

# DRAFT

## Mathematics - Grade 4

### First Nine Weeks

S. C. Standards	Unpacked Standards/Focused Learning Statements	Time Estimate (1 day = 60 minutes)
NOIA1 - Explain the place value structure of whole numbers including periods (thousands, millions, billions, etc.).		1-2
NOIB1 - Write whole numbers in standard form, in expanded form, and in words.	A. Write whole numbers in standard form. B. Write whole numbers in expanded form. C. Write whole numbers in words.	1-2
NOIIC1 - Round whole numbers to the nearest 10,000, 100,000, and 1,000,000.		2-3
*NOIG1 - Determine the factors of a given number up to 50.		1
NOIIB1 - Explain the effect on the product when one of the factors is changed.		1
NOIID1 - Recognize commutativity in the multiplication facts.		1
*NOIID2 - Use the associative and distributive properties to multiply efficiently.	A. Use associative property to multiply efficiently. B. Use distributive property to multiply efficiently.	2
*NOIG2 - Determine common multiples of pairs of whole numbers each of which is less than or equal to 12.		2-3
AIB1 - Use variables to represent an unknown quantity using a letter or a symbol.	A. Use a letter (s) to represent an unknown quantity. B. Use a symbol to represent an unknown quantity.	2-3
*AIC1 - Use equations to represent relationships.		1-2
*NOIIC1 - Use the inverse relationships between multiplication and division to solve problems.		1
AIA1 - Using models and calculators, create, extend, and analyze numeric patterns (including decimal patterns through thousandths).	A. Using models (base 10 blocks) analyze and extend numeric patterns for whole numbers. B. Using models (base 10 blocks) create and extend numeric patterns of whole numbers. E. Using calculators analyze and extend numerical patterns for whole numbers. F. Using calculators create numerical patterns for whole numbers.	2-3
AIB1 - Describe and represent number relationships with tables.		1-2
*AIB2 - Determine the rule to identify missing numbers in a sequence or a table.	A. Determine rule to identify missing number in a sequence. B. Determine rule to identify missing number in a table.	1
NOIIB2 - Demonstrate fluency in the use of a multiplication algorithm and explain the steps involved.	A. Demonstrate fluency in the use of a multiplication algorithm. B. Explain the steps involved in a multiplication algorithm.	2-3

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S. C. Standards	Unpacked Standards/Focused Learning Statements	Time Estimate (1 day = 60 minutes)
NOIIC2 - Estimate and determine the reasonableness of the product of whole numbers (one factor with two digits or less and the other factor with three digits or less.		1-2
NOIIIA1 - Use basic number combinations to compute related problems in multiplication and division using multiples of 100 and 1,000.	A. Use basic number combinations to compute related problems in multiplication using multiples of 100 and 1000. B. Use basic number combinations to compute related problems in division.	1-2
NOIIA1 - Explain the meaning of a remainder.		1
NOIIC3 - Estimate the quotient with a one-digit divisor, a two-digit divisor, and multiples of 10 and determine the reasonableness of the results.	A. Estimate the quotient of whole numbers with a divisor that is a multiple of 10 and determine the reasonableness of the results. B. Estimate the quotient of whole numbers with a one-digit divisor and determine the reasonableness of the results.	1-2
NOIIB2 - Compare the size of the quotient to the dividends when dividing two whole numbers.		1
NOIID3 - Apply divisibility rules for 2, 5, and 10.		1-2
*NOIIB1 - Construct and analyze algorithms for all operations on whole numbers.	A. Construct and analyze algorithms for addition. B. Construct and analyze algorithms for subtraction. C. Construct and analyze algorithms for multiplication. D. Construct and analyze algorithms for division.	1-2
*NOIIF1 - Explain why a particular method or tool may be the most appropriate one to use in solving a given problem.		1

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## Mathematics - Grade 4 Second Nine Weeks

