Lesson Plan Template

Grade: 9th Grade

Subject: Algebra

Materials: Computers, Notebook

Technology Needed: Computers

Instructional Strategies:

- ☒ Direct instruction
- ☐ Guided practice
- ☐ Socratic Seminar
- ☐ Learning Centers
- ☐ Lecture
- ☐ Technology integration
- ☐ Other (list)
- ☐ Peer teaching/collaboration/ cooperative learning
- ☐ Visuals/Graphic organizers
- ☐ PBL
- ☐ Discussion/Debate
- ☒ Modeling

Guided Practices and Concrete Application:

- ☐ Large group activity
- ☒ Independent activity
- ☐ Pairing/collaboration
- ☐ Simulations/Scenarios
- ☐ Other (list)
- ☐ Hands-on
- ☐ Technology integration
- ☐ Imitation/Repeat/Mimic

Explain: Students will watch the video and take notes on it. Then they will be expected to complete a worksheet associated with it on their own.

Standard(s)

A.REI.6 – Solve systems of linear equations exactly and approximately, focusing on pairs of linear equations in two variables.

Objective(s)

Students will learn how to solve linear equations using substitution.

Bloom's Taxonomy Cognitive Level: Understanding, Applying

Differentiation

Below Proficiency: Students who are below proficiency may struggle to understand some of the concepts in the video. Since this is a flipped classroom, they will bring their questions to class and ask a teacher for help. Then, someone will sit down with them to work through one of the problems and check for understanding.

Above Proficiency: Students who are above proficiency may move through this lesson quickly. Their challenge will be to continue moving forward into more difficult lessons.

Approaching/Emerging Proficiency: Students who are approaching proficiency may be able to complete more simple problems, but they may struggle when fractions are introduced or if they discover their answer is incorrect when they verify it. These students will also be expected to ask questions, and a teacher will come over to work with them if necessary.

Modalities/Learning Preferences: PowerPoint, Modeling how to solve problems

Classroom Management- (grouping(s), movement/transitions, etc.)

- Students will be expected to listen to the lecture quietly
- Students should work independently on their assignment

Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)

- Students will be expected to listen to the lecture quietly
- Students should work independently on their assignment

Minutes	Procedures
2 min	**Set-up/Prep:** The only set-up required will be for students to take out their laptops and notes.
3 min	**Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)** The lesson will begin by looking at the standard above and the driving question: "How can I solve systems of equations using substitution?"
10-15 min	**Explain: (concepts, procedures, vocabulary, etc.)** Students will be given a brief overview of the method. This will include an image of how the procedure works as well as a few fill-in-the-blank questions for them to record in their notes. This will tell the students the three steps that they need to perform to solve systems of equations using substitution. 1. Solve for one of the variables. 2. Substitute for the variable in the other equation. 3. Verify the solution and write is as an ordered pair. Next, the video will show students how to solve four different systems of equations using the steps above. These systems are listed below:

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	Y = 3X and X + Y = -32 Y = 2X + 7 and Y = X – 1 3Y + 4X = 14 and -2X + Y = -3 6X + 5Y = 8 and X + 3Y = -7
20 min	**Explore: (independent, concreate practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)** Once the students have seen how to solve and verify the solutions to the systems above, we will move to the review section of the video lesson. After the video is over, students will have the chance to explore by working on a worksheet with problems about solving systems of equations using substitution.
5 min	**Review (wrap up and transition to next activity):** Finally, to review what we have gone over, students will write a brief summary describing how to solve systems of equations using substitution.

Formative Assessment: (linked to objectives) **Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.** There will be minimal assessment as students are learning because they will be learning as they watch the video. The formative assessment will come when students are working on their worksheet and asking questions of the teacher. **Consideration for Back-up Plan:** None	**Summative Assessment (linked back to objectives)** **End of lesson:** Students will work on a worksheet which addresses the topics they have just learned. **If applicable- overall unit, chapter, concept, etc.:** N/A

Reflection (What went well? What did the students learn? How do you know? What changes would you make?):