11 Topic: Linear Equations & Graphs

Content Area: **Mathematics**
Course(s): **Algebra 2**
Time Period: **Semester 2**
Length: **2-3 weeks**
Status: **Published**

Standards

MA.K-12.4	Model with mathematics.
MA.F-IF.C.7a	Graph linear and quadratic functions and show intercepts, maxima, and minima.
MA.A-CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
MA.F-LE.B.5	Interpret the parameters in a linear or exponential function in terms of a context.
MA.A-REI.D.10	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

Enduring Understandings

1. Mathematics is a language consisting of symbols and rules.
2. The same mathematical ideas can be represented concretely or symbolically.
3. There can be different strategies to solve a problem, but some are more effective and efficient than others.

Essential Questions

1. Which operations and equivalences will simplify and help me solve the problem?
2. How is thinking algebraically different from thinking arithmetically?
3. How does explaining my process help me to understand a problem's solution better?
4. What is meant by equality?

Knowledge and Skills

Define and find Slope

Define and find Midpoint

Define and find distance between 2 points

Graph a line

Write the equation of a line in Standard Form, Slope-intercept, and Point-Slope

Find the x and y intercepts of a line

Determine if 2 lines are parallel, perpendicular, or neither

Transfer Goals

Using mathematical reasoning and strategic thinking can allow for practical solutions ot many problems.

Often unique vocabulary and implementation methods are needed to solve problems.

Resources

1. McDougal/Littell - Algebra & Trigonometry Structure & Method Book 2

2. Aufmann/Barker/Lockwood - Intermediate Algebra with Applications Sixth Edition

3. Houghton/Mifflin/Harcourt - On Core Mathematics Algebra 2

4. Holt - Algebra 2 with Trigonometry

5. Larson/Boswell - Big Ideas Math: Algebra 2 Texas Edition

6. Khan Academy

7. PurpleMath

8. KutaSoftware

9. CK-12

10. Quizlet

11. Albert I/O

12. Desmos

13. Problem Attic