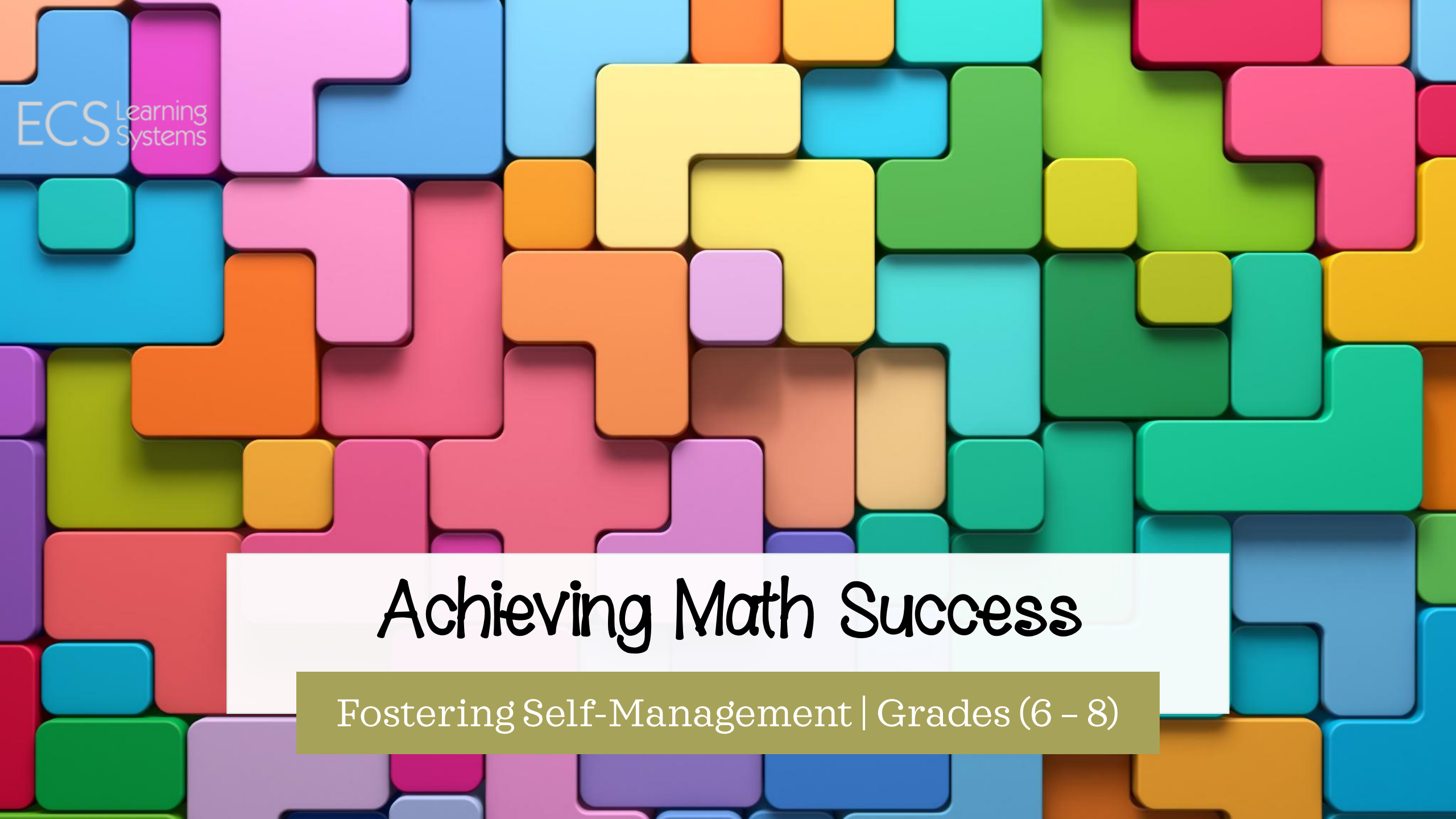
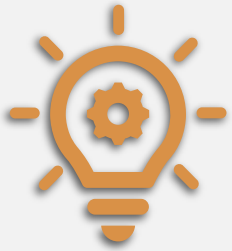
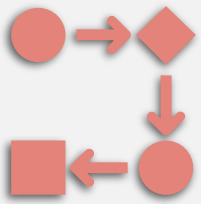

ECS Learning Systems
Achieving Math Success
Fostering Self-Management | Grades (6 – 8)

- To achieve real success in mathematics, students must be able to manage and direct problem-solving challenges on their own.
- This self-management involves several important skills, including the following.



