

**4th Grade Math Curriculum Guide
Lunenburg County Public Schools
June 2014**

Marking Period: 1st Nine Weeks & Ongoing Review Throughout Year

Days: 5

Reporting Category/Strand: Computation and Estimation

<p>SOL 4.4 a,b Review of Basic Multiplication Facts</p>	<p>The student will</p> <ul style="list-style-type: none"> a) estimate sums, differences, products, and quotients of whole numbers; b) add, subtract, and multiply whole numbers
<p>Essential Knowledge/Skills/Understandings</p>	<p>All students should</p> <ul style="list-style-type: none"> • Understand that multiplication and division are inverse operations. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> • Determine the sum or difference of two whole numbers, each 999,999 or less, in vertical and horizontal form with or without regrouping, using paper and pencil, and using a calculator.
<p>Essential Questions</p>	
<p>Primary Resources</p>	<p>Correlations Super Teacher Worksheets VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources http://exchange.smarttech.com/search.html?q=%22multiplication%20facts%22 Harcourt Math</p> <p>Websites www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.thegreatmartinicompany.com/multiplication.html www.mathcats.com http://illuminations.nctm.org/ http://www.funbrain.com/tictactoe/index.html http://www.oswego.org/ocsd-web/games/Mathmagician/cathymath.html</p>

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	<p>http://nlvm.usu.edu/en/nav/topic_t_4.html http://www.ixl.com/math/grade-4/multiplication-facts-to-12 http://www.aplusmath.com/multiplication/</p> <p>Lesson Plans Multiplication & Division Power Points, Lesson Plans, and PDFs VDOE Multiplication Lesson Plans</p> <p>Videos http://www.doe.virginia.gov/instruction/mathematics/resources/videos/index.shtml# http://www.brainpop.com/math/numbersandoperations/multiplication/preview.weml Learning Multiplication Facts Watch Know Learn</p> <p>Literature/Music/Music Connections The Hershey's Chocolate Multiplication Book Jerry Pallotta Smart Shorties Multiplication Raps Multiplication Facts Songs http://libguides.bgsu.edu/mathlit Literature Connections</p>
Essential Vocabulary	<p>Inverse - opposite Operations - math calculations Product - answer to a multiplication problem Factors - numbers that are multiplied together</p>

Marking Period: 1st Nine Weeks

Days: 6

Reporting Category/Strand: Probability and Statistics

SOL 4.14	The student will collect, organize, display, and interpret data from a variety of graphs.
Essential Knowledge/Skills/Understandings	<p>All students should</p> <ul style="list-style-type: none"> ● Understand the difference between representing categorical data and representing numerical data. ● Understand that line graphs show change over time (numerical data). ● Understand that bar graphs should be used to compare counts of different categories(categorical data).

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	<ul style="list-style-type: none"> ● Understand how data displayed in bar and line graphs can be interpreted so that informed decisions can be made. ● Understand that the title and labels of the graph provide the foundation for interpreting the data. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Collect data, using, for example, observations, measurement, surveys, scientific experiments, polls, or questionnaires. ● Organize data into a chart or table. ● Construct and display data in bar graphs, labeling one axis with equal whole number increments of 1 or more (numerical data) (e.g., 2, 5, 10, or 100) and the other axis with categories related to the title of the graph (categorical data) (e.g., swimming, fishing, boating, and water skiing as the categories of “Favorite Summer Sports”). ● Construct and display data in line graphs, labeling the vertical axis with equal whole number increments of 1 or more and the horizontal axis with continuous data commonly related to time (e.g., hours, days, months, years, and age). Line graphs will have no more than 10 identified points along a continuum for continuous data. For example, growth charts showing age versus height place age on the horizontal axis (e.g., 1 month, 2 months, 3 months, and 4 months). ● Title or identify the title in a given graph and label or identify the axes. ● Interpret data from simple line and bar graphs by describing the characteristics of the data and the data as a whole (e.g., the category with the greatest/least, categories with the same number of responses, similarities and differences, the total number). Data points will be limited to 30 and categories to 8. ● Interpret the data to answer the question posed, and compare the answer to the prediction (e.g., “The summer sport preferred by most is swimming, which is what I predicted before collecting the data.”) ● Write at least one sentence to describe the analysis and interpretation of the data, identifying parts of the data that have special characteristics, including categories with the greatest, the least, or the same.
Essential Questions	
Primary Resources	<p>Correlations Super Teacher Worksheets VDOE Vocabulary Cards http://exchange.smarttech.com/details.html?id=05a4ec0c-f16c-42e4-840b-ba50ef4b1526 http://exchange.smarttech.com/details.html?id=8bdea2d8-f00c-4ec6-b800-a812693be39d http://exchange.smarttech.com/details.html?id=1078e46c-db85-4a23-946a-448c298358e1 Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources Harcourt Math</p> <p>Websites www.aaamath.com/index.html</p>

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	<p>www.mathsne.net/graphs/ www.nces.ed.gov/nceskids/Graphing/ Interpreting Line Graphs Interpreting Graphs Create a Graph Cool Graphing Interpreting Data http://www.ixl.com/math/grade-4 www.coolmath.com www.mathisfun.com www.aaamath.com/index.html</p> <p>Lesson Plans Hot or Cold Sandwich Data http://illuminations.nctm.org/</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections</p>
Essential Vocabulary	<p>Data - information Survey - to gather information by individual samples Poll - to ask questions in order to gather data Questionnaire - questions asked of individuals in order to gather data Axis - bottom or side of graph Horizontal - side to side Vertical - up and down</p>

Marking Period: 1st Nine Weeks

Days: 9

Reporting Category/Strand: Number and Number Sense

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SOL 4.1 a,b,c	<p>The student will</p> <ul style="list-style-type: none"> a) identify orally and in writing the place value for each digit in a whole number expressed through millions; b) compare two whole numbers expressed through millions, using symbols ($>$, $<$, or $=$); and c) round whole numbers expressed through millions to the nearest thousand, ten thousand, and hundred thousand.
<p>Essential Knowledge/Skills/Understandings</p>	<p>All students should</p> <ul style="list-style-type: none"> ● Understand the relationships in the place value system in which the value of each place is ten times the value of the place to its right. ● Use the patterns in the place value system to read and write numbers. ● Understand that reading place value correctly is essential when comparing numbers. ● Understand that rounding gives a close number to use when exact numbers are not needed for the situation at hand. ● Develop strategies for rounding. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Identify and communicate, both orally and in written form, the placed value for each digit in whole numbers expressed through the one millions place. ● Read whole numbers through the one millions place that are presented in standard format, and select the matching number in written format. ● Write whole numbers through the one millions place in standard format when the numbers are presented orally or in written format. ● Identify and use the symbols for greater than, less than, and equal to. ● Compare two whole numbers expressed through the one millions, using symbols $>$, $<$, or $=$. ● Round whole numbers expressed through the one millions place to the nearest thousand, ten thousand, and hundred thousands place.
Essential Questions	
Primary Resources	<p>Correlations</p> <p>Super Teacher Worksheets - Place Value Super Teacher Worksheets - Rounding VDOE Vocabulary Cards Place Value Place Value Math Blaster - Place Value Place Value and Rounding Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets http://exchange.smarttech.com/details.html?id=fcf269e36ded4c5bb705e9c9505c719f736d99edb756ad867a31b0ed6a7f43a8</p>

