

Richmond Public Schools
Department of Curriculum and Instruction
Curriculum Pacing And Resource Guide – Unit Plan



Course Title/ Course #: Pre-Algebra Math 8

Unit Title/ Marking Period # (MP): Graphing Linear Equations/MP 2

Start day: 41

Meetings (Length of Unit): 6 days

Desired Results ~ What will students be learning?

Standards of Learning/ Standards

8.16 The student will graph a linear equation in two variables.

Essential Understandings/ Big Ideas

What type of real life situations can be represented with a linear equation? Any situation with a constant rate can be represented by a linear equation.

Key Essential Skills and Knowledge

- Construct a table of ordered pairs by substituting values for x in a linear equation to find the values of y .
- Plot in the coordinate plane ordered pairs (x,y) from a table.
- Connect ordered pairs to form a straight line (a continuous function).
- Interpret the unit rate of the proportional relationship graphed as the slope of the graph, and compare two different proportional relationships in different ways.

Vocabulary

coordinate Plane
x-axis
y-axis
origin
function table
linear equation
variable
constant rate

Assessment Evidence ~ What is evidence of mastery? What did the students master & what are they missing?

Assessment/ Evidence

Mulligan Checkpoint 8.16
Mulligan Checkpoint 8.16
Interactive Achievement
HCPS Mini Quizzes
Students should be able to make connections with real life applications to x-values and y-values.
Students need to be able to create a function table in order to graph the equation.

Learning Plan ~ What are the strategies and activities you plan to use?

Learning Experiences/ Best Practice

Create a note sheet or foldable with a real life scenario involving constant rates of change. An example could be a cell phone bill plan. Have students create a function table with the scenario using the appropriate variables (don't use x , y). Have students plot the points on a coordinate plane and connect the points to create a straight line.

Have students complete the gizmo for graphing linear equations.

Complete the Stained Glass Window or VDOE Lesson plan. You may want to give students input values for some of the equations.

After students have mastered graphing linear equations, play Illuminations Equations of Attack.

Technology Integrations

Gizmo
Educational Games-under resources
Compass Learning
Allen Teachers
Brain Pop
Khan Academy

Resources

Text

Glencoe Pre-Algebra pages:
410-415 (Representing Linear Functions)
439-444 (Slope Intercept Form)
Mulligan Math in Minutes 8.16
SOL Coach Book Va Edition: pages 191-197

Technology

Compass Learning-<https://www.thelearningodyssey.com> - M8187, M8189

Virginia Department of Education

VDOE-[Graphing Linear Equations](#)-Lesson Plan

Other Sites

HCPS-[Graphing Linear Equations](#) Instructional materials, practice page, assessments
Illuminations-[Equations of Attack](#)-Lesson Plan
[Stained Glass](#)-Lesson Plan

Cross Curricular Connection

Science-Show a short video about lightening and how often it strikes the Earth. Reference page 3 of [this document](#) to show the students. Have them graph the points to create a linear equation. Have the students make predictions as the distance increases.
English-Have the students compare and contrast the equations and graphs from two examples. See what connections they can make from the equations and graphs (maybe they can identify the y-intercepts or positive/negative slopes?) Use this [Math Task](#) as an example.

