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Graphing Lesson Plan

Grade Level & Subject Area: 8th Grade Math

Standards/Framework:

AR.Math.Content.8.F.B.4:

- Construct a function to model a linear relationship between two quantities:
    - Determine the rate of change and initial value of the function from:
        - a verbal description of a relationship
        - two (x, y) values
        - a table
        - a graph
    - Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.

AR.Math.Content.8.F.B.5:

- Describe the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear)
- Sketch a graph that exhibits the features of a function that has been described verbally

Theme/Series of Lessons: Last lesson before test on graphing linear and nonlinear functions.

Time:

This is one 50-minute lesson, shouldn't even take that long, and students should be able to start on their homework.

What do the students already know?

Students should already know how to solve expressions and graph them by hand.

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Objective:

By the end of this lesson students will be able to quickly graph all types of algebraic graphs by using a calculator.

Materials: iPads, Desmos App, Paper, Pencil, Projector, White Board, Dry-Erase Markers

Procedure:

1. Students will warm up as they come in by completing Bell Ringer, which will be review problems, solving a few expressions.
2. Welcome the class and go over bell ringer
3. Now remind class that we can graph these solved expressions and have volunteer who can graph.
4. Introduce a quick way to graph these with the calculator, bring out the app, which they can use at home to solve these.
5. Show students how to graph these expressions using the Desmos App and go over a few examples.
6. Pass out homework assignment and let them get started.

Assessment:

Students will have to complete a homework assignment,

Students will also be tested over graphing these functions, with and without a calculator later in the unit.

A Brief Description Of The Entire Lesson - Plus Any Additional Information to be Included:

You will welcome students as they come in and have bell ringer activity pulled up for them to complete as they come in through the first 5 minutes of class. Then you will go over the bell ringer. You will remind students about graphing these expressions and will ask a student to graph each one on the board (one student for one problem). After that you will ask the question, “Who wishes there was an easier way to graph these?” “Well, there is and you can graph them on a calculator. Ask students to pull out their iPads and open/download the Desmos application. Put a few more problems on the board while they load and have some students solve them. Explain how to use the app and how it can graph all of these equations. Ask students if they have any questions, and then give them their homework assignment.