

# Correlations to Glencoe McGraw-Hill, Algebra 1

Correlated Lesson	Exploring Algebra 1 with The Geometer's Sketchpad		
	Unit	Activity	Description
1.2	3	Order of Operations	Explore how mathematical communication requires agreement on certain rules.
1.4	1	Mystery Machines	Figure out where 0 and 1 are located on these machines, or what operations they perform.
1.4	1	Identity Elements and Inverses	Determine which operations have identity elements and inverses and which do not.
1.5	3	The Distributive Property	A visual model brings the distributive property to life.
1.5	3	The Distributive Property: A Painting Dilemma	A Student Activities Committee project leads to a mathematical principle.
1.6	1	The Commutative Property	Use a dynamic model to determine which algebraic operations are commutative.
1.6	1	The Associative Property	Use a dynamic model to determine which algebraic operations are associative.
2.2	1	Adding Integers	Add positive and negative integers using a visual model.
2.2	1	Subtracting Integers	Subtract positive and negative integers using a visual model.
2.3	1	Multiple Models of Multiplication	Look at multiplication in four very different ways.
3.2	4	Solving Linear Equations by Balancing	Manipulate a balance model and use it to solve equations.
3.2	4	Solving Linear Equations by Undoing	Use a visual model and inverse operations to solve equations.
3.6	2	Ratio and Proportion	Explore ratios and proportions involving side lengths of rectangles.
4.1	5	Coordinates: The Fly on the Ceiling	Measure coordinates and plot points with the help of a fly on Descartes' ceiling.
4.1	5	The Origin: Center of the World	Work with the origin and negative coordinates, identify the quadrants, and draw figures.
4.5	6	Direct Variation	Build a geometric model to study direct variation.
4.5	6	The Standard Form of a Line	Explore the effects of $a$ , $b$ , and $c$ on the graph of a line expressed in the form $ax + by = c$ .
5.1	5	Points Lining Up in the Plane	Find points that satisfy algebraic rules and write rules to describe sets of points.
5.1	5	The Slope of a Line	Explore the relationship between the slope of a line and the points that determine the line.
5.1	5	The Slope Game	Construct and play a game involving lines and slope measurements.
5.1	5	How Slope is Measured	Connect an intuitive sense of slope to specific calculations based on coordinates.
5.1	5	More Slope Games	Acquire an intuitive feel for slope by playing four different games involving slopes.

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5.2	6	Direct Variation	Build a geometric model to study direct variation.
5.3	6	The Slope-Intercept Form of a Line	Plot points determined by $y = mx + b$ and construct the resulting line and families of lines. This activity is also available in the <b>Supplemental Activities</b> folder using the form $y = a + bx$ .
5.4	6	The Slope-Intercept Form of a Line	Plot points determined by $y = mx + b$ and construct the resulting line and families of lines. This activity is also available in the <b>Supplemental Activities</b> folder using the form $y = a + bx$ .
5.5	6	The Point-Slope Form of a Line	Examine the effect of each constant on the graph of an equation in the form $y = m(x - h) + k$ . This activity is also available in the <b>Supplemental Activities</b> folder using the form $y = y_1 + b(x - x_1)$ .
5.6	5	Slopes of Parallel and Perpendicular Lines	Experiment and draw conclusions about the slopes of parallel and perpendicular lines.
5.7	6	Lines of Fit	Approximate a line of best fit to a number of data points, and use the line to make an estimate.
6.1	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.
6.2	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.
6.2	7	Modeling with Quadratic Equations: Where Are the Giant Ants?	Explore issues of scale to better understand quadratic and linear relationships.
6.4	4	Solving Compound Inequalities	Substitute many values quickly to solve compound inequalities.
8.2	2	Exponents	Learn principles of exponents by experimenting with repeated multiplication.
8.7	3	The Product of Two Binomials	Use tiles to model multiplication of binomials.
8.7	3	Squaring Binomials	Use dynamic algebra tiles to connect algebraic and geometric squares.
9.3	7	Factoring Trinomials	Factor trinomials using algebra tiles and investigate the role of the coefficients.
10.1	7	Modeling with Quadratic Equations: Where Are the Giant Ants?	Explore issues of scale to better understand quadratic and linear relationships.
11.1–2	3	Squares and Square Roots	Explore squares and square roots using virtual dot paper.
11.4	5	The Pythagorean Theorem	Verify the Pythagorean theorem using coordinates and develop the distance formula.
11.6	2	Proportions in Similar Triangles	Use ratio and proportion in triangles to determine inaccessible distances.
12.1	6	Inverse Variation	Plot $(x, y)$ points representing an inverse relationship, and then plot a family of curves.