

Suggestions for Homework Help in Mathematics

In helping children learn, one goal is to assist children in figuring out as much as they can for themselves (e.g., constructing meaning). You can help by asking questions that guide, *without* telling what to do.

Good questions and good listening will help children make sense of mathematics, build self-confidence, and encourage mathematical thinking and communication. A good question opens up a problem and supports different ways of thinking about it. Here are some questions you might try; notice that none of them can be answered with a simple "yes" or "no." By using these questions, you will be helping your child set up habits of thinking that will lead to continued future success in mathematics.

These questions are intended to support you in guiding your child through their stuck point. You may not need to ask any questions, but if you do these questions can support you in helping your child grow and think like a mathematician.

Solving a Problem

Getting Started

- How would you describe the problem in your own words?
- How would you describe what you are trying to find?
- What information is given in the problem?
- What are some other problems that are similar to this one?
- How might you use one of your previous problems to help you begin?

While Working

- Describe what you have already tried. What might you change?
- Talk me through the steps you've used to this point.
- What steps in the process are you most confident about?
- What are some strategies you might try?
- Can you make a drawing (model) to explain your thinking?
- How else might you organize...represent...show...?
- What would happen if...?
- What do you need to do next?
- Do you see any patterns or relationships that will help solve this?
- How does this relate to...?
- Can you make a prediction?

Reflecting about the solution

- How do you know your solution (conclusion) is reasonable?
- How did you arrive at your answer?
- How can you convince me your answer makes sense?
- What did you try that did not work?
- Has the question been answered?

Responding (helping your children clarify and extend their thinking)

- Can you explain it in a different way?
- Is there another possibility or strategy that would work?
- Help me understand this part...
- Are there any questions you want to ask your teacher?

Doing More Math at Home

Two important goals for all students are that 1) they learn to value mathematics and 2) they become confident in their ability to do mathematics. Parents can help children develop a "can do" disposition toward math, by nurturing their children's natural curiosity and providing support and encouragement.

Math is everywhere, yet many children don't see it. Look for ways to point out and reinforce math skills at home. For example:

- talk about how you use math at work or in the home

- involve children in tasks that require computing, measuring, estimating, building, following directions, problem solving and reasoning

- look for activities that require children to use their math skills such as building scale models, cooking, planning trips, and playing logic games

Look for games and activities that teach and/or reinforce math and thinking. For example, look for games that:

- require and develop skill with mental computation and estimation

- require players to use their math skills

- involve the development of strategies

- require players to think about the probability of certain events occurring

- require the use of spatial visualization skills

- require logical thinking

Share your problem-solving strategies and techniques, mental computation strategies, and estimation strategies. Have your children teach you some. Work on the same problem, then compare strategies as well as answers.

Invite your children to explain what was learned in math class or have them teach it to you. It provides an opportunity for children to help clarify their thinking, to practice new skills, and to practice communicating mathematically.