

Helping at Home: Learning from Mistakes

Making mistakes is a part of how children learn, and learning math is no different. When children are in an environment where they understand it's acceptable to make a mistake, they actually work harder. What can you do to support your child when they are solving a math problem and make a mistake? When you notice the mistake, focus on understanding your child's thinking and offering encouragement. Here are a few things you can try:

Stay positive.

Remind your child (and yourself) that learning something new often involves learning from our mistakes. Validate your child's efforts and offer words of encouragement.

Example: "You are working hard on that problem" or "You're really thinking hard about this."

Let the learner do the explaining.

Instead of pointing out the error and showing your child how you would solve it, start by asking questions to understand your child's thinking and help them identify their own errors. Build on what they already understand.

Example: "I want to understand your thinking" or "Can you tell me about what you did?" or "Help me understand this part of what you did."

Understand the meaning of the mistake.

To address a mistake, it's important to understand the reason for it. As your child shares, consider the reason for the error.

- **Computational Error:** Computational errors occur when the child understands the problem and how to solve it but makes an error when calculating. Sometimes this happens because of hurrying or forgetting a step in a process and sometimes it's an indicator that the child isn't yet fluent with a fact or strategy. These are errors that children often catch on their own when given the opportunity to explain their thinking.

Example: When solving 3×7 a child gives the answer 18. When asked to share how they thought about it, they say, "Oh, wait ... 3×6 is 18. Three times 7 is 3 more than that, so 21."

- **Conceptual Error:** Conceptual errors happen when children don't fully understand the mathematical concepts of the problem they're solving or the *why* behind the procedure they are trying to use to solve it. Talk to your child's teacher if you see your child making conceptual errors.

Example: When adding $\frac{1}{6}$ and $\frac{1}{8}$, the child writes the answer $\frac{2}{14}$. When asked to share their thinking, they say, "I added the top numbers together and then the bottom numbers."

Making mistakes while learning math is OK – it's an opportunity for your child to build resilience and deepen their understanding. As Jo Boaler, a professor of mathematics education at Stanford University, says, "If kids are not making mistakes—if they are not struggling—we're limiting their brain growth."