Strand: Measurement and Geometry	
6.8 The student will **a) identify the components of the coordinate plane; and** **b) identify the coordinates of a point and graph ordered pairs in a coordinate plane.**	
Suggested Pacing	
First Nine Weeks- 3 Instructional Days	
Spiraling Standards	
4.14 The student will a) collect, organize, and represent data in bar graphs and line graphs	**7.10** The student will b) graph a line representing a proportional relationship between two quantities given the slope and an ordered pair, or given the equation in y = mx form where m represents the slope as rate of change; d) graph a line representing an additive relationship between two quantities given the y-intercept and an ordered pair, or given the equation in the form y = x + b, where b represents the y-intercept; and e) make connections between and among representations of a proportional or additive relationship between two quantities using verbal descriptions, tables, equations, and graphs. **8.13** The student will a) represent data in scatterplots. **8.16** The student will; d) graph a linear function given the equation in y = mx + b form; and e) make connections between and among representations of a linear function using verbal descriptions, tables, equations, and graphs. two variables graphically;

Essential Questions	Common Misconceptions
6.8a • How are the axes of a coordinate plane related to a number line? **6.8b** • How is the concept of the coordinate plane applied in practical situations? (i.e maps) • On a coordinate plane, how are points on a horizontal line related to each other? • On a coordinate plane, how are points on a vertical line related to each other? • How do you determine the distance a point is from an axes?	When writing ordered pairs students often will write (y,x) instead of (x,y). When identifying the quadrants students often get the second and fourth quadrant mixed up. Often students fail to recognize the difference between ordered pairs on the x axis and those located on the y axis. Often students fail to make the connect that the x axis is horizontal and that the y axis is vertical
Understanding the Standard	**Essential Knowledge and Skills**
• In a coordinate plane, the coordinates of a point are typically represented by the ordered pair (x,y), where *x* is the first coordinate and *y* is the second coordinate. • Any given point is defined by only one ordered pair in the coordinate plane. • The grid lines on a coordinate plane are perpendicular. • The axes of the coordinate plane are the two intersecting perpendicular lines that divide it into its four quadrants. The *x*-axis is the horizontal axis and the *y*-axis is the vertical axis. • The quadrants of a coordinate plane are the four regions created by the two intersecting perpendicular lines (*x*- and *y*-axes). Quadrants are named in counterclockwise order. The signs on the ordered pairs for quadrant I are (+,+); for	**The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to** • Identify and label the axes, origin, and quadrants of a coordinate plane. (a) • Identify the quadrant or the axis on which a point is positioned by examining the coordinates (ordered pair) of the point. Ordered pairs will be limited to coordinates expressed as integers. (a) • Graph ordered pairs in the four quadrants and on the axes of a coordinate plane. Ordered pairs will be limited to coordinates expressed as integers. (b)

quadrant II, (–,+); for quadrant III, (–, –); and for quadrant IV, (+,–). • In a coordinate plane, the origin is the point at the intersection of the *x*-axis and *y*-axis; the coordinates of this point are (0, 0). • For all points on the *x*-axis, the *y*-coordinate is 0. For all points on the *y*-axis, the *x*-coordinate is 0. • The coordinates may be used to name the point. (e.g., the point (2, 7)). It is not necessary to say "the point whose coordinates are (2, 7)." The first coordinate tells the location or distance of the point to the left or right of the *y*-axis and the second coordinate tells the location or distance of the point above or below the *x*-axis. For example, (2, 7) is two units to the right of the *y*-axis and seven units above the *x*-axis. • Coordinates of points having the same *x*-coordinate are located on the same vertical line. For example, (2, 4) and (2, -3) are both two units to the right of the *y*-axis and are vertically seven units from each other. • Coordinates of points having the same *y*-coordinate are located on the same horizontal line. For example, (-4, -2) and (2, -2) are both two units below the *x*-axis and are horizontally six units from each other.	• Identify ordered pairs represented by points in the four quadrants and on the axes of the coordinate plane. Ordered pairs will be limited to coordinates expressed as integers. (b) • Relate the coordinates of a point to the distance from each axis and relate the coordinates of a single point to another point on the same horizontal or vertical line. Ordered pairs will be limited to coordinates expressed as integers. (b) • Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to determine the length of a side joining points with the same first coordinate or the same second coordinate. Ordered pairs will be limited to coordinates expressed as integers. Apply these techniques in the context of solving practical and mathematical problems. (b)
Vocabulary	**Instructional Activities Organized by Learning Objective**
coordinate plane axis quadrant ordered pair	**Textbook:** Eureka

origin
distance
horizontal
vertical
coordinate
x-coordinate
y-coordinate

Assessment

Eureka Grade	Module	Topic	Lesson(s)
6	3	C	14-19

Virginia Math Connects, Course 1, ©2012, Glencoe/McGraw-Hill page(s) 413 – 417 and pages 750 and 769-770 (additional lessons if needed) Extra Practice page –EP19 Lesson 7-3 part c
Notes
6.4 Interactive Notes
Resources

- Print
  Virginia Coach New SOL Edition
  Lesson 7 page 47-52.
- Technology-based
  Illustrative Math - Polygons in Coordinate Plane
  Eureka Math- Distance in Coordinate Plane
  Gizmo – Coordinates - interactive instructional resource
  Flocabulary – The Coordinate Plane - instructional video
  Smart Exchange - interactive skill practice
  Coordinate Plane [SMART Notebook lesson]

Brain Pop – Coordinate Plane – interactive skill practice

Station Activities
Virginia Department of Education
What's the Point?
http://www.mathplayground.com/locate_aliens.html
http://studyjams.scholastic.com/studyjams/jams/math/algebra/ordered-pairs.htm

	http://www.math-play.com/Algebra-Math-Games.html Coordinate Plane
Cross-Curricular Connections	Tiered Differentiations
The coordinates are used to help locate objects within the coordinate plane. This is similar to latitude and longitude taught in history class when exploring maps and locations around the country and world.	Provide Coordinate Planes with the integers listed along the line. As students become skilled in locating and graphing ordered pairs, have them create new ordered pairs and plots for other students. Using graphing paper, have students create images using ordered pairs. Extend the lesson to include decimaled ordered pairs (-1.5, 2)