S. C. Standards	Unpacked Standards/Focused Learning Statements	Time Estimate (1 day = 60 minutes)
*MIIB4 - Using analog and digital clocks, tell time to the nearest minute and to the nearest five-minute interval, including use of a.m. and p.m.	<ul style="list-style-type: none"> <li>A. Using an analog clock tell time to the nearest minute (including a.m. and p.m.).</li> <li>B. Using an analog clock tell time to the nearest 5-minute interval (including a.m. and p.m.).</li> <li>C. Using a digital clock tell time to the nearest minute (including a.m. and p.m.).</li> <li>D. Using a digital clock tell time to the nearest 5-minute interval (including a.m. and p.m.).</li> </ul>	1
MIC2 - Convert units of time including days, hours, minutes and seconds.		1
MIIB3 - Determine the amount of elapsed time in hours and minutes within a twelve-hour period.		1
MIA1 - Apply counting procedures to estimate measurements of length, area, volume, and weight/mass.	<ul style="list-style-type: none"> <li>A. Apply counting procedures to estimate measurements of length.</li> <li>C. Apply counting procedures to estimate measurements of volume.</li> <li>D. Apply counting procedures to estimate measurements of weight/mass.</li> </ul>	1-2
MIIB1 - Estimate the distance to objects or places and determine the amount of various units of time (minutes, hours, days, week, etc.) it will take to reach these objects.	<ul style="list-style-type: none"> <li>A. Estimate the distance to objects or places.</li> <li>B. Determine appropriate unit of time (minutes, hours, days, weeks, etc.) it will take to reach object/place.</li> </ul>	1-2
*MIC1 - Convert units of measure within the metric system: length (centimeters, meters, kilometers), mass (grams, kilograms), and capacity (milliliters, liters); and within the customary system: length (inches, feet, yards), weight (ounces, pounds), and liquid volume (cups, pints, quarts, gallons).	<ul style="list-style-type: none"> <li>A. Convert units of measure within the metric system for:                             <ul style="list-style-type: none"> <li>1. Length (cm,m,km)</li> <li>2. Mass (g, kg)</li> <li>3. Capacity (ml,l)</li> </ul> </li> <li>B. Convert units of measure within the customary system                             <ul style="list-style-type: none"> <li>1. Length (inches, feet, yards)</li> <li>2. Weight (ounces, pounds)</li> <li>3. Liquid volume (cups, pints, quarts and gallons)</li> </ul> </li> </ul>	3-4
MIA4 - Select units appropriate for the attributes being measured (length and area) and explain the basis for the selection.	<ul style="list-style-type: none"> <li>A. Select units appropriate for the attributes being measured (length) and explain the basis for the selection.</li> </ul>	1
*MIIB2 - Select and use an appropriate tool to measure liquid volume including pints and quarts.		1
MIIB5 - Determine temperature changes during time intervals from a Celsius thermometer and a Fahrenheit thermometer.		1

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## Mathematics - Grade 4 Second Nine Weeks

S. C. Standards	Unpacked Standards/Focused Learning Statements	Time Estimate (1 day = 60 minutes)
NOIF1 - Identify situations in which numbers less than 0 are used.		1
*AIVB1 - Using charts and graphs, describe changes over time as increasing, decreasing, and varying.	A. Using charts describe changes overtime as increasing, decreasing or varying.	1-2
NOIC1 - Describe fractional parts of collections of objects.		1-2
NOIE1 - Write equivalent forms of commonly used fractions.		1-2
NOIC2 - Locate points on a number line corresponding to a unit fraction and its multiples between 0 & 1.	A. Locate points on a number line corresponding to a unit fraction. B. Locate points on a number line corresponding to its multiples between 0 and 1.	1
NOID1 - Relate the size of fractions to the benchmark fractions of 0, 1/2, and 1.	A. Relate the size of fractions to the benchmark fraction 0. B. Relate the size of fractions to the benchmark fraction 1/2. C. Relate the size of fractions to the benchmark fraction 1.	1-2
NOID2 - Compare concrete or pictorial models of fractions using the symbols $>$ , $<$ , and $=$ .		1-2
*NOIE3 - Identify and represent common fraction-decimal equivalents.	A. Identify common fraction - decimal equivalents. B. Represent common fraction-decimal equivalents.	2-3
NOIE2 - Write equivalent forms of decimals.		1
AIA1 - Using models and calculators, create, extend, and analyze numeric patterns (including decimal patterns through thousandths).	C. Decimal patterns (tenths, hundredths, and thousandths). D. Using models (decimal squares) create decimal patterns (tenths, hundredths and thousandths). G. Using calculators analyze and extend decimal patterns (tenths, hundredths and thousandths). H. Using calculators create decimal patterns (tenths, hundredths and thousandths).	3-4
*NOIA2 - Compare decimals (through hundredths) using symbols ( $>$ , $<$ , and $=$ ) and words (is greater than, is less than, and equals).	A. Compare decimals (through hundredths) using symbols ( $>$ , $<$ , $=$ ). B. Compare decimals (through hundredths) using words (is greater than, is less than, and equals).	1-2
NOIIE1 - Add and subtract decimals through hundredths using concrete and pictorial models.	A. Add decimals through hundredths using concrete and pictorial models. B. Subtract decimals through hundredths using concrete and pictorial models.	2-3

