Name: Mr. Coleman	Program: Secondary Ed.	Course: Mathematics
Lesson Topic/Title: Slopes and Writing Equations of Lines		
Lesson Date: 10/05- 10/10	**Lesson Length: 2x90 minutes**	**Grade/Age: eighth grade**

Learning Objectives (Targets):
Students will be able to recognize positive, negative, zero, and undefined slope.
Students will be able to calculate slope.
Putting lines on a graph using two points
Students will know slope-intercept form of a line
Students will know standard form of a line
Students will know how to create the equation of a line from two points
They will be able to solve equations given in one variable
They will be able to give the equation of a line given the graph of a line

Standards:

Content Standards:
CCSS.MATH.CONTENT.HSA.CED.A.2
Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
CCSS.MATH.CONTENT.HSA.CED.A.1
Create equations and inequalities in one variable and use them to solve problems.
CCSS.MATH.CONTENT.HSF.IF.C.7
Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*

Teaching Standards:
Learning Environments
Collaboration
Instructional Strategies

Standards Alignment & Justification:

Content Standards

I have met the content standards by having the students create equations in two variables to represent a relationship, then they will be required to graph it and label their points. They will understand that proper notation and that they should label their ordered pairs. They will also be required to know the different forms of a line, including slope-intercept and standard form.

Lastly they will know how to find a solution to an equation and what it means to be a solution given the equation of a line.

Teaching Standards

I have met the teaching standards by encouraging collaboration and sharing my activities with other teachers as well as getting feedback about the best way to go about and implement my lesson. As for the

	instructional strategies, I have met those because after giving this geometry class a multiple intelligences quiz and found that the students who are struggling more with the class are kinesthetic learners. So I have created the floor scavenger hunt for them so they have a chance to move around and try to learn from a different perspective. Lastly I believe I have met the learning environments standard by encouraging a positive learning environment with this lesson. With all lessons I try to keep it super positive, but with the floor scavenger hunt and presentations I believe that there is more teamwork required for this lesson. As a result the students with have to work together to come up with a solution and through their completion of the activities I hope they will feel rewarded.
Assessment: ⊟ Pre ⊟ Formative ☐ Summative ⊟ Student Self Quizziz Formative Assessment & Pre-Assessment Who Wants to Be a Millionaire Formative Assessment and Student - Self Floor Scavenger hunt Formative Assessment	**Assessment (Data & Student Feedback):** For a formative assessment students will complete a quizizz at home for homework. Quizziz is a great formative assessment because it gives the illusion of a quiz and students can take as much time as they need with it. Also they are able to take it again repeatedly for more practice or a better score. After they take the quizizz when they come into the next class that is the first thing that we open up with and talk about. Going over maybe some of the more challenging problems and talk about what was hard. In class they will do an online activity of who wants to be a millionaire, where all the questions are related to what we learned in class. This is no different then doing practice problems, but it turns it into somewhat of a game and it is fun for the students to be able to shoot for a goal and try and get so many correct in a row. The final assessment is my favorite, the floor scavenger hunt. On the floor I will tape a massive XY axis with a bunch of smaller other pieces of tape. Since the floor is made up of tiles, I will tell the students the tiles represent

	1 unit each. They will then need to find the corresponding pieces of tape to find the slope between the two pieces. After that they will be then required to put that slope into y-intercept form and figure out where it crosses the axis. This is great because they can work together if they want or separately. It's also going to be fun because some of the pieces will be hidden, so simply finding them will be rewarding.

Integration of Other Content Areas: (If appropriate)
Aside from my casual stories about the history of famous geometers, this lesson does not have a focus on another content area.

Instructional Strategies to Differentiate Whole Class Instruction:
As is the case with all of my classes here at DIS, I have some students who are well advanced with the material and some students who are severely behind in the content. So I need to make sure I have material that will challenge students and help them push themselves, while being able to accommodate the ones who need more assistance. We will do a lot of problems at our seats and I will begin to put an emphasis on coming up to the board to present problems. So when they are finishing up their presentations it is important that they not only know how to solve the problem, but be able to articulate their answer to the rest of the class. I consider this challenging for a lot of them since they are always so focused on simply finding the answer.

As for the students who may not totally understand it, there are some hands on activities where they can ask questions and try to discover the content through a new way. This is evident by the floor scavenger hunt.

Modifications / Accommodations / Extensions For Individual Students with Identified Needs:
I keep the same modifications in this lesson for my ELL learners as I do in the other ones. When it comes to writing proofs, I simply want my ELL learners to see the flow of logic and not necessarily focus so much on the written proof. They will only have to complete a two column proof when it comes to assessment. I will also be doing a lot of group work in these lessons, that way they have a chance to practice the math vocabulary in English with their peers.

Technology Integration: (if appropriate)
In this lesson I will be using technology extensively as well as the students. Aside from the usual smartboard presentation, they will be using their laptops on the first lesson to play a who wants to be a millionaire game on their laptops at the end of the lesson. This will assess them on what they just learned during class time. After the first day they will also be doing a quizziz for homework, where I will be able to see their results put into an excel spreadsheet. They will then review these problems to start day 2 as a pre-assessment review. Sometimes I will grade these quizziz's, but this one will not be graded.

Day 2 does not require any technology aside from the smartboard.

Materials and Resources for Lesson Plan Development

Smartboard
Laptops
Textbooks
Calculators
Tape
Markers

Teaching & Learning Sequence:

Day 1:
Finish presentation problems (20 minutes)
Homework questions and Collecting of the Proof (10 minutes)
3.4 Presentation (40 minutes)
Who wants to be a millionaire game(10 minutes)
Homework (10 minutes)

Day 2:
Review Homework (10 minutes)
Review Quizizz (10 minutes)
3.5 Presentation (40 minutes)
Floor graph scavenger hunt (25 minutes)
Homework (5 minutes)

Content Notes: See attached materials

Post-Lesson Reflection:

I thought this lesson went fairly well. Some things could be improved upon, but the assessments are going smoothly.

What went well The scavenger hunt went super well, and I think the presentations had a nice flow to them. This lesson had a lot of kids coming up to the board to present their problems, or proofs that we had just learned. I would like to get them up to the board more frequently as we move on throughout the semester. I also think time management went well here, and I stuck to the teaching and learning sequence really well and kept things at a comfortable pace for all the students.

Some things I could improve upon are as follows. I think the quizziz used to be great for them, but now they only seem to be concerned with whether or not they will be graded on it and they have been doing them fairly frequently now, so they may be getting sick of them. I will try and alternate with them between quizizz and Kahoot to give them that variety. Also the Who Wants to Be A Millionaire game could have been more challenging game. I found it online and I loved the idea, but the questions weren't pushing them as much as I would have liked.

Overall the floor scavenger hunt idea was perfect, and I'm extremely proud of myself for coming up with that idea. The kids had fun with it and they were super into it, seeing them work together to find the tape pieces and get excited was well worth the prep time for it. A lot of this content was review from Algebra I for most of them, so I'm pleased I was able to make it a little more fun then the last time they saw it.