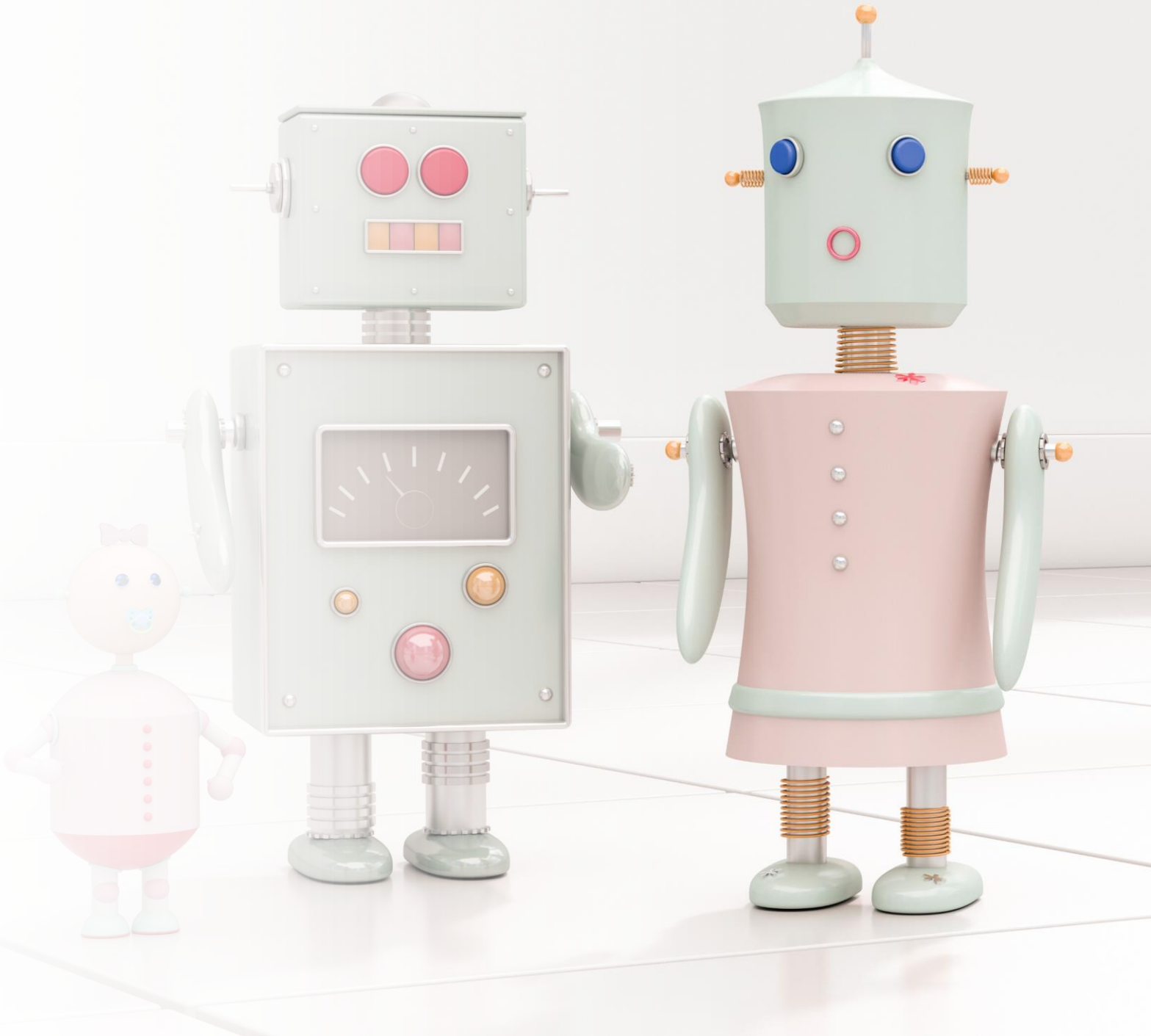
Self-monitoring: To be successful in mathematics, students must know how to tap into what they already know about a problem, what they are thinking as they approach the problem, and how they are thinking about it.



Self-regulation: Successful students also recognize when a process or an approach is not leading them in the right direction and can redirect their efforts to achieve the desired results or arrive at the correct answer.

Self-assessment: Students who know how to evaluate both their problem-solving approach and the results of their work also meet with the greatest success in mathematics.

How can you help foster this kind of self-management in your student?

