HPS Scope & Sequence
K-8 Grade Level Essential Skills
Created: August 2009
Last Revision: June 2011

Grade Level: 4
Subject: Math

Howell Public Schools (HPS) has studied the work of Dr. Robert Marzano and other educational consultants. In Marzano's book *What Works in Schools: Translating Research into Action*, the author points to the necessity of school districts having a "guaranteed and viable curriculum." Marzano stresses the importance of everyone in the school community understanding what skills will be taught for mastery at each grade level, and then guaranteeing that happens. Using this research, our district has undertaken the task of creating an aligned curriculum that prepares students to successfully meet the academic rigors of Michigan's Grade Level Content Expectations (GLCEs), as well as the new national Common Core Standards. The timeline of our Scope & Sequence development is as follows:

2008-09
Small groups of teachers worked under the guidance of curriculum consultants and HPS administrators to study the core content curriculums of English, math, science and social studies. Through professional development efforts, these groups learned to identify subsets of fundamental, non-negotiable content expectations that require a higher degree of mastery than the other expectations within the content area. HPS has chosen to call these fundamental, non-negotiable content expectations for each grade level subject "Essential Skills". Expectations that were not considered fundamental to the success of all students are not included in this document, but may be found on the MDE web site at http://www.michigan.gov/mde/0,1607,7-140-28753_33232---,00.html

Teacher groups then assigned a recommended number of lessons, per quarter, needed to successfully teach each GLCE, thus securing the curriculum as viable. Vocabulary, a researched component to uniform student achievement, was identified by quarter (nine-week sessions). Examples of formative assessments were provided for each expectation, with the creation of uniform summative assessments to follow the final approval of this document. Upon completion of draft essential skills for each subject, the teacher groups used supporting MDE documents to align their chosen skills horizontally for grades kindergarten through eight. These documents were then published in August 2009.

2009-2010
The essential skills found within this document were piloted, with our teaching staff providing on-going feedback throughout the year. At the conclusion of each semester the original teacher groups re-assembled under the guidance of educational consultants and HPS administration to review the edit suggestions. These steps culminated in revisions and a secure document that will remain fluid.

2010-2011
Teacher leader groups met and compared the HPS Scope & Sequence of Essential Skills to the new national Common Core Standards. Edits were made and an additional column was added to the template that indicates this comparison. A goal was set to complete all Scope & Sequences for electives by June 2012.

# SUBJECT: Math GRADE: 4

| National Common Core Standard<br><br>Code & Language | Michigan Standard (GLCE)<br>Code & Language<br><br>Students will . . . . | What this Standard means: | Lessons or Days Per Standard<br>201 | Examples of Formative Assessments | Vocabulary |
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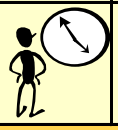
| | | |  | | |

## Standards Taught Daily, Throughout the Year

| | | | | | |
|---|---|---|---|---|---|
| **Understand and use number notation and place value (Generalize place value understanding for multi-digit whole numbers)** | | | | | |
| 4.NBT.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. | N.ME.04.01 | Read and write numbers to 1,000,000; relate them to the quantities they represent; compare and order. | Read, write, compare, and order numbers to 1,000,000 | Taught Daily Year-long | Student Journals<br>Teacher Observation<br>Unit Tests<br>homework<br>class participation<br>quizzes<br>white board assessment<br>math games |
| **Add and subtract whole numbers** | | | | | |
| 4.NBT.4. Fluently add and subtract multi-digit whole numbers using the standard algorithm. | N.FL.04.08 | Add and subtract whole numbers fluently. | Add and subtract whole numbers fluently | Taught Daily Year-long | |
| **Multiply and divide whole numbers** | | | | | |
| Move to 3rd Grade | N.FL.04.10 | Multiply fluently any whole number by a one-digit number, and a three-digit number by a two-digit number, for a two-digit by a one-digit multiplication, use distributive property to develop meaning for the algorithm. | Multiply fluently any whole number up to three digits | Taught Daily Year-long | |

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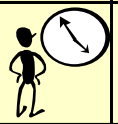
| | | | |  | | |
| Move to 3rd Grade | N.FL.04.11 | Divide numbers up to four digits by one-digit numbers and by 10. | Divide numbers up to four digits by one-digit numbers and by 10 | Taught Daily Year-long | | |
| **Estimate** | | | | | | |
| 4.OA.3. Solve multistep word problems posed with whole numbers 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. | N.FL.04.36 | Make appropriate estimations and calculations fluently with whole numbers using mental math strategies. | Make appropriate estimations and calculations fluently with whole numbers using mental math strategies. | Taught Daily Year-long | | |
| **Problem-solving** | | | | | | |
| | N.MR.04.37 | Solve applied problems using the four basic arithmetic operations for appropriate fractions, decimals, and whole numbers. | Solve problems using addition, subtraction, multiplication, and division for fractions, decimals, and whole numbers | Taught Daily Year-long | | |

