

# Research-Based Questioning Strategies for 6–8 Mathematics

## Understand the Problem

- What is the unknown or question you are investigating?
- What do you understand about the problem?
- How can you restate the problem?
- Are there units of measure associated with the problem?
- What information or data do you have?
- What information or data do you need?
- Is there extra information? If so, what is it?
- Could you represent the problem or question by drawing a figure? How?
- Have you solved a problem or conducted an investigation similar to this one before?

## Make a Plan

- Have you solved a problem or conducted an investigation like this before?
- What do you predict will happen?
- What information or data do you need?
- What procedure or strategy will lead you to a reliable result?
- What materials or tools might help you solve this problem?
- Can you solve a simpler problem that will help you with this problem, or have you done a similar investigation?
- Can you draw a sketch or a diagram?
- Do you see a pattern or common properties? How can you organize your data?

## Carry Out the Plan

- Is the plan leading you to a reasonable solution or conclusion? How do you know?
- Can you explain your procedure (what you did first, second, and so on) and why you chose that plan?
- Does the answer have a unit of measure?
- If you are having difficulty, what other strategy or procedures might you try?
- Is your strategy or method leading you to an answer or conclusion that is consistent with your prediction? If not, why not?

**Evaluate the Solution for Reasonableness**

- Is the answer or conclusion reasonable? Is it reliable? How do you know?
- Does the answer have a unit of measure?
- Could you solve this problem another way? How?
- Could other methods be used to solve the problem?
- Could you solve this in an easier or more reliable way? Why is this method easier or more reliable than the one previously chosen?
- Could you write another problem or design another investigation that is similar? More challenging?