ESTABLISHING PURPOSE

1

What are the key content standards I will focus on in this lesson?

Content Standards:

8.EE.C.8

Analyze and solve pairs of simultaneous linear equations.

b. . . .Estimate solutions [of a system] by graphing the equations.

Standards for Mathematical Practice:

- Make sense of problems and persevere in solving them.
- Use appropriate tools strategically.
- Reason abstractly and quantitatively.

2

What are the learning intentions (the goal and *why* of learning stated in student-friendly language) I will focus on in this lesson?

Content: I am learning to use our understanding of graphing linear functions as a means of solving systems of equations.

Language: I am learning to communicate the solutions to systems of equations verbally and in writing.

Social: I am learning to transition smoothly between roles during conversation roundtable.

3

When will I introduce and reinforce the learning intention(s) so that students understand it, see the relevance, connect it to previous learning, and can clearly communicate it themselves?

After introducing the learning intentions at the beginning of class, I will rely heavily on the social intention to facilitate the task of the day. I will also explicitly readdress the content and language intentions during direct/deliberate instruction as I model their intent.

SUCCESS CRITERIA

4

What evidence shows that students have mastered the learning intention(s)? What criteria will I use?

I can statements:

- I can (still) graph linear equations.
- I can approximate solutions to systems of equations by creating graphs.
- I can explain solutions to systems of equations in writing.

5 How will I check students' understanding (assess learning) during instruction and make accommodations?

In addition to providing space throughout direct/deliberate instruction for questions, I will monitor the room through the guided practice phase and sit with students who need extra support. I will also collect the conversation roundtable foldables as exit tickets for formative data.

INSTRUCTION

6 What activities and tasks will move students forward in their learning?

Focused Instruction

Students will take notes on graphing systems and approximating their solutions.

Guided Practice

Students will work through an example problem similar to their notes. I will scan the room and sit with students who need more support. Students will explain their methods and solutions at the board.

Collaborative Learning

We will do a collaborative activity involving a conversation roundtable foldable on graph paper. In groups of four, students will work in rounds completing four separate problems. During the first round, each group member will be graphing a linear function presented in slope-intercept form on their assigned problem. Once time is up, students will pass their foldable to their left and receive a new foldable from their right. During the second round, each group member will now graph an additional linear function presented in point-slope form on their newly received foldables. After passing again and now receiving a third foldable, they will approximate the solution to the system that should be graphed before them. On the fourth and final round, students will explain the solution provided from round 3 in writing. At the end of this process, the students will have four completed problems. Solutions will be posted for each and students will conduct an error analysis of their work. Additionally, two of these systems will be unlike the cases discussed in class and will spur a whole-class conversation.

Independent Learning

Students will have a short homework assignment aligned to each success criterion.

7 What resources (materials and sentence frames) are needed?

1. Graph paper for conversation roundtable foldables
2. Colored pencils or pens for foldables (different color for each group member)

8 How will I organize and facilitate the learning? What questions will I ask? How will I initiate closure?

This lesson will be an almost-linear path through the gradual release of responsibility. I will begin with focused instruction, then transition to guided practice, and then we will start our collaborative task. After the collaborative task, we will close with a whole-class discussion and students will be assigned an independent learning homework assignment aligned to today's success criteria.