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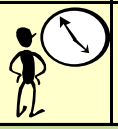
| | | | |  | | |
| **Measure using common tools and appropriate units** | | | | | | |
| 4.MD.1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in 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 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ... | M.UN.04.01 | Measure using common tools and select appropriate units of measure. | Measure and understand using common tools and appropriate units of measure. | Taught Daily Year-long | | |
| **Represent and solve problems for given data** | | | | | | |
| | D.RE.04.01 | Construct tables and bar graphs from given data. | Use given data to create tables and bar graphs | Taught Daily Year-long | | |

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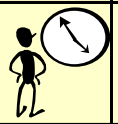
| | | | |  | | |
| **Quarter 1** | | | | **Lessons this Quarter** | | |
| **Understand and use number notation and place value** | | | | 83 | | |
| 4.NBT.2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. | N.ME.04.02 | Compose and decompose numbers using place value to 1,000,000s, e.g., 25,068 is 2 ten thousands, 5 thousands, 0 hundreds, 6 tens and 8 ones. | Compose and decompose numbers using place value to 1,000,000 | 5 | Student Journals<br>Teacher Observation<br>Unit Tests<br>homework<br>class participation<br>quizzes<br>white board<br>assessment<br>math games | Angle<br>Ballpark estimate<br>Bar graph<br>Center (of a circle)<br>Column-addition method<br>Compass<br>Concentric circles<br>Congruent<br>Convex<br>Counting number<br>Digit<br>Dividend<br>Divisor<br>Endpoint |
| 4.NBT.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. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division. | N.ME.04.03 | Understand the magnitude of numbers up to 1,000,000; recognize the place values of numbers, and the relationship of each place value to the place to its right, e.g., 1,000 is 10 hundreds. | Understand and recognize the relationship of place value numbers up to 1,000,000 | 6 | | |

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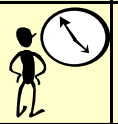
| | | | |  | | |
| **Use factors and multiples** | | | | | | Endpoint<br>Equilateral triangle<br>Equivalent name<br>Estimate<br>Fact family<br>Factor pair<br>Factors<br>False number sentence<br>Function machine<br>Guess<br>Heptagon<br>Hexagon<br>Input<br>Inscribed square<br>Interior<br>Intersect<br>Kite<br>Landmark<br>Line<br>Line plot<br>Line segment |
| 4.OA.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. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite. | N.ME.04.04 | Find all factors of a whole number up to 50, and list factor pairs. | Find all factors and factor pairs of whole numbers up to 50 | 1 | | |
| 4.OA.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. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite. | N.ME.04.05 | List the first ten multiples of a given one-digit whole number; determine if a whole number is a multiple of a given one-digit whole number and if a one-digit number is a factor of a given whole number. | List multiples and factors of a given one-digit whole number | 4 | | |

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| 4.OA.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. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite. | N.MR.04.06 | Know that some numbers including 2, 3, 5, 7, and 11 have exactly two factors (1 and the number itself) and are called prime numbers. | Know that prime numbers have only two factors (1 and the number itself) | 1 | | Line segment<br>Maximum<br>Median<br>Minimum<br>Mode<br>Multiples<br>Multiplication facts<br>Name-collection box<br>n-gon<br>Nonagon<br>Nonconvex or concave<br>Number sentence<br>Octagon<br>Open sentence<br>Output<br>Parallel line segments<br>Parallel lines<br>Parallel rays<br>Parallelogram<br>Parentheses<br>Partial-differences method |
| Moving to 6th Grade | N.MR.04.07 | Solve problems about factors and multiples, e.g., since 100=4x25, and 200=2x100, then 200-2x4x25=8x25. | Solve problems about factors and multiples | 4 | | |
| | | **Multiply and divide whole numbers** | | | | |
| | N.FL.04.12 | Find unknowns in equations such as "a" ÷ 10 = 25; 125 ÷ "b" = 25. | Find unknowns in equations such as "a" ÷ 10 = 25; 125 ÷ "b" = 25. | 1 | | |
| | N.MR.04.13 | Use the relationship between multiplication and division to simply computations and check results, e.g., 6840 ÷ 20 = (6840 ÷ 10) ÷ 2 = 684 ÷ 2 = 342. | Use the relationship between multiplication and division to simplify computations and check results | 6 | | |

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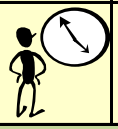
| | | | |  | | |
| **Estimate** | | | | | | method<br>Partial-sums method<br>Pentagon<br>Percent<br>Perpendicular line segments<br>Place<br>Point<br>Polygon<br>Products<br>Quadrangle<br>Quadrilateral<br>Quotient<br>Radius<br>Range<br>Ray<br>Rectangle<br>Regular polygon<br>Remainder<br>Rhombus<br>Right angle<br>Rule<br>Side<br>Solution<br>Solve<br>Square |
| 4.OA.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. | N.FL.04.34 | Estimate the answers to calculations involving addition, subtraction, or multiplication. | Estimate the answers to calculations involving addition, subtraction, or multiplication. | 6 | | |
| 4.OA.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. | N.FL.04.35 | Know when approximation is appropriate and use it to check the reasonableness of answers; be familiar with common place value errors in calculations. | Know when approximation is appropriate and use it to check the reasonableness of answers; be familiar with common place value errors in calculations. | 8 | | |