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## Mathematics - Grade 4 Second Nine Weeks

S. C. Standards	Unpacked Standards/Focused Learning Statements	Time Estimate (1 day = 60 minutes)
NOIID1 - Round decimals to the nearest tenth and hundredth.		2-3
NOIIC4 - Refine estimates using terms such as closer to, between, and a little more than.		1
NOIID2 - Develop and use strategies to estimate sum and difference of decimals.	A. Develop and use strategies to estimate sum of decimals. B. Develop and use strategies to estimate difference of decimals.	1-2

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## Mathematics - Grade 4

### Third Nine Weeks

S. C. Standards	Unpacked Standards/Focused Learning Statements	Time Estimate (1 day = 60 minutes)
DAIA1 - Develop strategies for administering a simple survey to obtain unbiased results.		1
DAIB1 - Systematically collect data using surveys.		1-2
DAIIB1 - Use the mode to describe a set of categorical data.		1
DAIC1 - Construct bar graphs for collected data sets with scale increments of one or greater.	A. Construct bar graphs for data set with scale increments of one. B. Construct bar graphs for data set with scale increments of greater than one.	2-3
*DAIC2 - Read and interpret information from tables, line graphs, and bar graphs.	A. Read and interpret information from tables. B. Read and interpret information from line graphs. C. Read and interpret information from bar graphs.	2-3
DAID1 - Describe types of graphs that may be used to represent categorical data.		1
DAID2 - Describe types of graphs that may be used to represent numerical data.		1
DAIIC1 - Compare the line graph and bar graph representations of a given data set and explain the benefits of each.	A. Compare line graphs and bar graphs. B. Explain the benefits of line graphs. C. Explain the benefits of bar graphs.	2-3
*AIVB1 - Using charts and graphs, describe changes over time as increasing, decreasing, and varying.	B. Using graphs describe changes over time as increasing, decreasing or varying.	2-3
AIVA1 - Describe how a rate of growth varies over time.		1
DAIIIA1 - Use line graphs to make conjectures about populations based on data sets.		1-2
DAIIA1 - Compare the shapes of graphs of two different numerical data sets that address the same question for different populations.		2
DAIVB1 - Using models, determine the probability of a given simple event.		1
*DAIVC1 - Give examples of events for which the probability is a fraction between 0 and 1 inclusive and explain.	A. Give examples of events for which the probability is a fraction between 0 and 1 inclusive. B. Explain why the probability of an event is a fraction between 0 and 1 inclusive.	2

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### Third Nine Weeks

S. C. Standards	Unpacked Standards/Focused Learning Statements	Time Estimate (1 day = 60 minutes)
DAIVA1 - Record the outcomes of a multiple-stage event (e.g., tossing two coins), explain the method used, and determine whether the outcomes are equally likely.		2-3
DAIVB2 - Construct tree diagrams to list the possible outcomes for multiple-stage events (e.g., tossing two coins).		2
GIVA1 - Draw and label representations of points, lines, line segments, rays, and angles, using mathematical notation.		2-3
*MIA2 - Investigate and compare angle measures using models and manipulatives with angles of measure 45 degrees, 90 degrees, and 180 degrees.		2-3
*GIA1 - Choose appropriate models of two- and three-dimensional shapes from descriptions of attributes	A. Choose appropriate models of two-dimensional shapes from descriptions of attributes.	1-2
*GIB1 - Classify triangles by lengths of sides (scalene, isosceles, and equilateral) and sizes of angles (acute, obtuse, and right).	A. Classify triangles by lengths of sides (scalene, isosceles, equilateral). B. Classify triangles by sizes of angles (acute, obtuse, right).	2-3
GIVB3 - Given a verbal description, draw two-or three-dimensional objects.	A. Given a verbal description, draw a two-dimensional object.	1
*GIVB1 - Write a description of a given three-dimensional object.		1

