## $21^{\text {st }}$ 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 do we determine the equation of a line from its graph?

## 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:

- Determining the slope of a line
- Slope-intercept form of a linear equation


## Screencast Link(s):

1. Prior knowledge:

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
2. Determining the equation of a line from its graph - https://www.youtube.com/watch? $\mathrm{v}=\mathrm{oFXj} 2 \mathrm{UThmC} 8$

## Link to Target Practice Game:

http://msltam.weebly.com/uploads/5/5/7/3/55739509/target_practice_activity.pdf
Link to Exit Card:
http://msltam.weebly.com/uploads/5/5/7/3/55739509/exit_card.pdf

Expected Time: One Class (75 minutes)

| Resources: <br> (Tools \& Tech) | Lesson Procedure |
| :---: | :---: |
| 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. | I do: <br> 1. Review prior knowledge that is directly applicable to this lesson: <br> - Determining the slope of a line <br> - Slope-intercept form of the equation of a line |
| Screencast linked to teacher website. Students have the option of previewing this prior to the lesson, or they can watch it in class. | 2. Examples of determining the equation of a line from its graph will be done. <br> *At the end of this video, students will be asked to pause it to try a few questions on their own. They will press play to check their work once they have attempted it on their own. (This corresponds to the "You Do" part of this lesson plan.) |
| 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). | 3. Following the videos, a class discussion can be had in order to clarify anything that may still be ambiguous to students. |
|  | find, validate critical thinking remember, understand analyze, synthesize collaborate, communicate |
|  | You do: |
| BYOD: Students can make use of their own devices for this activity. However, graphing calculators will be provided for students who do not have their own. | At the end of the screencast with the examples, students will be asked to pause the video to try a few questions. Then, they will press play again to check their answers. |
|  | find, validate critical thinking remember, understand analyze, synthesize collaborate, communicate |


| Target Practice Game | We do: <br> In groups of 4 (2 groups of 2), students will play "Target Practice". This will give them the opportunity to test their understanding of the material covered over the last few classes. |
| :---: | :---: |
|  | $\square$ find, validate $\square$ critical thinking <br> $\square$ remember, understand $\square$ evaluate, leverage <br> $\square$ collaborate, communicate $\square$ analyze, synthesize |
|  | We share: <br> At the end of class, there will be a final debrief. Groups will share what they have learned from today's class. They will also be asked to offer strategies that they might have discovered while playing the game that helped them maximize points. |
|  | $\square$ find, validate $\square$ critical thinking <br> $\square$ remember, understand $\square$ evaluate, leverage <br> $\square$ collaborate, communicate $\square$ create, publish <br> $\square$ analyze, synthesize  |
| WRAP UP/REMINDERS: |  |
| 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. As well, stronger groups may wish to apply one of the suggested variations to the Target Practice game. |
| Evaluation: <br> 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. As well, students will be asked to compete the exit card prior to leaving the class. |  |
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| Teacher Reflection: |  |
| On-Line Resources: |  |

