

**Correlation of Glencoe TechCONNECT to
Virginia Mathematics Standards of Learning
Grades 6, 7, and 8**

Mathematics: Grade Six

Content Standard	Glencoe TechCONNECT Activities
Number and Number Sense	
6.1 The student will identify representations of a given percent and describe orally and in writing the equivalence relationships among fractions, decimals, and percents.	AC116, AC117
6.2 The student will describe and compare two sets of data, using ratios, and will use appropriate notations, such as a/b, a to b, and $a:b$.	AC080, AC082, AC116, AC117
6.3 The student will	
a) find common multiples and factors, including least common multiple and greatest common factor;	
b) identify and describe prime and composite numbers; and identify and describe the characteristics of even and odd integers.	AC080
6.4 The student will compare and order whole numbers, fractions, and decimals, using concrete materials, drawings or pictures, and mathematical symbols.	AC082, AC116, AC117
6.5 The student will identify, represent, order, and compare integers.	AC082
Computation and Estimation	
6.6 The student will	
a) solve problems that involve addition, subtraction, multiplication, and/or division with fractions and mixed numbers, with and without regrouping, that include like and unlike denominators of 12 or less, and express their answers in simplest form; and	AC065, AC112, AC116
b) find the quotient, given a dividend expressed as a decimal through thousandths and a divisor expressed as a decimal to thousandths with exactly one non-zero digit.	AC123

Content Standard	Glencoe TechCONNECT Activities
6.7 The student will use estimation strategies to solve multistep practical problems involving whole numbers, decimals, and fractions (rational numbers).	AC110
6.8 The student will solve multistep consumer-application problems involving fractions and decimals and present data and conclusions in paragraphs, tables, or graphs. Planning a budget will be included.	AC082, AC101, AC110
Measurement	
6.9 The student will compare and convert units of measure for length, area, weight/mass, and volume within the U.S. Customary system and the metric system and estimate conversions between units in each system:	AC065
a) length—part of an inch (1/2, 1/4, and 1/8), inches, feet, yards, miles, millimeters, centimeters, meters, and kilometers;	AC065
b) weight/mass—ounces, pounds, tons, grams, and kilograms;	AC065
c) liquid volume—cups, pints, quarts, gallons, milliliters, and liters; and	AC065
d) area—square units. * * The intent of this standard is for students to make ballpark comparisons and not to memorize conversion factors between U.S. Customary and metric units.	AC065, AC112
6.10 The student will estimate and then determine length, weight/mass, area, and liquid volume/capacity, using standard and nonstandard units of measure.	AC065
6.11 The student will determine if a problem situation involving polygons of four or fewer sides represents the application of perimeter or area and apply the appropriate formula.	AC112
6.12 The student will	
a) solve problems involving the circumference and/or area of a circle when given the diameter or radius; and	AC119, AC124
b) derive approximations for pi (π) from measurements for circumference and diameter, using concrete materials or computer models.	

Content Standard	Glencoe TechCONNECT Activities
6.13 The student will	
a) estimate angle measures, using 45°, 90°, and 180° as referents, and use the appropriate tools to measure the given angles; and	AC124
b) measure and draw right, acute, and obtuse angles and triangles.	AC112
Geometry	
6.14 The student will identify, classify, and describe the characteristics of plane figures, describing their similarities, differences, and defining properties.	AC078, AC112, AC124
6.15 The student will determine congruence of segments, angles, and polygons by direct comparison, given their attributes. Examples of noncongruent and congruent figures will be included.	AC112, AC124
6.16 The student will construct the perpendicular bisector of a line segment and an angle bisector.	
6.17 The student will sketch, construct models of, and classify solid figures (rectangular prism, cone, cylinder, and pyramid).	
Probability and Statistics	
6.18 The student, given a problem situation, will collect, analyze, display, and interpret data in a variety of graphical methods, including	AC009, AC016, AC034, AC037, AC039, AC042, AC043, AC049, AC071, AC080, AC082, AC087, AC100, AC101, AC102, AC110, AC111, AC113, AC114, AC116, AC117, AC119, AC120, AC122, AC123, AC155
a) line, bar, and circle graphs; (Circle graphs will be limited to halves, fourths, and eighths.)	AC009, AC016, AC034, AC037, AC039, AC042, AC043, AC049, AC071, AC080, AC082, AC087, AC100, AC101, AC102, AC110, AC111, AC113, AC114, AC116, AC117, AC119, AC120, AC122, AC123, AC155
b) stem-and-leaf plots; and	
c) box-and-whisker plots.	
6.19 The student will describe the mean, median, and mode as measures of central tendency, describe the range, and determine their meaning for a set of data.	AC082
6.20 The student will	

