Student Teacher Candidate: Courtney Harriman
Lesson Subject(s)/Title: Flipped Classroom Lesson Plan: Graphing Linear Inequalities
Lesson Date(s): 10/28/19
Course & Grade(s): Algebra 2

INSTRUCTIONAL MATERIALS:
Khan Academy video, group activity index cards (yellow, green, orange, and pink)

ESSENTIAL QUESTIONS/ SUBSIDIARY QUESTIONS:
1. What is the difference between slope-intercept form and standard form?
2. How do you graph a linear equation?
3. How is graphing a linear equation similar to graphing a linear inequality?
4. In what ways can inequalities be used in everyday life?

PURPOSE: Students will be able to graph inequalities and create inequalities based off of real-world word problems.

SPECIFIC LEARNING OBJECTIVES: (clear, observable)
1. Students will compare their notes with a partner that they took on the video that they were asked to watch outside of class.
2. Students will demonstrate their understanding of graphing linear inequalities by completing the problems in the group activity

STANDARDS:
A.CED.3: Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.

DIFFERENTIATION STRATEGIES:
During the input part of the lesson, students watch the video from Khan Academy on their own. Since they are watching the video from home, they can move throughout the lesson and their own pace. Students can also bring their own individual questions to be discussed in class the next day.

ANTICIPATORY SET:
Students will be asked to compare their notes from the Khan Academy video with a partner. While taking their notes, I will tell them to write down any questions they have while they watched the video. They will have the opportunity to add to their notes. During this time, I will go around and check students notes and make sure that everyone has them complete. After students are done with taking notes, I will allow them to ask any questions they may have had in their notes.

INPUT/ ACQUIRE NEW KNOWLEDGE:

Sensory Register	STM	LTM
Attention Recognition Perception	Focus Organization Rehearsal Visualization	Connections Elaborations Meaning

Facets of Understanding
1. Explanation
2. Interpretation
3. Application
4. Perspective
5. Empathy
6. Self-Knowledge

Multiple Intelligences
1. Linguistic [words]
2. Visual [pictures]
3. Mathematical [numbers & reasoning]
4. Kinesthetic [hands-on]
5. Musical [music]
6. Interpersonal [social]
7. Intrapersonal [self]
8. Naturalist [nature]

Multiple Exposures [4 x 2]
1. Dramatization
2. Visualization
3. Verbal

Complex Interactions
1. Discussion
2. Argumentation

Bloom's Taxonomy
1. Knowledge [Verbatim]
2. Comprehension [Own Words]
3. Application [Problem-Solving]
4. Analysis [Identify components]
5. Synthesis [Combine information]
6. Evaluation [Decisions]

Aspects of the Topic
1. Facts
2. Compare
3. Cause/Effect
4. Characteristics
5. Examples
6. Relationships

9 Effective Strategies
1. Similarities and Differences
2. Summarization and Note Taking
3. Reinforcing Effort and Providing Recognition
4. Homework and Practice
5. Nonlinguistic Representations
6. Cooperative Learning
7. Setting Objectives and Providing Feedback
8. Generating and Testing Hypotheses
9. Questions, Cues, and Advanced Organizers

Students will be asked to watch the following video:
https://www.khanacademy.org/math/algebra/x2f8bb11595b61c86:inequalities-systems-graphs/x2f8bb11595b61c86:graphing-two-variable-inequalities/v/graphing-inequalities
During the video, they will come up with at least two questions that they had throughout the video that will be discussed in class the following day.

and/or

APPLY/ DEEPEN NEW KNOWLEDGE:

Students will be put into cooperative learning groups of 4. I made practice questions on 4 different colored index cards (Green, yellow, orange, and pink). I will give each group a set of index cards and their group will be asked to work together during this time to solve each problem on the index cards. All of the groups will be given a different colored set of index cards and we will rotate the cards until each group has completed the questions in each of the 4 colors. **Students with the green index cards will have cards with word problems on them. They will be asked to write the word problems out as an inequality. The students with the yellow cards will graph inequalities that are in slope-intercept form. Students with the orange cards will graph inequalities that are in standard form. Students with the pink cards will be asked to state whether or not the graph shown is an accurate representation of the provided inequality**. If the graph is not an accurate representation, the students will be asked to explain why. Students will complete these as a group, but each student will be expected to write down and complete the problems on their own paper. While the students are working, I will be walking around the room helping.

CLOSURE/ASSESSMENT:

We will go over problems that students struggled with during the group activity. Students will also have the opportunity to ask any additional questions that they may have.

INSTRUCTIONAL PROCEDURES:

Time:

The teacher will:	The students will:
1. Assign a Khan Academy video 2. Have students pair up to go over their notes 3. Have students get into groups 4. Pass out index cards and have students begin the group activity 5. Circulate the room, help students, and check student answers 6. Go over problems that students struggled with	1. Watch the video and create at least one question that they may have about the lesson 2. Pair up with a partner and go over their notes as well as ask any questions that they had while the video 3. Get in their groups and prepare for the group activity 4. Work in groups to complete the activity. All students have to complete the work for each problem on their own paper 5. Ask questions that they have throughout the activity 6. Check their answers

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