

## PROBLEM SOLVING PROCESS

### NOTICE & WONDER

**Focus** students' thinking about the problem.

- What do you notice?
- What do you wonder?
- What question is the problem asking?

### PREDICT & JUSTIFY

**Uncover** students' thinking around how they plan to address the problem.

- What is your prediction?
- What strategy will you use to test it?
- What do you think will happen when you test your prediction and why?

### TEST & OBSERVE

**Encourage** students to observe and process the results of testing their hypothesis.

- Test your hypothesis.
- Describe what happened.

### ANALYZE & LEARN

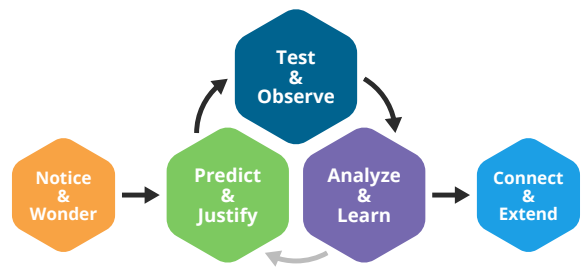
**Facilitate** students in analyzing the feedback/results.

- How does this compare to what you thought would happen?
- What did you learn?
- How will you use what you learned?

### CONNECT & EXTEND

**Stretch** students' thinking.

- How does what you learned support your understanding of [the concept]?
- What would happen if \_\_\_\_\_?
- How would you apply this concept to [this] situation?



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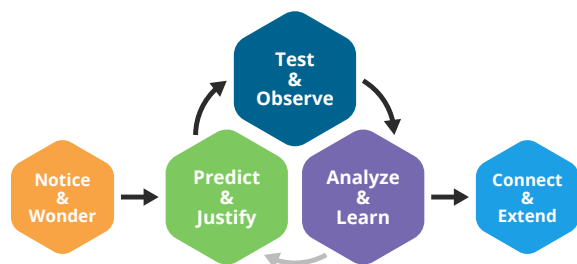
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## PROBLEM SOLVING PROCESS

When your students struggle with...

### Getting Started

- What do you need to do to solve this problem?
- What do you know about this problem and what do you need to know?
- What question is this problem asking you to solve?
- How might you begin?

### Identifying and Testing Strategies

- What is your strategy? Why is that the best strategy?
- What will happen if you click on \_\_\_\_\_?

### Persevering

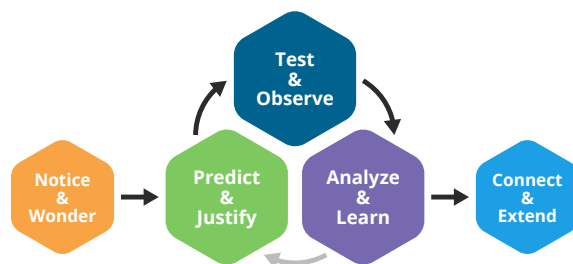
- Is there anything you learned from those earlier levels that can help you now?
- Is this like \_\_\_\_\_ that you did earlier? How is it the same? How is it different?
- What have you tried? What happened?
- What did you try that did not work? Why did it not work?
- What do you already know about (concept/problem)?

### Learning from Feedback

- What did you learn from the feedback?
- What do you need to do next?
- What did you see that showed you the answer was wrong?
- Explain why your answer was correct or incorrect.
- How did the earlier problems/levels work?

### Extending and Connecting

- Please explain it in a different way.
- Is there another way to solve this puzzle?
- Which strategy is most efficient?
- Can you represent this puzzle symbolically?
- Show me how this will work on the next problem.
- Why did you \_\_\_\_\_?



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