

# Lesson Plan Four:

## GEOMETRY AND MEASUREMENT

### The Problem

Create a problem that requires students to think deeply about geometry or measurement. Replace this text with the problem in the exact way you would present it to students. If you need any visuals to explain the problem, please include them here or include a link here.

Here is a link to the geometry standards in elementary school, which might get you thinking.

[Geometry Standards](#)  
[Measurement Standards](#)

Here is a link to an article that might help you think about problem ideas.

[Geometric Measurement](#)

### Preparation

#### Practice 1: Anticipation

Anticipate likely student responses.

*Anticipated Strategies*  
List at least three anticipated strategies. Show the work for the strategy. If possible, name the strategy (e.g., counting, compensation, partial products, etc.).

*Explain what part of the solution you would expect to focus your questioning on during the class. List at least two questions for each strategy.*

Strategy 1:

Strategy 2:

Strategy 3:

### Launch

Create a step-by-step account of what will happen during this part of the lesson. What will the students be doing? What will the teacher be doing?

Are there any key things you want the teacher to remember to do during this time? (e.g., ask a student to repeat the problem)

### Explore

#### Practice 2: Monitor

Monitor students' actual responses to the problem.

List at least three things the teacher should be doing during this time.

Suggest specific questions or *Talk Moves* the teacher might use to engage in Responsive Listening during this stage?

# 1:

# 2

# 3

### Summarize

#### Practice 3 and 4: Selecting and Sequencing

Select particular students to present their mathematical work, and Sequence the student responses to be displayed in a specific order.

Using the three solutions you anticipated above. Choose the two solutions you would like to share in a class. Show what order you would present them in and explain why you chose that order. Note: the similarity,

Suggest specific questions or *Talk Moves* the teacher might use to help engage various students during the presentations?

connection, and takeaway might be similar to each other.

First Solution Shared:

Second Solution Shared:

Explanation:

### Practice 5: Connecting

Connecting different students' responses and connecting the responses to key mathematical ideas.

Using the two solutions you selected to present in front of a class, what similarity, what difference, and what connection are most important for students to recognize.

What questions might you ask to help make the similarities, differences, and connections apparent to students?

Similarity:

Difference:

Connection:

### Lesson Outcome

What do you want students to take away from this lesson?

Write one or two sentences explaining the main idea that you want students to get from the lesson. The takeaway will likely be similar to the connection.

Take Away:

### Teacher Talk Moves

Talk Move Name	Purpose	Sentence Starters
<b>Goal One: Help Individual Students Share, Expand and Clarify Their Own Thinking</b>		
Wait Time	Giving students time to think	Partner Talk Writing as Think Time Wait Time
Elaborating	Expanding student thinking; asking for details	"Would you like to say more about ... ?" "What do you mean by ... ?" "Can you give an example?"
Revoicing	Clarifying student thinking	"So, let me see if I've got what you're saying. Are you saying ... ?"
<b>Goal Two: Help Students Deepen Their Reasoning</b>		
Asking for Evidence	Prompting students to justify their work.	"Why does that work?" "What's your evidence?" "How did you arrive at that conclusion?"
Challenging Thinking	Pushing students to think beyond the current problem.	"Does it always work that way?" "What if it had been _____ instead?" "Will this work every time?"
<b>Goal Three: Help Students Think with Others</b>		
Explaining Another Student's Thinking	Showing that one student is listening to another student. Highlighting important information.	"Who can repeat what _____ just said and put it into their own words?" "Who thinks they could explain why _____ came up with that answer?" "Why do you think he said that?"
Adding On to Another Student's Thinking	Building on and extending each other's thinking.	"Would anyone like to add on to what _____ said?" "Can anyone take that suggestion and push it a little further?"

Evaluating Someone Else's Work	The class determines what is accurate, not the teacher.	"Do you agree/disagree with _____? (and why?)" "Does anyone want to respond to that idea?" "What do people think about what _____ said?"
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