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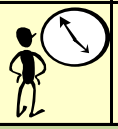
| | | | |  | | |
| **Understand perpendicular, parallel, and intersecting lines** | | | | | | Square<br>Square numbers<br>Tally chart<br>Trade-first method<br>Trapezoid<br>Triangle<br>True number sentence<br>Turn-around facts<br>Variable<br>Vertex (vertices)<br>“What’s My Rule?”<br>Whole number |
| 4.G.1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. | G.GS.04.01 | Identify and draw perpendicular, parallel, and intersecting lines using a ruler and a tool or object with a square (90 degree) corner. | Identify and draw perpendicular, parallel, and intersecting lines using a ruler and a tool or object with a square (90 degree) corner. | 4 | | |
| **Identify basic geometric shapes and their components, and solve problems** | | | | | | |
| 4.G.2. Classify two-dimensional figures based on the presence or 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. | G.GS.04.02 | Identify basic geometric shapes including isosceles, equilateral and right triangles, and use their properties to solve problems. | Identify basic geometric shapes including isosceles, equilateral and right triangles, and their properties to solve problems. | 8 | | |

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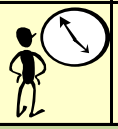
| | | | |  | | |
| **Measure using common tools and appropriate units** | | | | | | |
| 4.MD.1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in 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 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ... | M.PS.04.02 | Give answers to a reasonable degree of precision in the context of a given problem and relative to the measurement tool used. | Give reasonable answers to a given problem and using the appropraite measurement tool | 5 | | |
| | M.TE.04.03 | Measure and compare integer temperatures in degrees, | Measure and compare temperatures in degrees | 2 | | |

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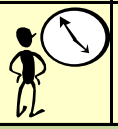
| | | | |  | | |
| **Use perimeter and area formulas** | | | | | | |
| 4.MD.3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor. | M.TE.04.06 | Know and understand the formulas for perimeter and area of a square and a rectangle; calculate the perimeters and areas of these shapes and combinations of these shapes using the formulas. | Know, understand, and calculate the formulas for perimeter and area of a square and a rectangle | 6 | | |
| **Understand right angles** | | | | | | |
| | M.TE.04.10 | **Identify right angles and compare angles to right angles.** | Identify right angles and compare angles to right angles. | 5 | | |
| **Represent and solve problems for given data** | | | | | | |
| MOVE TO 6TH GRADE | D.RE.04.02 | Order a given set of data, find the median, and specify the range of values. | Order data and find the median and range of a given set of data | 6 | | |

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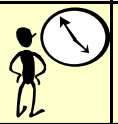
| | | | |  | | |
| | M.TE.04.10 | Identify right angles and compare angles to right angles. | Identify right angles and compare angles to right angles. | 5 | | |
| **Quarter 2** | | | | **Lessons this Quarter** | | |
| **Understand and use number notation and place value** | | | | 42 | | |
| 4.NBT.2. 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. | N.ME.04.02 | Compose and decompose numbers using place value to 1,000,000s, e.g., 25,068 is 2 ten thousands, 5 thousands, 0 hundreds, 6 tens and 8 ones. | Compose and decompose numbers using place value to 1,000,000 | 2 | | Acute angle<br>Angle<br>Axis<br>Balance<br>Base line<br>Billion<br>Centimeter (cm)<br>Clockwise<br>Clockwise rotation<br>Counterclockwise rotation<br>Decimal<br>Decimeter (dm)<br>Degree<br>Deposit<br>Dividend<br>Divisor |
| 4.NBT.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. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division. | N.ME.04.03 | Understand the magnitude of numbers up to 1,000,000; recognize the place values of numbers, and the relationship of each place value to the place to its right, e.g., 1,000 is 10 hundreds. | Understand and recognize the relationship of place value numbers up to 1,000,000 | 2 | | |
| **Use factors and multiples** | | | | | | |

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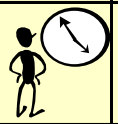
| | | | |  | | |
| 4.OA.4. Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite. | N.ME.04.05 | List the first ten multiples of a given one-digit whole number; determine if a whole number is a multiple of a given one-digit whole number and if a one-digit number is a factor of a given whole number. | List multiples and factors of a given one-digit whole number | 2 | | Equal-groups notation<br>Equator<br>Estimation<br>Exponent<br>Extended multiplication facts<br>Full-circle protractor<br>Half-circle protractor<br>Hemisphere<br>Hundredth<br>Index of locations<br>Interest<br>Latitude (lines)<br>Lattice<br>Lattice method (for multiplication)<br>Letter-number pair<br>Longitude (line)<br>Magnitude estimate |
| MOVE TO 6TH GRADE | N.MR.04.07 | Solve problems about factors and multiples, e.g., since 100=4x25, and 200=2x100, then 200-2x4x25=8x25. | Solve problems about factors and multiples | 2 | | |
| **Multiply and divide whole numbers** | | | | | | |
| 4.NBT.5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit 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. | N.ME.04.09 | Multiply two-digit numbers by 2, 3, 4, and 5, using the distributive property, e.g., (1x3=(1+20)x3=(1x3)+(20x3)=3+60=63. | Multiply two-digit numbers by 2, 3, 4, and 5, using the distributive property\ | 1 | | |

