21ˢᵗ Century Lesson Cycle Template

Grade: 10

Subject: Math 10 PreIB
Textbook: Foundations and Pre-Calculus Mathematics 10
By Pearson
Topic 4: Linear Equations

Driving Question:

Can build a better understanding of how to relate linear equations to real-life situations?

Specific Curriculum Outcome:

RF04 Students will be expected to describe and represent linear relations using words, ordered pairs, table of values, graphs and equations.
RF05 Students will be expected to determine the characteristics of the graphs of linear relations, including the intercepts, slope, domain, and range.
RF06 Students will be expected to relate linear relations to their graphs expressed in slope-intercept form

Prior Knowledge:

- Plotting points on a Cartesian plane
- Determining the slope of a line
- Slope-intercept form of a linear equation

Screencast Link(s):

1. Prior knowledge:
   Plotting points on a Cartesian plane - https://www.youtube.com/watch?v=Rue5DlI4igk
   Determining the slope of a line - https://www.youtube.com/watch?v=g1yzEKJQjeI
   Slope-Intercept form of a linear equation - https://www.youtube.com/watch?v=UguPdZH5jDo

Link to Application Problems Handout:

http://msltam.weebly.com/uploads/5/5/7/3/55739509/applications_of_linear_equations_individual.pdf

Link to Group Work on Applications of Linear Equations:

http://msltam.weebly.com/uploads/5/5/7/3/55739509/applications_of_linear_equations_group.pdf

Expected Time: One Class (75 minutes)

Resources: (Tools & Tech)	Lesson Procedure

Prior knowledge screencasts linked to teacher website. Students have the option of previewing this prior to the lesson, or they can watch it in class if needed.
 	
BYOD: To allow students the opportunity to work at a pace that best suits their learning, they will watch the video on their own devices (with headphones).
	I do:
	
	1. Review **prior knowledge** that is directly applicable to this lesson:
	    - Plotting points on a Cartesian Plane
	    - Determining the slope of a line
	    - Slope-intercept form of the equation of a line
	
	2. Give students instructions for today's class:
	    - *Students will complete some questions individually ("You Do" part of the lesson)*
	    - *Students will do group work to solidify their understanding of how linear functions can be applied to real-life scenarios ("We Do" and "We Share" part of the lesson)*

	☐ find, validate ☐ **critical thinking** ☐ remember, understand ☐ analyze, synthesize ☐ **collaborate, communicate**
[Application Problems Handout](#)	*You do:* Students will complete the application problems given to them (handout).
	☐ find, validate ☐ **critical thinking** ☐ remember, understand ☐ analyze, synthesize ☐ **collaborate, communicate**
[Group Work on Applications of Linear Equations](#)	*We do:* Students will be organized into groups of 6 and then they will disperse into appropriate groups to complete this part of the group activity. *Note: this corresponds to Parts 1 and 2 of the activity (see handout for details)*
	☐ find, validate ☐ **critical thinking** ☐ remember, understand ☐ evaluate, leverage ☐ **collaborate, communicate** ☐ analyze, synthesize

	We share: Students will return to their original groups to share their findings. *Note: this corresponds to Part 3 of the activity.*
	☐ find, validate ☐ **critical thinking** ☐ remember, understand ☐ evaluate, leverage ☐ **collaborate, communicate** ☐ **create**, publish ☐ analyze, synthesize

WRAP UP/REMINDERS:

Students will be asked to review all of today's material for homework in preparation for tomorrow's class. A part of this process will involve having them write out the answers to the group activity in their notes if they did not have the chance to do it during class.

Differentiation:

Modification:	Enrichment:
Allowing students to watch the video on their own devices allows them to work at their own pace. If students need to re-watch a step they have the ability to do so.	Students who have a strong grasp of linear functions can be partnered up with students who may be struggling so that they can provide them with some assistance.

Evaluation:

Students will be informally evaluated during the class. The teacher will make general observations while circulating throughout the class to make sure all students are on track.

Teacher Reflection:

On-Line Resources: