

Instructor: Gabriel Thompson	Class: 8th Algebra 1	Day: 2	Date: TBD
-------------------------------------	--	---------------	------------------

Information about the Lesson

Learning Theory <input type="checkbox"/> Behaviorism <input type="checkbox"/> Cognitivism <input checked="" type="checkbox"/> Constructivism <input type="checkbox"/> Experiential	Bloom's Cognitive Domain <input checked="" type="checkbox"/> Remember <input checked="" type="checkbox"/> Understand <input checked="" type="checkbox"/> Apply <input type="checkbox"/> Analyze <input type="checkbox"/> Evaluate <input type="checkbox"/> Create	Gardner's Multiple Intelligences <input type="checkbox"/> Verbal/Linguistic <input checked="" type="checkbox"/> Logical/Mathematical <input type="checkbox"/> Visual/Spatial <input type="checkbox"/> Bodily/Kinesthetic <input type="checkbox"/> Musical/Rhythmic <input type="checkbox"/> Interpersonal/Social <input type="checkbox"/> Intrapersonal/Self-aware <input type="checkbox"/> Naturalist/Environmentally aware	Lesson Type <input type="checkbox"/> Present and Explain <input checked="" type="checkbox"/> Direct Instruction <input type="checkbox"/> Concept Lesson <input type="checkbox"/> Inquiry-Based Lesson <input type="checkbox"/> Cooperative Learning <input type="checkbox"/> Project /Problem-Based Learning <input type="checkbox"/> Classroom Discussion
---	--	---	--

Previous Lesson: Students have learned about slope and how it affects the way a graph looks
Future Lesson: Students will discover slope is connected with the slope-intercept form

Prerequisites: *Before beginning this lesson students will have:*

- Lessons with practice on rate of change and slope and how to determine it. They will also have knowledge on the coordinate plane system and the axis'.

Materials Needed: TI-84 Calculators, Holt Textbook, Ruler (optional), Pencil

Lesson Content and Design

Central Focus / Big Idea: Find the equation of a line (or graph a line) given a graph, two points, or a table (or equation)

Objective(s):

- **SWBAT** graph a line using slope-intercept and determine the equation of a line in slope-intercept form given a graph, table, or context.

Guiding Question(s):

- How does knowing a slope-intercept equation help you in the real world?
- Knowing how much candy we buy, what do the intercepts mean?

Assessment:

Formative: Assessment (Data Test) in 5-7 days.

Summative: Demonstrate an understanding of the slope formula through homework and IXL

Academic Language: Slope, slope-intercept, y-intercept, x-intercept, independent variable, dependent variable

Standard(s):

- 2007 Mathematics 8.2.2.1, 8.2.2.3, 8.2.2.4, 8.2.4.1, 8.2.4.3

Presentation/Syntax (Example given below...note the tiered portion in blue and red)

Elements	Minutes	Detailed Description
Consider: Work to prepare students and access prior knowledge and experiences	5-10	Whole Group: 1. Warm-up: Students will use white boards and markers and attempt to perform the problem - Students will have 2 minutes to practice the problem - They will then take 5 minutes to discuss with teacher and think-pair-share with their tables

<p><u>Construct:</u> Work to allow students to build new knowledge and skills</p>	<p>15-25</p>	<p>Whole Group:</p> <p>2. Incorporating slope with slope-intercept: Explain to students what slope-intercept means and how to use it. Use a great visual that has all of the key components listed and several examples. This is a practice makes perfect lesson that incorporates several word problems to relate it to the real world.</p> <ul style="list-style-type: none"> - Have students scribe notes labeled “Slope-Intercept.” Show several examples of how to not only determine the equation of a line, but how to solve for b (the y-intercept) when it is not obvious. Show graphically, with a table, and with a word problem. <p>3. Demonstrations: Before students have the opportunity, teacher will show a problem on the board. To get on with class work, students must demonstrate how to find the slope of the problem and relate it in one or more ways.</p>
<p><u>Confirm:</u> Work to allow students to contrast new knowledge with prior and eventually come back with questions</p>	<p>25-35</p>	<p>4. Whole Group: Students will work in their text books on problems that range from equations with a clear y-intercept to equations that will be in fraction form.</p>

Differentiation (Example given below)

Planned Support /Extension/ Differentiation for Specific Students:

Students are allowed to work at different rates to accommodate their change (see what I did there?!) Students are placed at table groups of 4-5 and vary at different levels of academic skill. Teacher will re-teach individually or in small groups as needed. Only the high students will reach the challenge and extend section allowing them to explore in arbitrary numbers.

Groups:

See seating chart for more details (see what I did there?!)

The groups are differentiated by math levels to give a variety of ideas when working. This grade is a little higher in academic level so typically there are 2-3 high students with 2 medium-low students. The choice of thoroughness in the problem is the student’s alone. The “ready-to-go” students finish the whiteboard problem within 30 seconds whereas the “not-ready-yet” students may need more examples, individualized help and/or guided instruction which can take up to 10 minutes. Teacher may assign less problems to start with in order to ensure all aspects are covered. If middle-low students are able to complete those problems, then it is established that they try the other problems for more practice.

Individual Student Accommodations:

Jimbob:

- 10 minute sensory break at the end of class.
- Student uses task chair with that swivels to allow for slight movement
- Student has para Jen to help keep on task and help him advocate for help when needed.
- Student can wear his own personal headphones or sound eliminators during work times due to sensory hearing needs.
- Student implements expectations (point) sheet during and at the end of class to help promote on-task behavior.