Content Standard	Glencoe TechCONNECT Activities
a) make a sample space for selected experiments and represent it in the form of a list, chart, picture, or tree diagram; and	AC003
b) determine and interpret the probability of an event occurring from a given sample space and represent the probability as a ratio, decimal or percent, as appropriate for the given situation.	AC039, AC116, AC155
Patterns, Functions, and Algebra	
6.21 The student will investigate, describe, and extend numerical and geometric patterns, including triangular numbers, patterns formed by powers of 10, and arithmetic sequences.	AC078, AC124
6.22 The student will investigate and describe concepts of positive exponents, perfect squares, square roots, and, for numbers greater than 10, scientific notation. Calculators will be used to develop exponential patterns.	
6.23 The student will	
a) model and solve algebraic equations, using concrete materials;	
b) solve one-step linear equations in one variable, involving whole number coefficients and positive rational solutions; and	AC122
c) use the following algebraic terms appropriately: <i>variable</i> , <i>coefficient</i> , <i>term</i> , and <i>equation</i> .	AC122

Mathematics: Grade Seven

Content Standard	Glencoe TechCONNECT Activities
Number and Number Sense	
7.1 The student will compare, order, and determine equivalent relationships between fractions, decimals, and percents, including use of scientific notation for numbers greater than 10.	AC042, AC043, AC113, AC114, AC116, AC117
7.2 The student will simplify expressions that contain rational numbers (whole numbers, fractions, and decimals) and positive exponents, using order of operations, mental mathematics, and appropriate tools.	AC003, AC111, AC119
7.3 The student will identify and apply the following properties of operations with real numbers:	AC045, AC082, AC111, AC114
a) the commutative and associative properties for addition and multiplication;	AC045, AC082
b) the distributive property;	AC114
c) the additive and multiplicative identity properties;	
d) the additive and multiplicative inverse properties; and	AC111
e) the multiplicative property of zero.	
Computation and Estimation	
7.4 The student will	
a) solve practical problems using rational numbers (whole numbers, fractions, decimals) and percents; and	AC112, AC113, AC114, AC117, AC155
b) solve consumer-application problems involving tips, discounts, sales tax, and simple interest.	AC045, AC113, AC114
7.5 The student will formulate rules for and solve practical problems involving basic operations (addition, subtraction, multiplication, and division) with integers.	AC041, AC049, AC080, AC082
7.6 The student will use proportions to solve practical problems, which may include scale drawings, that contain rational numbers (whole numbers, fractions, and decimals) and percents.	AC095, AC112, AC119

Content Standard	Glencoe TechCONNECT Activities
Measurement	
7.7 The student, given appropriate dimensions, will	
a) estimate and find the area of polygons by subdividing them into rectangles and right triangles; and	AC112
b) apply perimeter and area formulas in practical situations.	AC112
7.8 The student will investigate and solve problems involving the volume and surface area of rectangular prisms and cylinders, using concrete materials and practical situations to develop formulas.	AC003
Geometry	
7.9 The student will compare and contrast the following quadrilaterals: parallelogram, rectangle, square, rhombus, and trapezoid. Deductive reasoning and inference will be used to classify quadrilaterals.	AC112
7.10 The student will identify and draw the following polygons: pentagon, hexagon, heptagon, octagon, nonagon, and decagon.	AC112
7.11 The student will determine if geometric figures—quadrilaterals and triangles—are similar and write proportions to express the relationships between corresponding parts of similar figures.	AC112
7.12 The student will identify and graph ordered pairs in the four quadrants of a coordinate plane.	AC080
7.13 The student, given a polygon in the coordinate plane, will represent transformations—rotation and translation—by graphing the coordinates of the vertices of the transformed polygon and sketching the resulting figure.	AC078, AC112, AC124
Probability and Statistics	
7.14 The student will investigate and describe the difference between the probability of an event found through simulation versus the theoretical probability of that same event.	AC039, AC116, AC155

Content Standard	Glencoe TechCONNECT Activities
7.15 The student will identify and describe the number of possible arrangements of several objects, using a tree diagram or the Fundamental (Basic) Counting Principle.	
7.16 The student will create and solve problems involving the measures of central tendency (mean, median, mode) and the range of a set of data.	AC082
7.17 The student, given a problem situation, will collect, analyze, display, and interpret data, using a variety of graphical methods, including	AC009, AC016, AC034, AC037, AC039, AC041, AC042, AC043, AC045, AC049, AC059, AC071, AC100, AC102, AC123
a) frequency distributions;	
b) line plots;	AC039, AC049, AC122
c) histograms;	
d) stem-and-leaf plots;	
e) box-and-whisker plots; and	
f) scattergrams.	
7.18 The student will make inferences, conjectures, and predictions based on analysis of a set of data.	AC039, AC116, AC155
Patterns, Functions, and Algebra	
7.19 The student will represent, analyze, and generalize a variety of patterns, including arithmetic sequences and geometric sequences, with tables, graphs, rules, and words in order to investigate and describe functional relationships.	AC009, AC016, AC034, AC037, AC039, AC042, AC043, AC049, AC071, AC080, AC082, AC087, AC100, AC101, AC102, AC110, AC111, AC113, AC114, AC116, AC117, AC119, AC120, AC122, AC123, AC155
7.20 The student will write verbal expressions as algebraic expressions and sentences as equations.	AC003, AC110, AC111, AC113, AC114, AC119, AC123
7.21 The student will use the following algebraic terms appropriately: equation, inequality, and expression.	
7.22 The student will	
a) solve one-step linear equations and inequalities in one variable with strategies involving inverse operations and integers, using concrete materials, pictorial representations, and paper and pencil; and	AC122