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	<p>http://exchange.smarttech.com/details.html?id=x510e7c32e9f44b1cb9fa968790971f26 Base 10 Interactive Blocks Math Connects Resources Harcourt Math</p> <p>Websites http://www.aaamath.com/plc.htm http://www.berghuis.co.nz/abiator/maths/mcindex.html http://www.quia.com/rr/176236.html http://www.quia.com/rr/256369.html http://education.jlab.org/placevalue/index.html http://www.quia.com/pop/7512.html http://www.toonuniversity.com/flash.asp?err=503&engine=15 http://www.funbrain.com/tens/index.html http://www.hbschool.com/activity/elab2004/gr4/1.html http://www.scienceacademy.com/BI/round.htm http://www.huneycutt.biz/math35/math35.html</p> <p>Lesson Plans http://illuminations.nctm.org/ Location, Location, Location</p> <p>Videos www.funbrain.com/tens/index.html http://studyjams.scholastic.com/studyjams/jams/math/index.htm http://www.brainpop.com/math/numbersandoperations/rounding/preview.weml Watch Know Learn</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections How Much is a Million by David Schwartz</p>
Essential Vocabulary	Place - position in place value chart Value - how much each digit is worth Closest to - rounded value closest to exact number

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Marking Period: 1st Nine Weeks

Days: 9

Reporting Category/Strand: Number and Number Sense

<p>SOL 4.3 a,b,c</p>	<p>The student will</p> <ul style="list-style-type: none"> a) read, write, represent, and identify decimals expressed through thousandths; b) round decimals to the nearest whole number, tenth, and hundredth; c) compare and order decimals
<p>Essential Knowledge/Skills/Understandings</p>	<p>All students should</p> <ul style="list-style-type: none"> ● Understand the place value structure of decimals and use this structure to read, write, and compare decimals. ● Understand that decimal numbers can be rounded to an estimate when exact numbers are not needed for the situation at hand. ● Understand that decimals are rounded in a way that is similar to the way whole numbers are rounded. ● Understand that decimals and fractions represent the same relationship; however, they are presented in two different formats. ● Understand that models are used to show decimal and fraction equivalents. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Investigate the ten-to-one place value relationship for decimals through thousandths, using Base-10 manipulatives (e.g., place value mats/charts, decimal squares, Base-10 blocks, money). ● Represent and identify decimals expressed through thousandths, using Base-10 manipulatives, pictorial representations, and numerical symbols (e.g., relate the appropriate drawing to 0.05). ● Identify and communicate, both orally and in written form, the position and value of a decimal through thousandths. For example, in 0.385, the 8 is in the hundredths place and has a value of 0.08. ● Read and write decimals expressed through thousandths, using Base-10 manipulatives, drawings, and numerical symbols. ● Round decimals to the nearest whole number, tenth, and hundredth. ● Compare decimals, using the symbols $>$, $<$, $=$. ● Order a set of decimals from least to greatest or greatest to least.
<p>Essential Questions</p>	
<p>Primary Resources</p>	<p>Correlations Super Teacher Worksheets - Decimals</p>

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	<p>VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources http://www.teacherspayteachers.com/Product/Winter-Math-Ordering-Decimals-to-Thousandths-446833 Harcourt Math</p> <p>Websites http://www.mathisfun.com/ http://www.aaamath.com/index.html http://nlvm.usu.edu/en/nav/vlibrary.html http://www.themathpage.com/ARITH/arithmetic.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.mesc.gov.ws/ssn1/Decimal_Detective/Decimal_Detective.htm http://www.quia.com/mc/938767.html http://www.huneycutt.biz/math35/math35.html</p> <p>Lesson Plans http://illuminations.nctm.org/ Rounding Decimals Comparing Decimals Reading and Writing Decimals</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm http://www.brainpop.com/math/numbersandoperations/rounding/preview.weml Watch Know Learn</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections Menu Math Sales Fliers Pigs Will be Pigs by Amy Axlerod</p>
Essential Vocabulary	Tenth - 1/10 Hundredth - 1/100

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	Thousandth - 1/1,000
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Marking Period: 1st Nine Weeks

Days: 7

Reporting Category/Strand: Computation and Estimation

SOL 4.4 a,b,d	<p>The student will</p> <ul style="list-style-type: none"> a) estimate sums, differences, products, and quotients of whole numbers; b) add, subtract, and multiply whole numbers d) solve single-step and multistep addition, subtraction, and multiplication problems with whole numbers.
Essential Knowledge/Skills/Understandings	<p>All students should</p> <ul style="list-style-type: none"> ● Develop and use strategies to estimate whole number sums and differences and to judge the reasonableness of such results. ● Understand that addition and subtraction are inverse operations. ● Understand how to solve single-step and multi-step problems using whole number operations. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Estimate whole number sums, differences, products, and quotients. ● Refine estimates by adjusting the final amount, using terms such as closer to, between, and a little more than. ● Determine the sum or difference of two whole numbers, each 999,999 or less, in vertical and horizontal form with or without regrouping, using paper and pencil, and using a calculator. ● Solve single-step and multistep problems using whole number operations. ● Verify the reasonableness of sums, differences, products, and quotients of whole numbers using estimation.
Essential Questions	
Primary Resources	<p>Correlations</p> <p>Super Teacher - Addition Super Teacher - Subtraction Super Teacher - Word Problems VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources</p>

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	<p>http://star.spsk12.net/math/4/wordproblemsadditionandsubtraction.ppt Harcourt Math</p> <p>Websites www.coolmath.com www.mathisfun.com www.aaamath.com/index.html www.thegreatmartinicompany.com/multiplication.html www.mathcats.com http://illuminations.nctm.org/ http://www.teachingideas.co.uk/maths/contents_multiplicationdivision.htm http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.huneycutt.biz/math35/math35.html http://www.quia.com/rr/293831.html http://www.quia.com/rr/293832.html http://www.mathplayground.com/GSMbegin.html http://www.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html</p> <p>Lesson Plans Modeling Addition and Subtraction Let's Do Lunch Estimation Game What's It Worth?</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections</p>
Essential Vocabulary	<p>Sum - answer to an addition problem Difference - answer to a subtraction problem Estimate - a close guess to an exact answer, found by rounding Multistep - word problems with more than one step</p>

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Marking Period: 1st Nine Weeks

Days: 6

Reporting Category/Strand: Computation and Estimation

<p>SOL 4.5 c,d</p>	<p>The student will</p> <ul style="list-style-type: none"> c) add and subtract with decimals; and d) solve single-step and multistep practical problems involving addition and subtraction with fractions and with decimals.
<p>Essential Knowledge/Skills/Understandings</p>	<p>All students should</p> <ul style="list-style-type: none"> • Develop and use strategies to estimate addition and subtraction involving fractions and decimals. • Use visual models to add and subtract with fractions and decimals. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> • Add and subtract with decimals through thousandths, using concrete materials, pictorial representations, and paper and pencil. • Solve single-step and multistep problems that involve adding and subtracting with fractions and decimals through thousandths.
<p>Essential Questions</p>	
<p>Primary Resources</p>	<p>Correlations</p> <p>Super Teacher Worksheets - Decimals VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources http://star.spsk12.net/math/5/5.4Subtracting%20Decimals.pptx http://exchange.smarttech.com/details.html?id=b973b0f12320c6a2a5ad497c781bad93c4cd392a10c42484c3feb2c7e6caa73a http://exchange.smarttech.com/details.html?id=x8cb6e0c007d7448f80dd9f444426619b Harcourt Math</p> <p>Websites</p> <p>www.coolmath.com www.mathisfun.com www.aaamath.com/index.html http://www.themathpage.com/ARITH/arithmetic.htm</p>

