</p> <p>b. Apply the formulas $V = (l)(w)(h)$ and $V = (b)(h)$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.</p> | <p>problems about the volumes of rectangular prisms using multiplication and division and using the appropriate units.</p> | | | | |
| <p>Moving Into 5th Grade</p> <p>Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition</p> <p>5. MD.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.</p> <p>c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding</p> | | | <p>Before Pretest</p> <p>During Daily Assignments</p> <p>After Teacher Created Post Test</p> | <p>Measurement Volume Additive Rectangular prism Non-overlapping part</p> | <p>Promethean Board Flipcharts Promethean Planet website</p> <p>Additional Math Resources: http://www.svsu.edu/mathsci-center/uploads/math/Elementary.htm</p> |

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| the volumes of the non-overlapping parts, applying this technique to solve real world problems. | | | | | |
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Mathematics Pacing Guide Alignment with Common Core Standards

Grade 5

Time Frame: 7 Weeks – May/June

Unit 4: Geometry and Algebraic Thinking

| Common Core | GLCE | Essential Questions | Assessment | Vocabulary | Resources |
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| <p>Moving to 7th Grade Solve real-life and mathematical problems involving angle measure, area, surface area, and volume</p> <p>7. G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.</p> | <p>FOCAL POINT: Analyzing properties of two-dimensional shapes, including angles</p> <p>Moving to 7th Grade Find areas of geometric shapes using formulas</p> <p>M.PS.05.05 Represent relationships between areas of rectangles, triangles, and parallelograms using models.</p> <p>M.TE.05.06 Understand and know how to use the area formula of a triangle: $A = (1/2)bh$ (where b is length of the base and h is the height), and represent using models and manipulatives.</p> <p>M.TE.05.07 Understand and know how to use the area formula for a parallelogram: $A = bh$, and represent using models and manipulatives.</p> | | <p>Before Pretest</p> <p>During Daily Assignments</p> <p>Project: Students bring in two- and three-dimensional objects. Have them work in groups to find the area, volume, and surface area of their object.</p> <p>After Response System (clicker)</p> | <p>Angle Angle measure Degree Area Surface area Volume Two-dimensional Three-dimensional al Triangle Rectangle Parallelogram Quadrilateral Polygon Cube Right prism Model Formula</p> | <p>Models Manipulatives Promethean Board Flipcharts Promethean Planet website Additional Math Resources: http://www.svsu.edu/mathsci-center/uploads/math/Elementary.htm</p> |
| <p>Moving to 4th Grade Geometric measurement: understand concepts of angle and measure angles</p> <p>4. MD.5 Recognize angles as geometric shapes that are formed wherever two rays share a</p> | <p>Moving to 4th Grade Know the meaning of angles, and solve problems</p> <p>G.TR.05.01 Associate an angle with a certain amount of turning; know that angles are measured in degrees; understand that 90°,</p> | | <p>Before KWL</p> <p>During Daily Assignments</p> <p>After</p> | <p>Angle Degree Protractor Ray Endpoint Common endpoint</p> | <p>Promethean Board Flipcharts Promethean Planet website Additional Math Resources: http://www.svsu.edu/mathsci-center/uploads/math/Elementary.htm</p> |

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| <p>common endpoint, and understand concepts of angle measurement:</p> <p>a. 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.</p> <p>b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.</p> <p>4. MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.</p> <p>4. MD.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, e.g., by using an equation with a symbol for the unknown angle measure.</p> | <p>180°, 270°, and 360° are associated respectively, with $1/4$, $1/2$, and $3/4$, and full turns.</p> <p>G.GS.05.02 Measure angles with a protractor and classify them as acute, right, obtuse, or straight.</p> <p>G.GS.05.03 Identify and name angles on a straight line and vertical angles.</p> <p>G.GS.05.04 Find unknown angles in problems involving angles on a straight line, angles surrounding a point, and vertical angles.</p> <p>G.GS.05.05 Know that angles on a straight line add up to 180° and angles surrounding a point add up to 360°; justify informally by “surrounding” a point with angles</p> | | <p>Have students find angles around the classroom and school.</p> | <p>Angle measurement</p> <p>Circle</p> <p>Center of a circle</p> <p>Arc</p> <p>Intersect</p> <p>Geometric shape</p> <p>Turn</p> <p>Acute angle</p> <p>Right angle</p> <p>Obtuse angle</p> <p>Straight angle</p> <p>Vertical angles</p> | |
| <p>Moving to 7th Grade</p> | <p>Moving to 7th Grade</p> | | <p>Before</p> | <p>Angle measure</p> | <p>Math Games:</p> |

