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How to Find Slopes with STELLA

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Ijeoma B. Okafor
Slope using Stella.

Prior Knowledge: The coordinate plane, graph the equation of the line $y = 2x + 1$
From the line, form a triangle, and count the number of square
Blocks on the y – axis divide it by the number of square blocks
on the x- axis.

$$\text{Slope} = \frac{\text{Rise}}{\text{Run}}$$

Using the program STELLA, I will need 5 converters, 4 of which will be the
input box and 1 will receive the output.
The converts will receive x_1, x_2, y_1, y_2 , and the last converter will the
formula of a slope.

We will investigate the all the possible outcomes. When the slope is
positive, negative, zero, and undefined.

Assignment:

The students will either modify or construct a new Stella to find the distance
of a line.

$$D = \text{SQRT}((x_2 - x_1)^2 + (y_2 - y_1)^2)$$

RUBRIC

4	3	2	1
Able to construct stella without mistakes. Make sure that output works well.	Complete the program but the output is does not work.	Unable to complete the program.	No idea, completely clueless.

Generic Lesson Plan Template

You should submit this form in addition to any computer generated files/documents/models to your group folder on Angel. Please create a .zip file and upload the group of files as a single archive.

Name: Ijeoma B Okafor
Grade level(s)/Subject taught: Mathematics 9 th Graders
Objectives: How do we find the slope of a line using STELLA.

Please provide a rich **one-page, single-spaced**, description or a *vision* of your best thinking on a way or ways you might teach the planned lesson. (approximately ½ page for the teacher role, ½ page for the student role). Also, construct a tentative rubric that you might use with your students (see example)

Items to include in your lesson plan: (Choose your discipline/concepts from your own area).

1. *Write the Mathematical Concept or “key idea” that modeling will be used to teach: (e.g. Students use mathematical modeling/ multiple representation to provide a means of presenting, interpreting, communicating, and connecting mathematical information and relationships)*

Key Idea 5: Measurement:

and/or...

- 1b. *Write the Science Concept or “key idea” that modeling will be used to teach: (e.g. Organisms maintain a dynamic equilibrium that sustains life).*

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Materials:

“...a rich **one-page, single-spaced**, description or a *vision* of your best thinking...”

Prompts:

1. How will you assess the prior knowledge of the student?
2. How will you begin the lesson?
3. What are the teacher and students doing every 5-10 minutes? (Teacher Actions and Student Actions)
4. How will you assess the learning for the lesson?

Using _____ I plan on having my students...
(software / modeling package(s))

****Example:** “I was thinking about beginning the class on [modeling X] by using the overhea