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	<p>http://illuminations.nctm.org/ http://www.quia.com/rr/176241.html http://www.eclassroom.110mb.com/Games/5th%20Math/Decimals2.swf http://www.funbrain.com/cashreg/index.html http://www.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html</p> <p>Lesson Plans Decimal Sums & Differences Problem Solving</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm http://www.brainpop.com/math/numbersandoperations/decimals/preview.weml Watch Know Learn</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections Real Life Math Series • : The Hamburger Hut, Ice Cream Parlor, or Market Math, involving money, decimals and all mathematical operations (by Remedia Publications)</p>
Essential Vocabulary	Sum - answer to an addition problem Difference - answer to a subtraction problem Multistep - word problems with more than one step to solve

Marking Period: 2nd Nine Weeks

Days: 2

Reporting Category/Strand: Patterns, Functions, and Algebra

SOL 4.16	<p>The student will</p> <p>b) investigate and describe the associative property for addition and multiplication.</p>
Essential	All students should

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Knowledge/Skills/Understandings	<ul style="list-style-type: none"> • Understand that the associative property for addition means you can change the groupings of three or more addends without changing the sum. • Understand that the associative property for multiplication means you can change the groupings of three or more factors without changing the product. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> • Investigate and describe the associative property for addition as $(6 + 2) + 3 = 6 + (2 + 3)$. • Investigate and describe the associative property for multiplication as $(3 \times 2) \times 4 = 3 \times (2 \times 4)$.
Essential Questions	
Primary Resources	<p>Correlations Super Teacher Worksheets - Multiplication Properties Super Teacher Worksheets - Addition Properties VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources http://star.spsk12.net/math/4/SOL4.22s.ppt http://exchange.smarttech.com/details.html?id=x9a928f585f0748f38508eda5f5637fdb Interactive Notes Harcourt Math</p> <p>Websites</p> <p>http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.huneycutt.biz/math35/math35.html http://nlvm.usu.edu/en/nav/frames_asid_156_g_1_t_1.html?open=activities http://www.eclassroom.110mb.com/4thMath/SOL4_22Fling.swf http://www.eclassroom.110mb.com/4thMath/SOL4_22.swf http://www.eclassroom.110mb.com/4thMath/classify_it_properties/classify_it_properties.swf http://star.spsk12.net/math/4/PropertySort.GWB http://www.ixl.com/math/grade-4</p> <p>Lesson Plans What's It Worth?</p>

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	<p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm http://www.brainpop.com/math/numbersandoperations/associativeproperty/preview.weml http://www.sophia.org/tutorials/associative-property-of-multiplication--3 Watch Know Learn</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections</p>
Essential Vocabulary	<p>Property - rule Associative Property - how numbers are grouped in parentheses and added or multiplied does not change the answer (sum or difference) Parentheses - symbol used to group numbers together. Must be done first in number sentence.</p>

Marking Period: 2nd Nine Weeks

Days: 19

Reporting Category/Strand: Computation and Estimation

SOL 4.4 a,b,d	<p>The student will</p> <p>a) estimate sums, differences, products, and quotients of whole numbers; b) add, subtract, and multiply whole numbers; d) solve single-step and multistep addition, subtraction, and multiplication problems with whole numbers.</p>
Essential Knowledge/Skills/Understandings	<p>All students should</p> <ul style="list-style-type: none"> ● Understand that multiplication and division are inverse operations. ● Understand how to solve single-step and multi-step problems using whole number operations. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Estimate whole number sums, differences, products, and quotients. ● Refine estimates by adjusting the final amount, using terms such as closer to, between, and a little more than. ● Estimate and find the products of two whole numbers when one factor has two digits or fewer and the other factor has three digits or fewer, using paper and pencil and calculators. ● Solve single-step and multistep problems using whole number operations.

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	<ul style="list-style-type: none"> ● Verify the reasonableness of sums, differences, products, and quotients of whole numbers using estimation.
<p>Essential Questions</p>	
<p>Primary Resources</p>	<p>Correlations Super Teacher Worksheets - Multiplication VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources http://www.rockingham.k12.va.us/resources/elementary/files/4twobytwomultiplicationsenteo.notebook Harcourt Math</p> <p>Websites www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.thegreatmartinicompany.com/multiplication.html www.mathcats.com http://illuminations.nctm.org/ http://www.funbrain.com/tictactoe/index.html http://www.oswego.org/ocsd-web/games/Mathmagician/cathymath.html http://nlvm.usu.edu/en/nav/topic_t_4.html http://www.mathplayground.com/GSMbegin.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.huneycutt.biz/math35/math35.html http://www.quia.com/rr/293831.html http://www.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html</p> <p>Lesson Plans http://www.teachingideas.co.uk/maths/contents07multiplicationdivision.htm</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm http://www.vdoe.whro.org/instruction/math_2011/array_model_for_multiplication/DOE_MATH_4.swf</p>

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	<p>https://learnzillion.com/lessons/530-use-the-standard-algorithm-for-multiplication Watch Know Learn</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections</p> <p>"Hershey Kisses Multiplication and Division" Jerry Pallotta "A Remainder of One" Elinor J Pinczes "Divide and Ride (MathStart 3)" Stuart J. Murphy</p>
Essential Vocabulary	<p>Factors - numbers that are multiplied together Product - answer to a multiplication problem Estimate - number close to an exact amount Reasonable - answer close to exact amount, makes sense Lattice - method of multiplying using boxes</p>

Marking Period: 2nd Nine Weeks

Days: 20

Reporting Category/Strand: Computation and Estimation

SOL 4.4 a,c	<p>The student will</p> <p>a) estimate sums, differences, products, and quotients of whole numbers;</p> <p>c) divide whole numbers, finding quotients with and without remainders</p>
Essential Knowledge/Skills/Understandings	<p>All students should</p> <ul style="list-style-type: none"> ● Understand that division is the operation of making equal groups or equal shares. When the original amount and the number of shares ● are known, divide to find the size of each share. When the original amount and the size of each share are known, divide to find the number of shares. ● Understand that multiplication and division are inverse operations. ● Understand various representations of division and the terms used in division are <ul style="list-style-type: none"> ○ dividend, divisor, and quotient. ○ dividend ÷ divisor = quotient ○ quotient = dividend/divisor