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| <p>Solve real-life and mathematical problems involving angle measure, area, surface area, and volume</p> <p>7. G.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.</p> | <p>Know the meaning of angles, and solve problems</p> <p>G.GS.05.06 Understand why the sum of the interior angles of a triangle is 180° and the sum of the interior angles of a quadrilateral is 360°, and use these properties to solve problems.</p> <p>G.GS.05.07 Find unknown angles and sides using the properties of: triangles, including right, isosceles and equilateral triangles; parallelograms, including rectangles and rhombuses; and trapezoids.</p> | | <p>KWL, Vocabulary</p> <p>During</p> <p>Daily Assignments</p> <p>After</p> <p>Test</p> | <p>Area</p> <p>Surface area</p> <p>Volume</p> <p>Supplementary angles</p> <p>Complementary angles</p> <p>Vertical angles</p> <p>Adjacent angles</p> <p>Interior angle</p> <p>Triangle</p> <p>Right triangle</p> <p>Isosceles triangle</p> <p>Equilateral triangle</p> <p>Parallelogram</p> <p>Rectangle</p> <p>Rhombus</p> <p>Trapezoid</p> <p>180 Degrees (180°)</p> <p>360 Degrees (360°)</p> | <p>www.mathplayground.com</p> <p>Promethean Board Flipcharts</p> <p>Promethean Planet website</p> <p>Additional Math Resources: http://www.svsu.edu/mathsci-center/uploads/math/Elementary.htm</p> |
| <p>Moving Into 5th Grade</p> <p>Graph points on the coordinate plane to solve real-world and mathematical problems</p> <p>5. G.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the</p> | <p>Not Explicit in GLCE</p> | | <p>Before</p> <p>KWL</p> <p>During</p> <p>Daily Assignments</p> <p>Project: Students create pictures for other students to plot.</p> <p>After</p> <p>Graphing as a group, working on a picture</p> | <p>Point</p> <p>Coordinate plane</p> <p>Perpendicular Axes</p> <p>Coordinate system</p> <p>Intersection</p> <p>Origin</p> <p>Ordered pair</p> <p>Coordinates</p> <p>x-axis</p> <p>y-axis</p> <p>x-coordinate</p> <p>y-coordinate</p> <p>Quadrant</p> <p>Two-dimensional</p> | <p>Graphing Activity: www.mathisfun.com/t_rex.html</p> |

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| <p>second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).</p> <p>5. G.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.</p> <p>Classify two-dimensional figures into categories based on their properties</p> <p>5. G.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.</p> <p>5. G.4 Classify two-dimensional figures in a hierarchy based on properties.</p> | | | | | |
| <p>Moving Into 5th Grade</p> <p>Write and interpret numerical expressions</p> <p>5. OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.</p> | <p>Moving Into 5th Grade</p> <p>Understand the coordinate plane</p> <p>A.RP.06.02 Plot ordered pairs of integers and use ordered pairs of integers to identify points in all four quadrants of the coordinate plane.</p> | | <p>Before</p> <p>Show students examples of two-dimensional objects and explain what they are.</p> <p>During</p> | <p>Numerical expressions</p> <p>Parentheses</p> <p>Brackets</p> <p>Braces</p> <p>Evaluate</p> <p>Pattern</p> <p>Relationship</p> | <p>Promethean Board Flipcharts</p> <p>Promethean Planet website</p> <p>Additional Math Resources:</p> <p>http://www.svsu.edu/mathsci-center/uploads/math/Elementary.htm</p> |

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| <p>5. OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.</p> <p>Analyze patterns and relationships</p> <p>5. OA.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</p> | <p>Use variables, write expressions and equations, and combine like terms</p> <p>A.FO.06.04 Distinguish between an algebraic expression and an equation.</p> <p>A.FO.06.05 Use standard conventions for writing algebraic expressions, e.g., $2x + 1$ means “two times x, plus 1” and $2(x + 1)$ means “two times the quantity ($x + 1$).”</p> <p>Represent linear functions using tables, equations, and graphs</p> <p>A.RP.06.08 Understand that relationships between quantities can be suggested by graphs and tables.</p> | | <p>Daily Assignments</p> <p>Real world problem example: Use the local streets as intersections and have students place themselves at that specific intersection. Give them directions as to which way to walk so students can visualize this concept.</p> <p>After</p> <p>Post Test</p> | <p>Corresponding terms</p> <p>Rule</p> <p>Coordinate plane</p> <p>Sequence</p> <p>Quadrant</p> <p>Ordered Pairs</p> <p>Plot</p> <p>Integers</p> <p>Linear functions</p> <p>Evaluate</p> <p>Like terms</p> <p>Algebraic expression</p> <p>Equation</p> <p>Graph</p> <p>Table</p> <p>Quantity</p> | |
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