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|---|---|---|---|---|---|---|
| 4.OA.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. | N.MR.04.13 | Use the relationship between multiplication and division to simply computations and check results, e.g., 6840 ÷ 20 = (6840 ÷ 10) ÷ 2 = 684 ÷ 2 = 342. | Use the relationship between multiplication and division to simplify computations and check results | 2 | | Map scale<br>Meridian bar<br>Meter (m)<br>Millimeter (mm)<br>Million<br>Mixed number<br>Multiplicaton/Division diagram<br>North Pole<br>Obtuse angle<br>ONE<br>Ordered number pair<br>Parallels<br>Partial product<br>Partial quotient<br>Partial-products method<br>Personal measurement reference<br>Powers of 10<br>Prime meridian<br>Quadrillion<br>Quintillion |
| 4.OA.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. | N.MR.04.14 | Solve applied problems involving whole number multiplication and division. | Solve applied problems involving whole number multiplication and division. | 2 | | |
| **Read, interpret and compare decimal fractions** | | | | | | |

# SUBJECT: Math GRADE: 4

| National Common Core Standard<br><br>Code & Language | Michigan Standard (GLCE)<br>Code & Language<br><br>Students will . . . . | | What this Standard means: | Lessons or Days Per Standard<br>201 | Examples of Formative Assessments | Vocabulary |
|---|---|---|---|---|---|---|
| 4.NF.6. Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram. | N.ME.04.15 | Read and interpret decimals up to two decimal places; relate to money and place value decomposition. | Read and interpret decimals up to two decimal places (relationship between money and place value) | 2 | | Quintillion<br>Quotient<br>Reflex angle<br>Remainder<br>Right angle<br>Rotation<br>Rough estimate<br>Round<br>Rounding (to a certain place)<br>Scientific notation<br><br>Sextillion<br>Sides (of an angle)<br>South Pole<br>Speedometer<br>Sphere<br>Straight angle<br>Tenth<br>Thousandth<br>Trillion<br>Trip meter<br>Turn<br>Unit<br>Vertex (of an angle) |
| | N.ME.04.16 | Know that terminating decimals represents fractions whose denominators are 10, 10x10, 10x10x10, etc., powers of 10. | Understand powers of 10. | 2 | | |
| 4.NF.6. Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram. | N.ME.04.17 | Locate tenths and hundredths on a number line. | Locate tenths and hundredths on a number line. | 2 | | |
| 4.NF.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, e.g., by using a visual model. | N.ME.04.18 | Read, write, interpret, and compare decimals up to two decimal places. | Read, write, interpret, and compare decimals up to two decimal places. | 2 | | |

# SUBJECT: Math GRADE: 4

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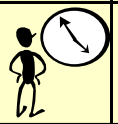
| | | | |  | | |
| 4.NF.6. Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram. | N.MR.04.19 | Write tenths and hundredths in decimal and fraction forms, and know the decimal equivalents for halves and fourths. | Write tenths and hundredths in decimal and fraction forms, including equivalents for halves and fourths. | 2 | | Whole<br>Withdrawal |

# SUBJECT: Math GRADE: 4

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|---|---|---|---|---|---|---|
| **Understand fractions** | | | | | | |
| 4.NF.3. Understand a fraction a/b with a > 1 as a sum of fractions 1/b. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.<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, e.g., by using a visual fraction model. Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. | N.ME.04.20 | Understand fractions as parts of a set objects. | Understand fractions as parts of a whole | 2 | | |

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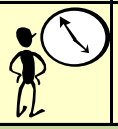
| | | | |  | | |
| **Add and subtract decimal fractions** | | | | | | |
| Move to 5th Grade | N.MR.04.31 | Use mathematical statements to represent problems that use addition and subtraction of decimals with up to two digits; solve. | Use mathematical statements to represent addition and subtraction of decimals problems | 2 | | |
| Move to 5th Grade | N.FL.04.32 | Add and subtract decimals up to two decimal places. | Add and subtract decimals up to two decimal places. | 2 | | |
| **Estimate** | | | | | | |
| 4.OA.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. | N.FL.04.34 | Estimate the answers to calculations involving addition, subtraction, or multiplication. | Estimate the answers to calculations involving addition, subtraction, or multiplication. | 2 | | |