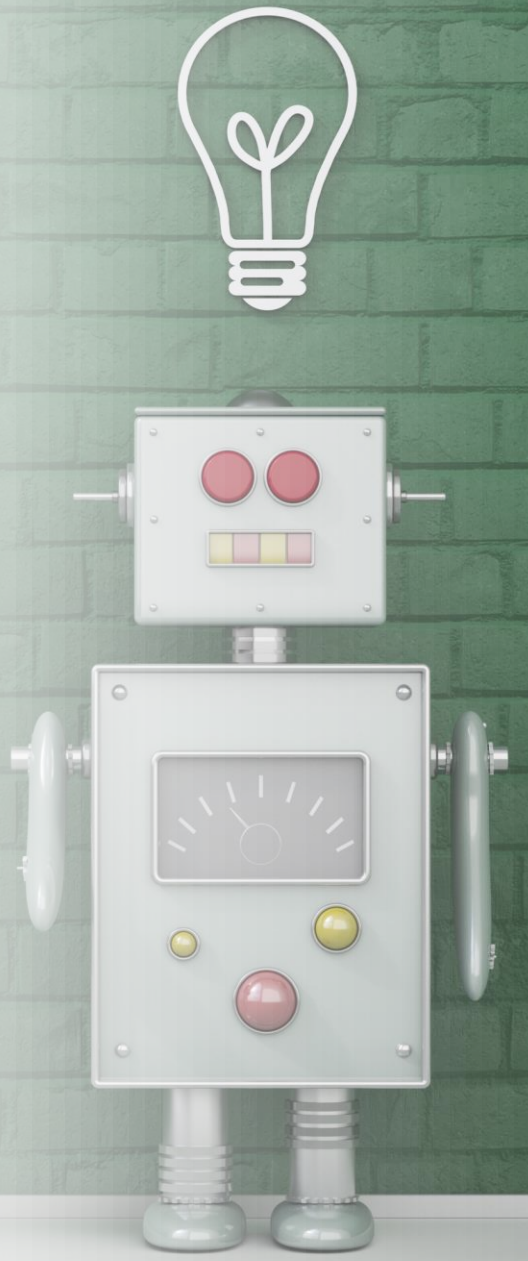


- Effective questioning strategies provide one way to encourage students.

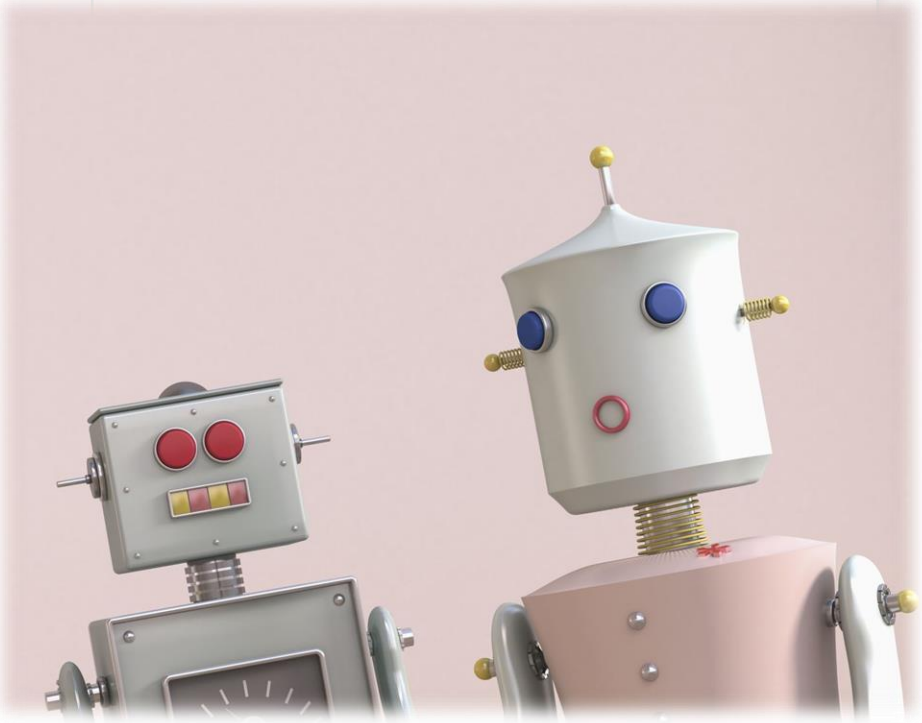
- You can model for your student the kinds of questions they should be asking themselves as they engage in mathematics.

These are some examples of such student-asked questions.

- What am I supposed to find out in this problem?
- What can I predict about the solution to this problem?
- Could there be more than one solution to this problem?
- What do I already know about the problem?
- What can I do with what I already know?
- Is any important information missing? If so, what information is missing?
- Have I solved a problem like this before? If so, how did I solve it?
- Which problem-solving methods do I know?
- Which problem-solving methods might help me solve this problem?
- How well did my problem-solving method work?
- What could I have done differently?
- If I encounter a problem like this in the future, what will I do?



- Through their own questions, families can also lead students toward greater self-management.
- Some examples of family-asked questions appear below.



Probing questions:

- Why did you begin solving the problem that way?
- What were you thinking about when you _____ ?

Clarification questions:

- What did you mean when you said __ ?
- Could you give an example of _____ ?

Elaboration questions:

- What information did you use to ____ ?
- What else can you tell the me about _____ ?

Redirection questions:

- What could you have done if your first way didn't work?
- Is there another way you could have solved the problem?
- Have you thought about trying _____ ?

Supporting questions:

- I think your strategy was very effective. Why did you choose that way to solve the problem?
- Why could you get the right answer so quickly?

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