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	<ul style="list-style-type: none"> ● Understand how to solve single-step and multi-step problems using whole number operations. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Estimate whole number sums, differences, products, and quotients. ● Refine estimates by adjusting the final amount, using terms such as closer to, between, and a little more than. ● Estimate and find the quotient of two whole numbers, given a one-digit divisor and a two- or three-digit dividend. ● Solve single-step and multistep problems using whole number operations. ● Verify the reasonableness of sums, differences, products, and quotients of whole numbers using estimation.
Essential Questions	
Primary Resources	<p>Correlations Super Teacher Worksheets - Long Division VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources http://www.rockingham.k12.va.us/resources/elementary/files/4Division.notebook http://www.ops.org/TECHHUB/LinkClick.aspx?fileticket=ahHDBAK50ik=&tabid=589&mid=2672 http://exchange.smarttech.com/details.html?id=e87265f92e2b6a61dce74d81591bbbab34f27b1a54c8c5eac803c0701082e53a http://exchange.smarttech.com/details.html?id=75ea70426d2096c6f9495664e03ee1a03b7b70cecf24f1751669c7eb01896b52 http://www.ops.org/TECHHUB/LinkClick.aspx?fileticket=IRm+EDhysQQ=&tabid=589&mid=2672 http://exchange.smarttech.com/details.html?id=785537c27d097d47943856f395a0d867ced6a17c0eb015a294a16a3a43097dfb http://www.lexington1.net/technology/instruct/ppts/mathppts/number%20operations/Long%20Division.ppt http://www.woodland.k12.mo.us/faculty/svoerg/long_division_tutorial.ppt Harcourt Math</p> <p>Websites www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.mathcats.com http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html</p>

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	<p>http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html http://www.quia.com/rr/293831.html http://www.quia.com/rr/208064.html http://www.quia.com/rr/771283.html http://www.quia.com/cb/488130.html</p> <p>Lesson Plans http://www.teachingideas.co.uk/maths/contents07multiplicationdivision.htm https://etown.digication.com/gretchen_miller_education_portfolio/Long_Division_Lesson_Plan_and_Reflection</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm http://player.discoveryeducation.com/index.cfm?guidAssetId=3B961B48-56EC-4FE6-A6D8-0E56AC2F47ED&blnFromSearch=1&productcode=US Watch Know Learn</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections "Hershey Kisses Multiplication and Division" Jerry Pallotta • "A Remainder of One" Elinor J Pinczes • "Divide and Ride (MathStart 3)" Stuart J. Murphy</p>
Essential Vocabulary	<p>Dividend - number being divided Divisor - number you divide by (doing the dividing) Remainder - number left over after dividing into equal groups Quotient - answer to a division problem Reasonable - answer is close to exact amount, makes sense Estimate - number close to exact amount</p>

**Marking Period: 3rd Nine Weeks
Days: 5**

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Reporting Category/Strand: Number and Number Sense

<p>SOL 4.2 a,b,c</p>	<p>The student will</p> <ul style="list-style-type: none"> a) compare and order fractions and mixed numbers; b) represent equivalent fractions; and c) identify the division statement that represents a fraction.
<p>Essential Knowledge/Skills/Understandings</p>	<p>All students should</p> <ul style="list-style-type: none"> ● Develop an understanding of fractions as parts of unit wholes, as parts of a collection, and as locations on a number line. ● Understand that a mixed number is a fraction that has two parts: a whole number and a proper fraction. The mixed number is the sum of these two parts. ● Use models, benchmarks, and equivalent forms to judge the size of fractions. ● Recognize that a whole divided into nine equal parts has smaller parts than if the whole had been divided into five equal parts. ● Recognize and generate equivalent forms of commonly used fractions and decimals. ● Understand the division statement that represents a fraction. ● Understand that the more parts the whole is divided into, the smaller the parts (e.g., $15 < 13$). <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Compare and order fractions having denominators of 12 or less, using manipulative models and drawings, such as region/area models. ● Compare and order fractions with like denominators by comparing number of parts (numerators) (e.g., $1/5 < 3/5$). ● Compare and order fractions with like numerators and unlike denominators by comparing the size of the parts (e.g., $3/9 < 3/5$). ● Compare and order fractions having unlike denominators of 12 or less by comparing the fractions to benchmarks (e.g., $0, 1/2$ or 1) to determine their relationships to the benchmarks or by finding a common denominator. ● Compare and order mixed numbers having denominators of 12 or less. ● Use the symbols $>$, $<$, and $=$ to compare the numerical value of fractions and mixed numbers having denominators of 12 or less. ● Represent equivalent fractions through twelfths, using region/area models, set models, and measurement models. ● Identify the division statement that represents a fraction (e.g., $3/5$ means the same as 3 divided by 5).
<p>Essential Questions</p>	

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Primary Resources	<p>Correlations</p> <p>Super Teacher Worksheets - Basic Fractions Super Teacher Worksheets - Mixed Numbers VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources http://www.themathpage.com/ARITH/fractions.htm http://www.teachnet.com/lesson/math/fractioncity.html http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://nlvm.usu.edu/en/nav/frames_asid_159_g_2_t_1.html http://illuminations.nctm.org/ActivityDetail.aspx?ID=80 http://illuminations.nctm.org/ActivityDetail.aspx?ID=80 http://nlvm.usu.edu/en/nav/topic_t_4.html http://www1.center.k12.mo.us/edtech/sb/templates/fraction.notebook http://exchange.smarttech.com/details.html?id=c19bd43f9a9c31942278616a16b9fbad6196d8fa4c3576f63379bda482aa3829 http://exchange.smarttech.com/details.html?id=2628060e10efd5116541e852d0f7b6055539ba8591f09e1953771acf70ffa2ec http://www.rockingham.k12.va.us/resources/elementary/files/Fractionpieces.notebook http://www.wjcc.k12.va.us/rb/dross/jeopardyfractions.ppt Where You Will Use Fractions Power Point Harcourt Math</p> <p>Websites</p> <p>www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.mathcats.com http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westalleggheny.k12.pa.us/mckee/math/grade4.htm http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html http://www.mathplayground.com/fractions_compare.html http://www.sheppardsoftware.com/mathgames/fractions/Balloons_fractions1.htm</p>
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	<p>http://www.amblesideprimary.com/ambleweb/mentalmaths/fractotron.html http://www.quia.com/mc/65724.html http://www.harcourtschool.com/activity/con_math/g05c28.html http://www.amblesideprimary.com/ambleweb/mentalmaths/fracto.html http://singingwhale.com/zapper/start.html Suffolk 4.2 Websites</p> <p>Lesson Plans Pattern Blocks Fraction Game Fraction Strips Candy Bar Fractions</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn http://www.vdoe.whro.org/math-strategies/FLA_DOE_3/FLA_DOE_3.swf</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections Funny & Fabulous Fraction Stories by Dan Greenberg, Ed Emberley's Picture Pie Fabulous Fractions and Actions with Fractions The Hershey Chocolate Fraction Book</p>
Essential Vocabulary	<p>Fraction - part of a whole Numerator - top number of a fraction; tells how many parts are being counted or described Denominator - bottom number of a fraction; tells how many equal parts are in the whole or set Common - like; same Mixed number - whole number and fraction part Proper fraction - numerator is less than denominator Improper fraction - numerator is greater than denominator</p>

Marking Period: 3rd Nine Weeks

Days: 5

Reporting Category/Strand: Computation and Estimation

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SOL 4.5a	<p>The student will</p> <p>a) determine common multiples and factors, including least common multiple and greatest common factor</p>
<p>Essential Knowledge/Skills/Understandings</p>	<p>All students should</p> <ul style="list-style-type: none"> ● Understand and use common multiples and common factors for simplifying fractions. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Find common multiples and common factors of numbers. ● Determine the least common multiple and greatest common factor of numbers. ● Use least common multiple and/or greatest common factor to find a common denominator for fractions.
<p>Essential Questions</p>	
<p>Primary Resources</p>	<p>Correlations</p> <p>VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources Factors Multiples GCF LCM Factors Worksheets Factors & Multiples Worksheets Super Teacher Worksheets - Factors Harcourt Math</p> <p>Websites</p> <p>www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.mathcats.com http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html</p>