# SUBJECT: Math GRADE: 4

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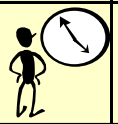
| | | | |  | | |
| 4.OA.3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. | N.FL.04.35 | Know when approximation is appropriate and use it to check the reasonableness of answers; be familiar with common place value errors in calculations. | Know when approximation is appropriate and use it to check the reasonableness of answers; be familiar with common place value errors in calculations. | 2 | | |
| **Identify basic geometric shapes and their components, and solve problems** | | | | | | |
| 4.G.2. Classify two-dimensional figures based on the presence or 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. | G.GS.04.02 | Identify basic geometric shapes including isosceles, equilateral and right triangles, and use their properties to solve problems. | Identify basic geometric shapes including isosceles, equilateral and right triangles, and their properties to solve problems. | 1 | | |
| **Recognize symmetry and transformations** | | | | | | |
| | G.TR.04.05 | Recognize rigid motion transformations (flips, slides, turns) of a two-dimensional object. | Recognize rigid motion transformations (flips, slides, turns) of a two-dimensional object. | 1 | | |

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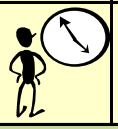
| | | | |  | | |
| **Measure using common tools and appropriate units** | | | | | | |
| 4.MD.1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in 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 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ... | M.PS.04.02 | Give answers to a reasonable degree of precision in the context of a given problem and relative to the measurement tool used. | Give reasonable answers to a given problem and using the appropraite measurement tool | 2 | | |
| **Convert measurement units** | | | | | | |

# SUBJECT: Math GRADE: 4

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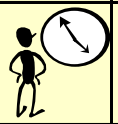
| | | | |  | | |
| 4.MD.1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ... | M.TE.04.05 | Carry out the following conversions from one unit of measure to a larger or smaller unit of measure; meters to centimeters, kilograms to grams, liters to milliliters,<br>hours to minutes, minutes to seconds, years to months,<br>weeks to days, feet to inches, ounces to pounds (using<br>numbers that involve only simple calculations). | Convert between unites of measurements using numbers with simple calculations | 2 | | |
| **Understand right angles** | | | | | | |
| 4.G.1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. | M.TE.04.10 | Identify right angles and compare angles to right angles. | Identify right angles and compare angles to right angles. | 1 | | |
| **Represent and solve problems for given data** | | | | | | |
| Move to 3rd Grade | D.RE.04.03 | Solve problems using data presented in tables and bar graphs, e.g., compare data represented in two bar graphs and read bar graphs showing two data sets. | Solve and compare problems using data from tables and bar graphs | 1 | | |

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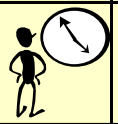
| | | | |  | | |
| 4.G.1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. | M.TE.04.10 | Identify right angles and compare angles to right angles. | Identify right angles and compare angles to right angles. | 1 | | |
| **Quarter 3** | | | | **Lessons this Quarter** | | |
| **Understand and use number notation and place value** | | | | 39 | | |
| 4.NBT.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. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division. | N.ME.04.03 | Understand the magnitude of numbers up to 1,000,000; recognize the place values of numbers, and the relationship of each place value to the place to its right, e.g., 1,000 is 10 hundreds. | Understand and recognize the relationship of place value numbers up to 1,000,000 | 1 | | "Whole" box<br>100% box<br>Area<br>Base<br>Denominator<br>Discount<br>Discounted price<br>Equal chance<br>Equally (more, less) likely<br>Equilateral triangle<br>Equivalent fractions<br>Equivalent Fractions Rule<br>Event<br>Expect<br>Fair die<br>Favorable outcome |
| **Read, interpret and compare decimal fractions** | | | | | | |
| | N.ME.04.16 | Know that terminating decimals represents fractions whose denominators are 10, 10x10, 10x10x10, etc., powers of 10. | Understand powers of 10. | 1 | | |
| 4.NF.6. Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram. | N.MR.04.19 | Write tenths and hundredths in decimal and fraction forms, and know the decimal equivalents for halves and fourths. | Write tenths and hundredths in decimal and fraction forms, including equivalents for halves and fourths. | 2 | | |

# SUBJECT: Math GRADE: 4

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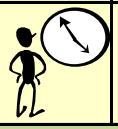
| | | | |  | | |
| **Understand fractions** | | | | | | outcome<br>Formula<br>Fraction of discount<br>Height<br>Isosceles triangle<br>Length<br>Life Expectancy<br>List price<br>Mixed number<br>Numerator<br>Outcome<br>Percent<br>Percent of discount<br>Perimeter<br>Perpendicular<br>Probability<br>Rank<br>Regular price<br>Repeating decimal<br>Rough floor plan<br>Rural |
| | N.ME.04.20 | Understand fractions as parts of a set objects. | Understand fractions as parts of a whole | 2 | | |
| 4.NF.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. | N.MR.04.21 | Explain why equivalent fractions are equal, using area models such as fraction strips, or the number line, for fractions with denominators of 12 or less, or equal to 100. | Use manipulatives to explain equivalent fractions with denominators of 12 or less, or equal to 100. | 2 | | |
| | N.MR.04.22 | Locate and compare fractions on the number line, including improper fractions and mixed numbers with denominators of 12 or less. | Locate and compare fractions on the number line, including improper fractions and mixed numbers with denominators of 12 or less. | 2 | | |
| | N.MR.04.23 | Understand the relationships among halves, fourths and eighths and among thirds, sixths, and twelfths. | Understand the relationships among halves, fourths and eighths and among thirds, sixths, and twelfths. | 2 | | |

