

Achieving Math Success

Fostering Self-Management | Grades 1 - 5



- 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.
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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?



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- 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.

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- **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 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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