

Why Teach Problem Solving, Part II: How to Help Your Child Solve Problems at Home

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In the previous article, I explained why it is so important that our children learn to be good problem-solvers. In this article, I give parents, guardians, and families advice on how they can help their children solve problems at home, without having to know all the mathematics or the answers.

One painless way to provide help to a child solving a problem is to ask simple questions. I have included a list of questions that you can ask, one-by-one, to help your children gradually make sense of a new problem, especially ones they don't immediately know how to solve. A well-timed question can open up your child's thinking about the problem at hand and often help a student remember what he/she learned in class.

Note: Remember that listening to your child's answer to each of your questions and providing calm responses are as important as posing the questions. Listening will help you choose the next question to ask; don't just ask them all in order.

1. Help your child understand the problem

before he/she begins to solve it. Ask:

- ✓ Can you state the problem in your own words?
- ✓ What are you trying to find or do?
- ✓ What are the unknowns?
- ✓ What information can you obtain from the problem?
- ✓ What information, if any, is missing or not needed?

2. Help your child devise a plan or strategy for solving a problem by choosing a problem-solving strategy.

- ✓ Guess and test
- ✓ Look for a pattern
- ✓ Make a drawing or model
- ✓ Act it out
- ✓ Work backwards
- ✓ Simplify the problem
- ✓ Eliminate possibilities
- ✓ Make a systematic list
- ✓ Write an equation

3. Once your student has chosen, help your child carry out his/her strategy ask:

- ✓ Why did you pick (that) problem-solving strategy?
- ✓ Is there another related problem like this one that you have solved before? What strategy did you use for that problem?
- ✓ How will you use this strategy? What will you do first? Next?
- ✓ Did you check each step as you worked? Don't forget why you are doing each step!
- ✓ Is there another strategy for finding the solution to the problem? Do you think it is better?
- ✓ Can you explain to me how you are sure this strategy worked?

4. Help your child reflect a moment on his/her answer to a problem. Ask:

- ✓ Did you check your computations for correctness? Double check!
- ✓ Have you kept an accurate and neat record of your work? Remember, your teacher will have to figure out your work.
- ✓ Did you reread the original problem to make sure your answer makes sense, is reasonable, and actually answers the question?

Don't forget that problem solving is often a group effort in real life. You and other members of your family can sit down with your child and grapple with a good problem together; just don't get carried away and do the problem for him or her. When the problem has been solved to everyone's satisfaction, take a moment to pat yourselves on the back and feel good about your work. 📦

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