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| | N.ME.04.24 | Know that fractions of the form where m/n is greater than n, are greater than 1 and are called improper fractions; locate improper fractions on the number line; express as mixed numbers. | Know, understand, and locate improper fractions on the number line and express as mixed numbers. | 1 | | Sale price<br>Scale<br>Scale drawing<br>Square units<br>Terminating decimal<br>Time-and-motion study<br>Urban<br>Variable<br>Whole (or ONE or unit)<br>Width<br>Work triangle |
| | N.MR.04.25 | Write improper fractions as mixed numbers, and understand that a mixed number represents the number of "wholes" and the part of a whole remaining, e.g., 5/4 = 1 + 1/4 = 1 1/4. | Write improper fractions as mixed numbers, and understand the relationship between "wholes" and "part of a whole" | 2 | | |
| 4.NF.2. Compare two fractions with different numerators and different denominators, e.g., 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. | N.MR.04.26 | Compare and order up to three fractions with denominators 2, 4, and 8, and 3, 6, and 12, including improper fractions and mixed numbers. | Compare and order up to three fractions with denominators 2, 4, and 8, and 3, 6, and 12, including improper fractions and mixed numbers. | 2 | | |

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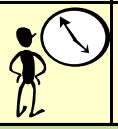
| | | | |  | | |
| **Add and subtract fractions** | | | | | | |
| 4.NF.3.D. Understand a fraction a/b with a > 1 as a sum of fractions 1/b. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. | N.MR.04.27 | Add and subtract fractions less than 1 with denominators 12 or less and including 100, in cases where the denominators are equal or when one denominator is a multiple of the other, e.g., 1/12 + 5/12= 6/12; 1/6 + 5/12 = 7/12; 3/10 - 23/100 = 7/100 | Add and subtract fractions less than 1 with denominators 12 or less and including 100 (equivalents and multiples) | 2 | | |
| 4.NF.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 100.2 For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100. | N.MR.04.28 | Solve fraction problems involving sums and differences for fractions where one denominator is a multiple of the other (denominators 2 through 12, and 100). | Solve addition and subtraction fraction problems where one denominator is a multiple of the other (denominators 2 through 12, and 100). | 2 | | |
| | N.MR.04.29 | Solve for the unknown in equations such as: 1/8 + x = 5/8 or 3-4 - y = 1/2 | Solve unknown equations such as: 1/8 + x = 5/8 or 3-4 - y = 1/2 | 1 | | |

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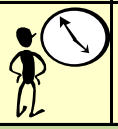
| | | | |  | | |
| **Multiply fractions by whole numbers** | | | | | | |
| 4.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. Understand a fraction a/b as a multiple of 1/b. For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4). nderstand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.) Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie? | N.MR.04.30 | Multiply fractions by whole numbers, using repeated addition and area or array models. | Multiply fractions by whole numbers, using repeated addition and arrays | 1 | | |

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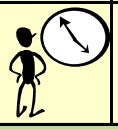
| | | | |  | | |
| **Multiply and divide decimal fractions** | | | | | | |
| Moving to 5th Grade | N.FL.04.33 | Multiply and divide decimals up to two decimal places by a one-digit whole number where the result is a terminating decimal, e.g., 0.42 ÷ 3 = 0.14, but not 5 ÷ 3 = 1.6. | Multiply and divide decimals up to two decimal places by a one-digit whole number where the result is a terminating decimal | 2 | | |
| **Estimate** | | | | | | |
| 4.OA.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. | N.FL.04.34 | Estimate the answers to calculations involving addition, subtraction, or multiplication. | Estimate the answers to calculations involving addition, subtraction, or multiplication. | 1 | | |

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| 4.OA.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. | N.FL.04.35 | Know when approximation is appropriate and use it to check the reasonableness of answers; be familiar with common place value errors in calculations. | Know when approximation is appropriate and use it to check the reasonableness of answers; be familiar with common place value errors in calculations. | 1 | | |
| **Identify basic geometric shapes and their components, and solve problems** | | | | | | |
| 4.G.2. Classify two-dimensional figures based on the presence or 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. | G.GS.04.02 | Identify basic geometric shapes including isosceles, equilateral and right triangles, and use their properties to solve problems. | Identify basic geometric shapes including isosceles, equilateral and right triangles, and their properties to solve problems. | 2 | | |