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## Mathematics - Grade 4 Fourth Nine Weeks

S. C. Standards	Unpacked Standards/Focused Learning Statements	Time Estimate (1 day = 60 minutes)
*MIA3 - Using models, find the area of geometric shapes.		2-3
*MIID1 - Use concrete and graphic models to discover formulas for finding the area of common two-dimensional shapes.		1-2
MIA4 - Select units appropriate for the attributes being measured (length and area) and explain the basis for the selection.	B. Select units appropriate for the attributes being measured (area) and explain the basis for the selection.	1
MIIA1 - Develop and describe strategies for estimating the area and perimeter of irregular shapes using manipulatives (e.g., geoboards, square tiles, graphic representations).		2-3
*GIA1 - Choose appropriate models of two- and three-dimensional shapes from descriptions of attributes	B. Choose appropriate models of three-dimensional shapes from descriptions of attributes.	2-3
*GIVC1 - Identify and build rectangular prisms and cylinders from a given two-dimensional representation (net).		1
GIVD1 - Identify and build a two-dimensional representation (net) of a given rectangular prism.		1
GIIB2 - Identify and name points on a coordinate grid using an ordered pair of whole numbers.	A. Identify points on a coordinate grid using an ordered pair of whole numbers. B. Name points on a coordinate grid using an ordered pair of whole numbers.	1-2
*GIIB1 - Investigate possible paths from one point to another along vertical and horizontal grid-lines.		1-2
GIVB2 - Describe a path along grid lines from one point to another.		1
GIIA1 - Describe location and movement using common language and geometric vocabulary and illustrate both with and without technology.	A. Describe location using common language. B. Describe location using geometric vocabulary. C. Describe movement using common language. D. Describe movement using geometric vocabulary. E. Illustrate location and movement without technology (coordinate grid, map). F. Illustrate location and movement with technology.	1-2



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## Mathematics - Grade 4 Fourth Nine Weeks

S. C. Standards	Unpacked Standards/Focused Learning Statements	Time Estimate (1 day = 60 minutes)
GIIIA1 - Using models describe the results of translations (slides), reflections (flips) and rotations (turns).	A. Using models describe the results of translations (slides). B. Using models describe the results of reflections (flips). C. Using models describe the results of rotations (turns).	2-3
GIIIB1 - Draw two-dimensional shapes that are related by translation (slide) or reflection (flip).	A. Draw two-dimensional shapes that are related by translation (slide). B. Draw two-dimensional shapes that are related by reflection (flip).	1-2
GIIIB2 - Given a shape and its translation (slide) or reflection (flip) describe the motion that has been applied.		1
GIC1 - Subdivide two-dimensional shapes to form new shapes and draw conclusions about area and fractional relationships.	A. Subdivide two-dimensional shapes and form new shapes and draw conclusions about area. B. Subdivide two-dimensional shapes and form new shapes and draw conclusions about fractional relationships.	1-2
GIE1 - Using models and mathematical vocabulary, make and test conjectures about geometric properties and relationships and explain the conclusions.	A. Using models make and test conjectures about geometric properties and explain conclusions. B. Using models make and test conjectures about geometric relationships and explain conclusions. C. Using mathematical vocabulary, make and test conjectures about geometric properties and explain conclusions. D. Using mathematical vocabulary make and test conjectures about geometric relationships and explain conclusions.	2-3
GIIIA2 - Using models and technology, create simple tessellations.	A. Using models create simple tessellations. B. Using technology create simple tessellations.	1-2
GIVF1 - Connect geometry to other areas of mathematics, to other disciplines, and to the world outside the classroom.		1
NOIIC3 - Estimate the quotient of whole numbers with a one-digit divisor, a two-digit divisor, and multiples of 10 and determine the reasonableness of results.	C. Estimate the quotient of whole numbers with a two-digit divisor and determine the reasonableness of the results.	1-2