

21st Century Lesson Cycle Template

Grade: 10

Subject: Math 10 PreIB

Textbook: Mathematics for the International
Student Pre-Diploma SL and HL
(second edition)
by Haese & Harris

Topic 4: Linear Equations

Driving Question:

How can we make use of the skills we have acquired so far? Can we determine the equation of a line given information in a different way?

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.

RF6 Students will be expected to relate linear relations to their graphs expressed in slope-intercept form

Prior Knowledge:

- Being able to determine the equation of a line given slope and a point

Screencast Link(s):

1. Prior knowledge: <https://www.youtube.com/watch?v=UguPdZH5jDo>
2. Further examples on getting the equation of a line - https://www.youtube.com/watch?v=H_hqEmIX7IM

Link to Topics for Group Work:

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

Expected Time: One Class (75 minutes)

Resources:
(Tools & Tech)

Lesson Procedure

<p>Prior knowledge screencast linked to teacher website. Students have the option of previewing this prior to the lesson, or they can watch it in class if needed.</p> <p>Further Examples Screencast linked to teacher website. Students have the option of previewing this prior to the lesson, or they can watch it in class.</p> <p>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).</p>	<p><i>I do:</i></p> <ol style="list-style-type: none"> Review prior knowledge that is directly applicable to this lesson: <ul style="list-style-type: none"> Determining the equation of a line given slope and a point Do further examples on determining the equation of a line. Following the videos, a class discussion can be had in order to clarify anything that may still be ambiguous to students.
	<input type="checkbox"/> find, validate <input type="checkbox"/> critical thinking <input type="checkbox"/> remember, understand <input type="checkbox"/> analyze, synthesize <input type="checkbox"/> collaborate, communicate
<p>Students have a copy of the textbook.</p>	<p><i>You do:</i></p> <p>Following the class examples, students will work on questions from their textbook: Ex 5E.1 #4-5 (page 121).</p>
	<input type="checkbox"/> find, validate <input type="checkbox"/> critical thinking <input type="checkbox"/> remember, understand <input type="checkbox"/> analyze, synthesize <input type="checkbox"/> collaborate, communicate
<p>Topics for Group Work</p>	<p><i>We do:</i></p> <p>Students will get into groups of 3-4. Each group will be given a piece of chart paper and markers. Each group will create one question on a given topic (see handout) and will be expected to create a unique question on that topic. Once groups have created their question, they will be randomly moved to a different group's question. Together, they will solve that new question.</p>
	<input type="checkbox"/> find, validate <input type="checkbox"/> critical thinking <input type="checkbox"/> remember, understand <input type="checkbox"/> evaluate, leverage <input type="checkbox"/> collaborate, communicate <input type="checkbox"/> analyze, synthesize

	<p><i>We share:</i></p> <p>At the end of class, each group will present the question that they solved, along with the solution. As a class, students will evaluate the question/work and offer constructive criticism.</p>								
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<p>WRAP UP/REMINDERS:</p> <p>Students will be asked to review all of today's material for homework in preparation for tomorrow's class.</p>									
<p style="text-align: center;">Differentiation:</p>									
<p>Modification:</p> <p>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.</p>	<p>Enrichment:</p> <p>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.</p>								
<p>Evaluation:</p> <p>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. When students are presenting the solution the question they solved, the teacher will be able to make notes on where students are doing well and/or struggling so that these things can be addressed before moving on.</p>									
<p>Teacher Reflection:</p>									
<p>On-Line Resources:</p>									