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	<p>http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html Factors & Multiples Jeopardy http://jmathpage.com/JIMSMultiplicationfactorsandmultiples.html Factors & Multiples Game Multiples Game</p> <p>Lesson Plans Factor Frenzy Multiple Madness Number Ray Investigators</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn Kahn Academy</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections</p>
Essential Vocabulary	<p>Factor - numbers you multiply together; divides evenly into product Multiple - product of number and any other number Least common multiple - smallest common (same) multiple of given numbers Greatest common factor - largest common (same) factors shared by all numbers</p>

Marking Period: 3rd Nine Weeks

Days: 16

Reporting Category/Strand: Computation and Estimation

SOL 4.5b,d	The student will
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	<p>b) add and subtract fractions having like and unlike denominators that are limited to 2, 3, 4, 5, 6, 8, 10, and 12, and simplify</p> <p>d) solve single-step and multistep practical problems involving addition and subtraction with fractions and with decimals.</p>
<p>Essential Knowledge/Skills/Understandings</p>	<p>All students should</p> <ul style="list-style-type: none"> ● Develop and use strategies to estimate addition and subtraction involving fractions and decimals. ● Use visual models to add and subtract with fractions and decimals. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Add and subtract with fractions having like denominators whose denominators are limited to 2, 3, 4, 5, 6, 8, 10, and 12, and simplify the resulting fraction using common multiples and factors. ● Add and subtract with fractions having unlike denominators whose denominators are limited to 2, 3, 4, 5, 6, 8, 10, and 12, and simplify the resulting fraction using common multiples and factors. ● Solve problems that involve adding and subtracting with fractions having like and unlike denominators whose denominators are limited to 2, 3, 4, 5, 6, 8, 10, and 12, and simplify the resulting fraction using ● common multiples and factors. ● Solve single-step and multistep problems that involve adding and subtracting with fractions and decimals through thousandths.
<p>Essential Questions</p>	
<p>Primary Resources</p>	<p>Correlations</p> <p>Super Teacher Worksheets - Add & Subtract Fractions</p> <p>VDOE Vocabulary Cards</p> <p>Scott Foresman Reteach Worksheets</p> <p>Scott Foresman Enrichment Worksheets</p> <p>Math Connects Resources</p> <p>Adding & Simplifying Fractions Smart Exchange</p> <p>Fraction Practice</p> <p>Fraction Popsicle Stick Adding & Subtracting</p> <p>Reducing Fractions</p> <p>Equivalent Fractions</p> <p>Comparing, Adding, Subtracting Power Point</p> <p>Equivalent Fractions Power Point</p> <p>Harcourt Math</p> <p>Websites</p> <p>www.coolmath.com</p>

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	<p>www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.mathcats.com http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html Fraction Jeopardy http://funschool.kaboose.com/fun-blaster/back-to-school/games/game_action_fraction.html http://www.mrnussbaum.com/pizza_game/index.html http://guest.portaportal.com/jrl15math</p> <p>Lesson Plans Fraction Strip Addition Fraction Strip Subtraction Four in a Row Which is Closer? Problem Solving</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn Kahn Academy http://www.onlinemathlearning.com/grade-4.html Equivalent Fractions</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections Fraction Songs http://www.mathematicshed.com/fractions-shed.html</p>
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Essential Vocabulary	Common denominator - fractions with the same denominator; must be the same before adding or subtracting Simplest form - numerator and denominator are smallest they can be; found by dividing numerator and denominator by greatest common factor
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Marking Period: 3rd Nine Weeks

Days: 5

Reporting Category/Strand: Number and Number Sense

SOL 4.3d	The student will d) given a model, write the decimal and fraction equivalents.
Essential Knowledge/Skills/Understandings	<p>All students should</p> <ul style="list-style-type: none"> ● Understand that decimals and fractions represent the same relationship; however, they are presented in two different formats. ● Understand that models are used to show decimal and fraction equivalents. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Represent fractions for halves, fourths, fifths, and tenths as decimals through hundredths, using concrete objects (e.g., demonstrate the relationship between the fraction $\frac{1}{4}$ and its decimal equivalent 0.25). ● Relate fractions to decimals, using concrete objects (e.g., 10-by-10 grids, meter sticks, number lines, decimal squares, decimal circles, money [coins]). ● Write the decimal and fraction equivalent for a given model (e.g., $\frac{1}{4} = 0.25$ or $0.25 = \frac{1}{4}$).
Essential Questions	
Primary Resources	<p>Correlations</p> <p>VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources http://www.k5learning.com/free-math-worksheets/fourth-grade-4/fractions-to-decimals http://www.worksheetsplus.com/EqDecFracWorksheets.html http://www.mathworksheets4kids.com/activities/4th-grade.html Bingo Game</p> <p>Websites</p>

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	<p>www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.mathcats.com http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html</p> <p>Lesson Plans Fraction Grids</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections</p>
Essential Vocabulary	<p>Equivalent - equal; same Division statement - in a fraction, numerator is divided by denominator</p>

Marking Period: 3rd Nine Weeks

Days: 3

Reporting Category/Strand: Geometry

SOL 4.10a,b	<p>The student will</p> <ul style="list-style-type: none"> a) identify and describe representations of points, lines, line segments, rays, and angles, including endpoints and vertices; and b) identify representations of lines that illustrate intersection, parallelism, and perpendicularity.
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<p>Essential Knowledge/Skills/Understandings</p>	<p>All students should</p> <ul style="list-style-type: none"> ● Understand that points, lines, line segments, rays, and angles, including endpoints and vertices are fundamental components of noncircular geometric figures. ● Understand that the shortest distance between two points on a flat surface is a line segment. ● Understand that lines in a plane either intersect or are parallel. Perpendicularity is a special case of intersection. ● Identify practical situations that illustrate parallel, intersecting, and perpendicular lines. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Identify and describe representations of points, lines, line segments, rays, and angles, including endpoints and vertices. ● Understand that lines in a plane can intersect or are parallel. Perpendicularity is a special case of intersection. ● Identify practical situations that illustrate parallel, intersecting, and perpendicular lines.
<p>Essential Questions</p>	
<p>Primary Resources</p>	<p>Correlations Super Teacher Worksheets - Geometry VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources Parallel & Perpendicular Harcourt Resources Parallel & Perpendicular Smart Board Lesson Intersecting, Parallel, Perpendicular Smart Board Lesson Lines, Segments, Rays http://harveyshomepage.com/Harveys_Homepage/Geometry.html Geometry Review Power Point</p> <p>Websites www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.mathcats.com http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4</p>

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	<p>http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html Geometry Game Jeopardy</p> <p>Lesson Plans http://www.graniteschools.org/depart/teachinglearning/curriculuminstruction/math/secondarymathematics/Math%20%20Lessons/32-NewMath7LessonFFeb3BasicGeometryIdeasandAngleMeasurement.pdf http://www.ri.net/middletown/everydaymath/itlggrade4/U1-2.pdf http://www.cpalms.org/Public/PreviewResource/Preview/32089</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn https://learnzillion.com/lessons/3916-identify-points-lines-line-segments-and-rays http://www.brainpopjr.com/math/geometry/pointslinessegmentsrays/preview.weml http://www.schooltube.com/video/ae6e02cc6db48a1973d3/ Kahn Academy</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections</p>
Essential Vocabulary	<p>Line segment - part of a line that is the shortest distance between two endpoints Ray - a line with one endpoint that goes on and one in the other direction Angle - formed by two rays joined together at a vertex Vertex - point where two rays, lines, or line segments come together; corner Intersection - point where two lines, segments, rays come together or cross over Parallel - always the same distance apart; never touching Perpendicular - lines that intersect at 90 degree angles (perfect corners)</p>

Marking Period: 3rd Nine Weeks

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Days: 3

Reporting Category/Strand: Geometry

<p>SOL 4.11 a,b</p>	<p>The student will</p> <p>a) investigate congruence of plane figures after geometric transformations, such as reflection, translation, and rotation, using mirrors, paper folding, and tracing; and</p> <p>b) recognize the images of figures resulting from geometric transformations, such as translation, reflection, and rotation.</p>
<p>Essential Knowledge/Skills/Understandings</p>	<p>All students should</p> <ul style="list-style-type: none"> ● Understand the meaning of the term congruent. ● Understand how to identify congruent figures. ● Understand that the orientation of figures does not affect congruency or noncongruency. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Recognize the congruence of plane figures resulting from geometric transformations such as translation, reflection, and rotation, using mirrors, paper folding and tracing.
<p>Essential Questions</p>	
<p>Primary Resources</p>	<p>Correlations</p> <p>Super Teacher Worksheets - Transformations</p> <p>Super Teacher Worksheets - Congruency</p> <p>VDOE Vocabulary Cards</p> <p>Scott Foresman Reteach Worksheets</p> <p>Scott Foresman Enrichment Worksheets</p> <p>Math Connects Resources</p> <p>Harcourt Resources</p> <p>Interactive Shapes</p> <p>http://community.teqsmart.org/download.php?view.1045</p> <p>http://exchange.smarttech.com/details.html?id=0359c46912865bbb39214ddc0c50b923cb2c3e6f2262654c76bd660155cee3f7</p> <p>http://exchange.smarttech.com/details.html?id=x75d04c4c45804ad18718afaf0fd43264</p> <p>http://exchange.smarttech.com/details.html?id=xfa2a1ac111e247a991c96784dcb6469f</p> <p>http://gets.gc.k12.va.us/tchrweb/jrutter/power%20point/Transformation,%20rotation%20and%20reflection/translations.ppt</p> <p>http://school.eb.com/lm/manipulatives/enu/workspaces/transformations_isometry/product.html</p>

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	<p>Websites www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.mathcats.com http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html Transformations Quiz</p> <p>Lesson Plans Congruent Figures http://teachers.net/lessons/posts/2752.html http://mercury.educ.kent.edu/database/eureka/documents/LessonPlan_FlipsSlidesTurns.pdf http://www.shodor.org/interactivate/lessons/TranslationsReflectionsRotations/ http://www.nctm.org/uploadedFiles/Lessons_and_Resources/Core_Math_Tools/Transformations%20Lesson_Anual_2.pdf</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn http://www.learnalberta.ca/content/mesg/html/math6web/lessonLauncher.html?lesson=m6lessonsshell17.swf</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections Transformation Song</p>
Essential Vocabulary	<p>Congruent - same size and shape Transformation - moving a shape so that it is in a different position but still has the same size and shape Reflection - shape is flipped over a line</p>

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	Rotation - shape is turned around a point Translation - shape is slid
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Marking Period: 3rd Nine Weeks

Days: 3

Reporting Category/Strand: Geometry

SOL 4.12 a,b	The student will a) define polygon; and b) identify polygons with 10 or fewer sides.
Essential Knowledge/Skills/Understandings	All students should <ul style="list-style-type: none"> ● Identify polygons with 10 or fewer sides in everyday situations. ● Identify polygons with 10 or fewer sides in multiple orientations (rotations, reflections, and translations of the polygons). The student will use problem solving, mathematical communication, mathematical reasoning, connections and representation to <ul style="list-style-type: none"> ● Define and identify properties of polygons with 10 or fewer sides. ● Identify polygons by name with 10 or fewer sides in multiple orientations (rotations, reflections, and translations of the polygons).
Essential Questions	
Primary Resources	Correlations Super Teacher Worksheets - Polygons & Quadrilaterals VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources Harcourt Resources Geometry is Everywhere http://exchange.smarttech.com/details.html?id=x5ff264baf3b8478489dfa6f50bd1fdb2 http://exchange.smarttech.com/details.html?id=xa24ac6a1091d474ab23425d353d4cad9 Polygon Review Polygon Family Tree Polygon Practice Instructional Polygon Power Point

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	<p>Websites www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.mathcats.com http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html Polygon Games Polygon Activities Games</p> <p>Lesson Plans Polygons Galore! Geometric Figures</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn http://www.vdoe.whro.org/math-strategies2/DOE_MATH_9/DOE_MATH_9.swf</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections Polygon Songs Teachers Pay Teachers Polygon Song School Tube Polygon Song</p>
Essential Vocabulary	<p>Polygon - two dimensional shape with straight sides; no curved sides Quadrilateral - polygon with 4 sides</p>

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	<p>Rectangle - quadrilateral with 4 right angles Square - rectangle with 4 sides of equal length Trapezoid - quadrilateral with exactly one pair of parallel sides Parallelogram - quadrilateral with both pairs of opposite sides parallel Rhombus - quadrilateral with 4 congruent sides Pentagon - polygon with 5 sides Hexagon - polygon with 6 sides Heptagon - polygon with 7 sides Octagon - polygon with 8 sides Nonagon - polygon with 9 sides Decagon - polygon with 10 sides</p>
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Marking Period: 3rd Nine Weeks

Days: 5

Reporting Category/Strand: Patterns, Functions, and Algebra

SOL 4.15	The student will recognize, create, and extend numerical and geometric patterns.
Essential Knowledge/Skills/Understandings	<p>All students should</p> <ul style="list-style-type: none"> ● Understand that patterns and functions can be represented in many ways and described using words, tables, graphs, and symbols. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Describe geometric and numerical patterns, using tables, symbols, or words. ● Create geometric and numerical patterns, using concrete materials, number lines, tables, and words. ● Extend geometric and numerical patterns, using concrete materials, number lines, tables, and words.
Essential Questions	
Primary Resources	<p>Correlations Super Teacher Worksheets - Picture Patterns Super Teacher Worksheets - Number Patterns VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources</p>

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[Harcourt Resources](#)

<http://exchange.smarttech.com/details.html?id=6234b97e1fb22c5af77ce9b444f61cfda732b326060663c26471ffe6ef56baa6>
<http://exchange.smarttech.com/details.html?id=f7af70affd123e2e29c006e4d2a30c7895c4dbbe9e03a2fdd6d4f0b668eb67b3>
<http://exchange.smarttech.com/details.html?id=x65234487a6b0434e85b34a6b965d204d>
<http://exchange.smarttech.com/details.html?id=a5631ecde922a5f9e0e240fce0f2dc888b79ef01a63111ce7c68199de47d4ee4>
<http://exchange.smarttech.com/details.html?id=09678c57919b023f1c666075f78319e0c88a0f6f7372a26eb537d828b07b60ea>
<http://exchange.smarttech.com/details.html?id=xcb06f17df5b04dc294496f2721845a9d>