Content Standard	Glencoe TechCONNECT Activities
b) solve practical problems requiring the solution of a one-step linear equation.	AC111 , AC122

Mathematics: Grade Eight

Content Standard	Glencoe TechCONNECT Activities
Number and Number Sense	
8.1 The student will	
a) simplify numerical expressions involving positive exponents, using rational numbers, order of operations, and properties of operations with real numbers;	AC114, AC123
b) recognize, represent, compare, and order numbers expressed in scientific notation; and	
c) compare and order decimals, fractions, percents, and numbers written in scientific notation.	
8.2 The student will describe orally and in writing the relationship between the subsets of the real number system.	
Computation and Estimation	
8.3 The student will solve practical problems involving rational numbers, percents, ratios, and proportions. Problems will be of varying complexities and will involve real-life data, such as finding a discount and discount prices and balancing a checkbook.	AC082, AC110, AC113, AC114
8.4 The student will apply the order of operations to evaluate algebraic expressions for given replacement values of the variables. Problems will be limited to positive exponents.	AC114, AC122, AC123
8.5 The student, given a whole number from 0 to 100, will identify it as a perfect square or find the two consecutive whole numbers between which the square root lies.	
Measurement	
8.6 The student will verify by measuring and describe the relationships among vertical angles, supplementary angles, and complementary angles and will measure and draw angles of less than 360°.	AC124

Content Standard	Glencoe TechCONNECT Activities
8.7 The student will investigate and solve practical problems involving volume and surface area of rectangular solids (prisms), cylinders, cones, and pyramids.	AC003
Geometry	
8.8 The student will apply transformations (rotate or turn, reflect or flip, translate or slide, and dilate or scale) to geometric figures represented on graph paper. The student will identify applications of transformations, such as tiling, fabric design, art, and scaling.	AC078, AC112, AC124
8.9 The student will construct a three-dimensional model, given the top, side, and/or bottom views.	
8.10 The student will	
a) verify the Pythagorean Theorem, using diagrams, concrete materials, and measurement; and	
b) apply the Pythagorean Theorem to find the missing length of a side of a right triangle when given the lengths of the other two sides.	
Probability and Statistics	
8.11 The student will analyze problem situations, including games of chance, board games, or grading scales, and make predictions, using knowledge of probability.	AC039, AC041, AC116
8.12 The student will make comparisons, predictions, and inferences, using information displayed in frequency distributions; box-and-whisker plots; scattergrams; line, bar, circle, and picture graphs; and histograms.	AC009, AC016, AC034, AC037, AC039, AC042, AC043, AC049, AC071, AC080, AC082, AC087, AC100, AC101, AC102, AC110, AC111, AC113, AC114, AC116, AC117, AC119, AC120, AC122, AC123, AC155
8.13 The student will use a matrix to organize and describe data.	AC033, AC034, AC037, AC041, AC042, AC045, AC049, AC100, AC116, AC120, AC123
Patterns, Functions, and Algebra	
8.14 The student will	

Content Standard	Glencoe TechCONNECT Activities
a) describe and represent relations and functions, using tables, graphs, and rules; and	AC009, AC016, AC034, AC037, AC039, AC042, AC043, AC049, AC071, AC080, AC082, AC087, AC100, AC101, AC102, AC110, AC111, AC113, AC114, AC116, AC117, AC119, AC120, AC122, AC123, AC155
b) relate and compare tables, graphs, and rules as different forms of representation for relationships.	AC009, AC016, AC034, AC037, AC039, AC042, AC043, AC049, AC071, AC080, AC082, AC087, AC100, AC101, AC102, AC110, AC111, AC113, AC114, AC116, AC117, AC119, AC120, AC122, AC123, AC155
8.15 The student will solve two-step equations and inequalities in one variable, using concrete materials, pictorial representations, and paper and pencil.	AC122
8.16 The student will graph a linear equation in two variables, in the coordinate plane, using a table of ordered pairs.	AC080, AC122, AC155
8.17 The student will create and solve problems, using proportions, formulas, and functions.	AC003, AC065, AC087, AC110, AC111, AC113, AC114, AC116, AC117, AC119, AC120, AC122, AC123
8.18 The student will use the following algebraic terms appropriately: <i>domain, range, independent variable, and dependent variable.</i>	AC122