# SUBJECT: Math GRADE: 4

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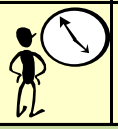
| | | | |  | | |
| **Measure using common tools and appropriate units** | | | | | | |
| 4.MD.1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in 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 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ... | M.PS.04.02 | Give answers to a reasonable degree of precision in the context of a given problem and relative to the measurement tool used. | Give reasonable answers to a given problem and using the appropraite measurement tool | 2 | | |

# SUBJECT: Math GRADE: 4

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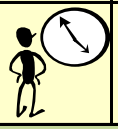
| | | | |  | | |
| **Convert measurement units** | | | | | | |
| 4.MD.1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ... | M.TE.04.05 | Carry out the following conversions from one unit of measure to a larger or smaller unit of measure; meters to centimeters, kilograms to grams, liters to milliliters,<br>hours to minutes, minutes to seconds, years to months,<br>weeks to days, feet to inches, ounces to pounds (using<br>numbers that involve only simple calculations). | Convert between unites of measurements using numbers with simple calculations | 1 | | |
| **Use perimeter and area formulas** | | | | | | |

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| 4.MD.3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor. | M.TE.04.06 | Know and understand the formulas for perimeter and area of a square and a rectangle; calculate the perimeters and areas of these shapes and combinations of these shapes using the formulas. | Know, understand, and calculate the formulas for perimeter and area of a square and a rectangle | 1 | | |
| 4.MD.3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor. | M.TE.04.07 | Find one dimension of a rectangle given the other dimension and its perimeter or area. | Find one dimension of a rectangle given the other dimension and its perimeter or area. | 1 | | |

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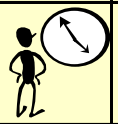
| | | | |  | | |
| 4.MD.3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor. | M.TE.04.08 | Find the side of a square given its perimeter area. | Find the side of a square given its perimeter area. | 1 | | |
| 4.MD.3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor. | M.PS.04.09 | Solve contextual problems about perimeter and area of squares and rectangles in compound shapes. | Solve problems using perimeter and area of squares and rectangles | 2 | | |
| **Represent and solve problems for given data** | | | | | | |
| Moving to 6th Grade | D.RE.04.02 | Order a given set of data, find the median, and specify the range of values. | Order data and find the median and range of a given set of data | 1 | | |

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| Moving to 3rd Grade | D.RE.04.03 | Solve problems using data presented in tables and bar graphs, e.g., compare data represented in two bar graphs and read bar graphs showing two data sets. | Solve and compare problems using data from tables and bar graphs | 1 | | |
| **Quarter 4** | | | | **Lessons this Quarter** | | |
| **Use factors and multiples** | | | | 37 | | |
| 4.OA.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. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite. | N.ME.04.05 | List the first ten multiples of a given one-digit whole number; determine if a whole number is a multiple of a given one-digit whole number and if a one-digit number is a factor of a given whole number. | List multiples and factors of a given one-digit whole number | 2 | | Capacity<br>Comparison shopping<br>Cone<br>Congruent<br>Consumer<br>Credit<br>Cube<br>Cubic units<br>Cup<br>Curved surface<br>Cylinder |

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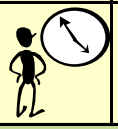
| | | | |  | | |
| **Multiply and divide whole numbers** | | | | | | Cylinder<br>Debit<br>Dimensions<br>Dodecahedron<br>Edge<br>Face<br>Flat surface<br>Formula<br>Frieze pattern<br>Gallon<br>Geometric solid<br>Gram<br>Image<br>Line of reflection<br>Line of symmetry<br>Opposite (of a number)<br>Ounce<br>Per<br>Pint<br>Polyhedron<br>Preimage<br>Prism<br>Products<br>Pyramid<br>Quart<br>Rate<br>Rate table |
| 4.OA.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. | N.MR.04.14 | Solve applied problems involving whole number multiplication and division. | Solve applied problems involving whole number multiplication and division. | 4 | | |
| **Read, interpret and compare decimal fractions** | | | | | | |
| 4.NF.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, e.g., by using a visual model. | N.ME.04.15 | Read and interpret decimals up to two decimal places; relate to money and place value decomposition. | Read and interpret decimals up to two decimal places (relationship between money and place value) | 1 | | |

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| 4.NF.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, e.g., by using a visual model. | N.ME.04.18 | Read, write, interpret, and compare decimals up to two decimal places. | Read, write, interpret, and compare decimals up to two decimal places. | 1 | | Recessed<br>Rectangular prism<br>Reflection<br>Reflection (flip)<br>Regular polyhdron<br>Rotation (turn)<br>Rotation (turn)<br>Symmetry<br>Services<br>Sphere<br>Square pyramid<br>Surface area<br>Symmetric<br>Translation (slide)<br>Transparent mirror<br>Triangular prism<br>Triangular pyramid (tetrahedron)<br>Unit price<br>Unit rate<br>Vertex (vertices)<br>Volume |
| **Multiply and divide decimal fractions** | | | | | | |
| Move to 5th Grade | N.FL.04.33 | Multiply and divide decimals up to two decimal places by a one-digit whole number where the result is a terminating decimal, e.g., 0.42 ÷ 3 = 0.14, but not 5 ÷ 3 = 1.6. | Multiply and divide decimals up to two decimal places by a one-digit whole number where the result is a terminating decimal | 3 | | |
| **Understand perpendicular, parallel, and intersecting lines** | | | | | | |
| 4.G.1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. | G.GS.04.01 | Identify and draw perpendicular, parallel, and intersecting lines using a ruler and a tool or object with a square (90 degree) corner. | Identify and draw perpendicular, parallel, and intersecting lines using a ruler and a tool or object with a square (90 degree) corner. | 2 | | |