[Christmas Bulb Activity](#)

[Input Output](#)

http://www.sps.k12.va.us/schools/nses/documents/SOL4.21Patterns_trickyversion.ppt

http://mathjourneys.com/slideshows/patterns_guided_practice.pptx

[Picture Patterns Power Point](#)

Websites

www.coolmath.com

www.multiplication.com/interactive-games.html

www.mathisfun.com

www.aaamath.com/index.html

www.mathcats.com

<http://illuminations.nctm.org/>

<http://ca.ixl.com/math/grade-4>

<http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html>

http://www.harcourtschool.com/menus/math2004/math2004_gr4.html

<http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm>

http://www.internet4classrooms.com/skills_4th_math.htm

<http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html>

<http://www.huneycutt.biz/math35/math35.html>

<http://www.mathisfun.com/>

[Millionaire Game](#)

Lesson Plans

<http://mathwire.com/algebra/growingpatterns.html>

<http://betterlesson.com/lesson/21386/finding-the-rule-to-a-pattern>

Videos

<http://studyjams.scholastic.com/studyjams/jams/math/index.htm>

[Watch Know Learn](#)

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	<p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections Pattern Songs</p>
Essential Vocabulary	<p>Geometric - involving shapes Numeric - involving numbers</p>

Marking Period: 4th Nine Weeks

Days: 5

Reporting Category/Strand: Measurement

SOL 4.7 a,b	<p>The student will</p> <p>a) estimate and measure length, and describe the result in both metric and U.S. Customary units; and</p> <p>b) identify equivalent measurements between units within the U.S. Customary system (inches and feet; feet and yards; inches and yards; yards and miles) and between units within the metric system (millimeters and centimeters; centimeters and meters; and millimeters and meters).</p>
Essential Knowledge/Skills/Understandings	<p>All students should</p> <ul style="list-style-type: none"> ● Use benchmarks to estimate and measure length. ● Understand how to convert units of length between the U.S. Customary and metric systems, using ballpark comparisons. ● Understand the relationship between U.S. Customary units and the relationship between metric units. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Determine an appropriate unit of measure (e.g., inch, foot, yard, mile, millimeter, centimeter, and meter) to use when measuring everyday objects in both metric and U.S. Customary units. ● Estimate the length of everyday objects (e.g., books, windows, tables) in both metric and U.S. Customary units of measure. ● Measure the length of objects in both metric and U.S. Customary units, measuring to the nearest inch ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$), foot, yard, mile, millimeter, centimeter, or meter, and record the length including the appropriate unit of measure (e.g., 24 inches). ● Compare estimates of the length of objects with the actual measurement of the length of objects. ● Identify equivalent measures of length between units within the U.S. Customary measurements and between units within the metric measurements.

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Essential Questions	
Primary Resources	<p>Correlations Super Teacher Worksheets - Length VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources Harcourt Resources Inch by Inch Lesson Metric Length Lesson Metric Conversion Lesson Conversion Practice http://springhill.cabe.k12.wv.us/webpages/sbarrac1/Units%20of%20Measure.ppt http://schoolwires.henry.k12.ga.us/30822025133413450/lib/30822025133413450/Which_unit_of_measurement.ppt http://www.bear.k12.mo.us/mpickney/Power%20Points/Customary%20Measurement.ppt http://star.spsk12.net/math/3/Dice_Bngo_customary_measurement.ppt http://www.lovetoteach.org/by-subject/science/mini-metric-olympics-packet.html</p> <p>Websites www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.mathcats.com http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html Length Millionaire Game Conversion Challenge Game http://sciencespot.net/Pages/classmetric.html</p> <p>Lesson Plans</p>

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	<p>Stick Figure Measurements</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn http://www.vdoe.whro.org/math-strategies2/DOE_MATH_10/DOE_MATH_10.swf http://www.vdoe.whro.org/math-strategies/FLA_DOE_10/FLA_DOE_10.swf</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections Measure Length Songs</p>
Essential Vocabulary	<p>Length - distance from one point to another Customary units - inches, feet, yards, miles Metric units - millimeters, centimeters, meters, kilometers</p>

Marking Period: 4th Nine Weeks

Days: 5

Reporting Category/Strand: Measurement

SOL 4.6 a,b	<p>The student will</p> <ul style="list-style-type: none"> a) estimate and measure weight/mass and describe the results in U.S. Customary and metric units as appropriate; and b) identify equivalent measurements between units within the U.S. Customary system (ounces, pounds, and tons) and between units within the metric system (grams and kilograms).
Essential Knowledge/Skills/Understandings	<p>All students should</p> <ul style="list-style-type: none"> ● Use benchmarks to estimate and measure weight/mass. ● Identify equivalent measures between units within the U.S. Customary and between units within the metric measurements. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Determine an appropriate unit of measure (e.g., ounce, pound, ton, gram, kilogram) to use when measuring ● everyday objects in both metric and U.S. Customary units. ● Measure objects in both metric and U.S. Customary units (e.g., ounce, pound, ton, gram, or kilogram) to the nearest appropriate measure, using a variety of measuring instruments.

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	<ul style="list-style-type: none"> ● Record the mass of an object including the appropriate unit of measure (e.g., 24 grams).
<p>Essential Questions</p>	
<p>Primary Resources</p>	<p>Correlations Super Teacher Worksheets - Weight Super Teacher Worksheets - Mass VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources Harcourt Resources http://sciencespot.net/Pages/classmetric.html</p> <p>Websites www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html Weight Millionaire http://star.spsk12.net/math/4/4_10_review/mathrev2.html http://www.studyzone.org/testprep/math4/d/measure4p.cfm http://www.oswego.org/ocsd-web/quiz/mquiz.asp?filename=ncarrol2prefixes http://chalk.richmond.edu/education/projects/webunits/measurement/ http://www.mathcats.com/explore/convert.html</p> <p>Lesson Plans This Fruit is a Mass</p>

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	<p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections</p>
Essential Vocabulary	<p>Mass - amount of matter in an object Weight - determined by pull of gravity of the mass of an object Customary units - ounces, pounds, tons Metric units - grams, kilograms</p>

Marking Period: 4th Nine Weeks

Days: 5

Reporting Category/Strand: Measurement

SOL 4.8 a,b	<p>The student will</p> <p>a) estimate and measure liquid volume and describe the results in U.S. Customary units; and</p> <p>b) identify equivalent measurements between units within the U.S. Customary system (cups, pints, quarts, and gallons).</p>
Essential Knowledge/Skills/Understandings	<p>All students should</p> <ul style="list-style-type: none"> ● Use benchmarks to estimate and measure volume. ● Identify equivalent measurements between units within the U.S. Customary system. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Determine an appropriate unit of measure (cups, pints, quarts, gallons) to use when measuring liquid volume in ● U.S. Customary units. ● Estimate the liquid volume of containers in U.S. Customary units of measure to the nearest cup, pint, quart, and gallon. ● Measure the liquid volume of everyday objects in U.S. Customary units, including cups, pints, quarts, and gallons, and record the volume including the appropriate unit of measure (e.g., 24 gallons). ● Identify equivalent measures of volume between units within the U.S. Customary system.
Essential Questions	

