

Correlations to Key Curriculum Press, Discovering Algebra: An Investigative Approach, First Edition

Correlated Lesson	Exploring Algebra 1 with The Geometer's Sketchpad		
	Unit	Activity	Description
0.1	2	Fractals and Ratios	Explore the fractions that occur in fractals.
0.2	2	Fractals and Ratios	Explore the fractions that occur in fractals.
0.3	2	Fractals and Ratios	Explore the fractions that occur in fractals.
0.5	2	The Chaos Game	Produce striking results by randomly applying ratios.
2.1	2	Ratio and Proportion	Explore ratios and proportions involving side lengths of rectangles.
2.1	2	The Golden Rectangle and Ratio	Construct the ratio while building rectangles and spirals.
3.2	6	Direct Variation	Build a geometric model to study direct variation.
3.3	2	Proportions in Similar Triangles	Use ratio and proportion in triangles to determine inaccessible distances.
3.4	6	Inverse Variation	Plot (x, y) points representing an inverse relationship, and then plot a family of curves.
4.1	3	Order of Operations	Explore how mathematical communication requires agreement on certain rules.
4.1	3	The Distributive Property	A visual model brings the distributive property to life.
4.1	3	The Distributive Property: A Painting Dilemma	A Student Activities Committee project leads to a mathematical principle.
4.2	4	Undoing Operations	Use inverse operations in a visual model to undo an algebraic expression.
4.6	6	The Slope-Intercept Form of a Line	Plot points determined by $y = a + bx$ and construct the resulting line and families of lines. This activity is located in the Supplemental Activities folder on the CD.
4.8	4	Solving Linear Equations by Balancing	Manipulate a balance model and use it to solve equations.
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	More Slope Games	Acquire an intuitive feel for slope by playing four different games involving slopes.
5.2	6	Lines of Fit	Approximate a line of best fit to a number of data points, and use the line to make an estimate.
5.3	6	The Point-Slope Form of a Line	Examine the effect of each constant on the graph of an equation in the form $y = y_1 + b(x - x_1)$. This activity is located in the Supplemental Activities folder on the CD.
5.4	1	The Commutative Property	Use a dynamic model to determine which algebraic operations are commutative.

Correlated Lesson	Exploring Algebra 1 with The Geometer's Sketchpad		
	Unit	Activity	Description
5.4	1	The Associative Property	Use a dynamic model to determine which algebraic operations are associative.
5.4	3	Equivalent Expressions	Compare expressions to determine which are equivalent.
5.4	3	Equivalent Expressions: The Border Problem	Invent a variety of equivalent expressions for a real-world problem.
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 $y = y_1 + b(x - x_1)$. This activity is located in the Supplemental Activities folder on the CD.
5.6–7	6	Lines of Fit	Approximate a line of best fit to a number of data points, and use the line to make an estimate.
7.2	2	Length of the Koch Curve	Investigate the ratio of similarity in this self-similar curve.
7.3	2	Exponents	Learn principles of exponents by experimenting with repeated multiplication.
7.5	2	Exponents	Learn principles of exponents by experimenting with repeated multiplication.
7.6	2	Zero and Negative Exponents	Use a visual model to understand the behavior of negative exponents.
10.1	7	Modeling with Quadratic Equations: Where Are the Giant Ants?	Explore issues of scale to better understand quadratic and linear relationships.
10.3	3	The Product of Two Binomials	Use tiles to model multiplication of binomials.
10.3	3	Squaring Binomials	Use dynamic algebra tiles to connect algebraic and geometric squares.
10.4	7	Factoring Trinomials	Factor trinomials using algebra tiles and investigate the role of the coefficients.
11.1	5	Slopes of Parallel and Perpendicular Lines	Experiment and draw conclusions about the slopes of parallel and perpendicular lines.
11.3	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.
11.7	2	Proportions in Similar Triangles	Use ratio and proportion in triangles to determine inaccessible distances.