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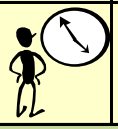
| | | | |  | | |
| **Identify basic geometric shapes and their components, and solve problems** | | | | | | |
| Move to 2nd Grade | G.SR.04.03 | Identify and count the faces, edges, and vertices of basic three-dimensional geometric solids including cubes, rectangular prisms, and pyramids; describe the shape of their faces. | Identify, count, and describe the faces, edges, and vertices of basic three-dimensional geometric solids | 2 | | |
| **Recognize symmetry and transformations** | | | | | | |
| 4.G.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. | G.TR.04.04 | Recognize plane figures that have line symmetry. | Recognize figures that have line symmetry. | 4 | | |
| HS | G.TR.04.05 | Recognize rigid motion transformations (flips, slides, turns) of a two-dimensional object. | Recognize rigid motion transformations (flips, slides, turns) of a two-dimensional object. | 6 | | |
| **Measure using common tools and appropriate units** | | | | | | |
| 9-12 G.CO.6 | M.TE.04.03 | Measure and compare integer temperatures in degrees, | Measure and compare temperatures in degrees | 1 | | |
| MOVE TO 6TH GRADE | M.TE.04.04 | Measure surface area of cubes and rectangular prisms by covering and counting area of the faces. | Measure surface area of cubes and rectangular prisms by covering and counting area of the faces. | 1 | | |

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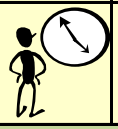
| | | | |  | | |
| **Convert measurement units** | | | | | | |
| | M.TE.04.05 | Carry out the following conversions from one unit of measure to a larger or smaller unit of measure; meters to centimeters, kilograms to grams, liters to milliliters, hours to minutes, minutes to seconds, years to months, weeks to days, feet to inches, ounces to pounds (using numbers that involve only simple calculations). | Convert between unites of measurements using numbers with simple calculations | 5 | | |
| **Use perimeter and area formulas** | | | | | | |
| 4.MD.3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor. | M.TE.04.06 | Know and understand the formulas for perimeter and area of a square and a rectangle; calculate the perimeters and areas of these shapes and combinations of these shapes using the formulas. | Know, understand, and calculate the formulas for perimeter and area of a square and a rectangle | 1 | | |

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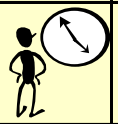
| | | | |  | | |
| 4.MD.3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor. | M.TE.04.07 | Find one dimension of a rectangle given the other dimension and its perimeter or area. | Find one dimension of a rectangle given the other dimension and its perimeter or area. | 1 | | |
| | | **Problem-solving** | | | | |
| MOVE TO 6TH GRADE | M.PS.04.11 | Solve contextual problems about surface area. | Solve problems about surface area. | 1 | | |
| | | **Represent and solve problems for given data** | | | | |
| MOVE TO 6TH GRADE | D.RE.04.02 | Order a given set of data, find the median, and specify the range of values. | Order data and find the median and range of a given set of data | 1 | | |
| Move to 3rd Grade | D.RE.04.03 | Solve problems using data presented in tables and bar graphs, e.g., compare data represented in two bar graphs and read bar graphs showing two data sets. | Solve and compare problems using data from tables and bar graphs | 1 | | |

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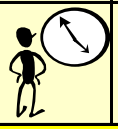
| | | | |  | | |
| **Add to 4th Grade** | | | | | | |
| 4.OA.1. Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.<br>4.OA.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. | Operations with whole numbers | | | | | |

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| 4.OA.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. For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way. | Patterns | | | | | |

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| 4.MD.5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: 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. An angle that turns through n one-degree angles is said to have an angle measure of n degrees. | ? Geometric measurement (doesn't match GLCE's) | | | | | |

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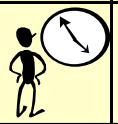
| | | | |  | | |
| 4.MD.5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the 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. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.<br>4.MD.6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.<br>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. | From 5th Grade - geometric measurement | | | | | |

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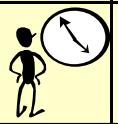
| | | | |  | | |
| 4.NBT.3. Use place value understanding to round multi-digit whole numbers to any place. | Round multi-digit whole numbers | | | | | |
| 4.MD.2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including 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. | Use four operations | | | | | |

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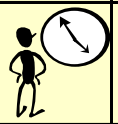
| | | | |  | | |
| 4.MD.4. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection. | Line plot measurements in fractions | | | | | |