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Primary Resources	<p>Correlations Super Teacher Worksheets - Volume VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources Harcourt Resources Mr. Gallon Big G Review Liquid Measurement Review What's in a Gallon? Review http://mathjourneys.com/slideshows/measurement_liquid.pptx http://mathjourneys.com/slideshows/Measurement_SOL_410.pptx</p> <p>Websites www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.mathcats.com http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html</p> <p>Lesson Plans Kiddy Pool</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn http://www.vdoe.whro.org/math-strategies/FLA_DOE_7/FLA_DOE_7.swf</p>
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	<p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections</p>
Essential Vocabulary	<p>Volume - amount of liquid a container can hold Customary units - cups, pints, quarts, gallons</p>

Marking Period: 4th Nine Weeks

Days: 3

Reporting Category/Strand: Measurement

SOL 4.9	The student will determine elapsed time in hours and minutes within a 12-hour period.
Essential Knowledge/Skills/Understandings	<p>All students should</p> <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Determine the elapsed time in hours and minutes within a 12-hour period (times can cross between a.m. and p.m.). ● Solve practical problems in relation to time that has elapsed.
Essential Questions	
Primary Resources	<p>Correlations Super Teacher Worksheets - Elapsed Time VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources Harcourt Resources http://nlvm.usu.edu/en/nav/frames_asid_318_g_2_t_4.html http://www.mathsyear2000.org/magnet/minus3/trains/index.html http://www.quizville.com/whatTime.php http://www.mrmyers.org/Math_Mania/Math_Games/Jude_e-Clock/clock.htm http://www.quia.com/rr/225721.html http://exchange.smarttech.com/details.html?id=xb33d8e10e6ad406ab808251883db2559 http://www.smartboards.typepad.com/challenge4/elapsedtime.notebook</p>

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	<p>http://www.pasadenaisd.org/teachertoolbox/PPTs/Elapsed%20Time.ppt http://scott.k12.ms.us/schools/bmj/documents/MetricOlympicsElapsedTime.ppt http://www.rockingham.k12.va.us/resources/elementary/files/5Elapsedtime.kid Word Problem Cards</p> <p>Websites www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.mathcats.com http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html</p> <p>Lesson Plans http://www.nsa.gov/academia/files/collected_learning/elementary/geometry/elapsed_time2.pdf http://betterlesson.com/directory/upper/measurement</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections Elapsed Time Songs</p>
Essential Vocabulary	Elapsed time - amount of time that has passed between two given times

Marking Period: 4th Nine Weeks
Days: 5

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Reporting Category/Strand: Probability

<p>SOL 4.13 a,b</p>	<p>The student will</p> <ul style="list-style-type: none"> a) predict the likelihood of an outcome of a simple event; and b) represent probability as a number between 0 and 1, inclusive.
<p>Essential Knowledge/Skills/Understandings</p>	<p>All students should</p> <ul style="list-style-type: none"> ● Understand and apply basic concepts of probability. ● Describe events as likely or unlikely and discuss the degree of likelihood, using the terms certain, likely, equally likely, unlikely, and impossible. ● Predict the likelihood of an outcome of a simple event and test the prediction. ● Understand that the measure of the probability of an event can be represented by a number between 0 and 1, inclusive. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Model and determine all possible outcomes of a given simple event where there are no more than 24 possible outcomes, using a variety of manipulatives, such as coins, number cubes, and spinners. ● Write the probability of a given simple event as a fraction, where the total number of possible outcomes is 24 or fewer. ● Identify the likelihood of an event occurring and relate it to its fractional representation (e.g., impossible/0; equally likely/1/2 ; certain/1). ● Determine the outcome of an event that is least likely to occur (less than half) or most likely to occur (greater than half) when the number of possible outcomes is 24 or less. ● Represent probability as a point between 0 and 1, inclusively, on a number line.
<p>Essential Questions</p>	
<p>Primary Resources</p>	<p>Correlations</p> <p>Super Teacher Worksheets - Probability VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources Harcourt Resources http://www.shodor.org/interactivate/activities/ExpProbability/ http://www.harveyshomepage.com/Harveys_Homepage/Probability_Statistics_files/Probability%20with%20Kisses!.notebook http://technology.usd259.org/resources/whiteboards/smart-lessons/notebook_lessons/4thGradeMath-Probability.notebook http://www.mathwire.com/games/datagames.html</p>

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	<p>Websites www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.mathcats.com http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html http://www.bbc.co.uk/education/mathsfile/shockwave/games/fish.html http://jmathpage.com/JIMSProbabilitypage.html http://learningwave.com/chapters/probability/probability.html</p> <p>Lesson Plans How Certain Are You? Lucky Sums Spinning Color Looking for a Pet</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections Probability Songs</p>
Essential Vocabulary	<p>Probability - chance of an event happening Likelihood - probability; chance of event happening</p>

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Marking Period: 4th Nine Weeks

Days: 8

Reporting Category/Strand: Patterns, Functions, and Algebra

SOL 4.16a	<p>The student will</p> <p>a) recognize and demonstrate the meaning of equality in an equation</p>
<p>Essential Knowledge/Skills/Understandings</p>	<p>All students should</p> <ul style="list-style-type: none"> ● Understand that mathematical relationships can be expressed using equations. ● Understand that quantities on both sides of an equation must be equal. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> ● Recognize and demonstrate that the equals sign (=) relates equivalent quantities in an equation. ● Write an equation to represent equivalent mathematical relationships (e.g., $4 \times 3 = 2 \times 6$). ● Recognize and demonstrate appropriate use of the equals sign in an equation.
<p>Essential Questions</p>	
<p>Primary Resources</p>	<p>Correlations</p> <p>Super Teacher Worksheets - Equations VDOE Vocabulary Cards Scott Foresman Reteach Worksheets Scott Foresman Enrichment Worksheets Math Connects Resources Harcourt Resources</p> <p>Websites</p> <p>www.coolmath.com www.multiplication.com/interactive-games.html www.mathisfun.com www.aaamath.com/index.html www.mathcats.com http://illuminations.nctm.org/ http://ca.ixl.com/math/grade-4 http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.harcourtschool.com/menus/math2004/math2004_gr4.html http://www.westallegheny.k12.pa.us/mckee/math/grade4.htm</p>

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	<p>http://www.internet4classrooms.com/skills_4th_math.htm http://www.adaptedmind.com/Fourth-Grade-Math-Worksheets-And-Exercises.html http://www.huneycutt.biz/math35/math35.html</p> <p>Lesson Plans What's it Worth?</p> <p>Videos http://studyjams.scholastic.com/studyjams/jams/math/index.htm Watch Know Learn http://www.vdoe.whro.org/instruction/math_2011/grade_5_modeling_one-step_equations/DOE_PROPERTY_5.swf</p> <p>Literature/Music Connections http://libguides.bgsu.edu/mathlit Literature Connections Equations Songs</p>
Essential Vocabulary	<p>Equality - equal; same Equation - states two number sentences are equal; contains equal sign</p>