



HELPING
YOUR CHILDREN
LEARN AND ENJOY
MATHEMATICS

LINKING TECHNOLOGY TO MATH

Calculators and computers were invented to save time and allow us to solve challenging problems with greater ease. These tools are so good at this that they've become essential for doing mathematics at home and in the workplace. Technology gives us visual images of mathematical ideas, helps us organize and analyze data, and allows us to make calculations quickly, efficiently, and accurately.

Technology can also help students learn and understand mathematics. It can stimulate interest, increase problem-solving abilities, and—when used wisely—give all students increased access to math. With proper guidance, your children can use technology tools to solve difficult mathematical problems, build computational skills, and tackle real-life math problems like planning a family road trip, building a budget, or saving for a purchase.

But technology is not a replacement for learning and doing mathematics. As much as we might like technology to provide magic solutions to math problems, it doesn't do that. For technology to help us with math, we must still know how and when to add, subtract, multiply, and divide. We must understand numbers, know how to make calculations, and be familiar with problem-solving strategies. This is true for both children and adults.

A calculator won't help your children find the solution to a "story problem" if they don't know whether it requires multiplication or division. Technology can support and develop student learning of mathematics, but it does not replace basic skills or understanding of math concepts.

Here are some thoughts about how technology might figure in your children's mathematics learning.

- Help your children decide which math tool is best for a given problem—technology, paper and pencil, mental math, or estimation. Help them

think and talk through the process of solving the problem. Writing the problem on paper first may make it easier to choose the best tool for solving it.

- If you have a calculator, computer, or other math tools at home, guide your children in exploring the kinds of tasks they can perform. Help them experiment, then let them play! When the time comes to choose a tool for a real math task, they'll be more likely to select the best one.
- When using calculators and other technology, determining if the answer makes sense is critically important. Learning basic math facts, knowing how to estimate, practicing math procedures, and understanding the math behind real-life situations will help your children do that.
- Sometimes a calculator or computer can help children focus on problem-solving procedures or see number patterns without getting bogged down by calculations. These tools and other specialized technologies can also assist students who have special needs or physical challenges become more engaged in math.
- For children struggling to learn math facts, software and online programs can provide extra drill and practice. Most of these programs are engaging, move at the student's pace, and give immediate feedback. They can be very helpful, but parents are cautioned not to put too much emphasis on math drills.
- High-tech tools can give older children opportunities to see visual representations of complex mathematical ideas. For example, spreadsheet software can help students organize statistical information, turn numbers into visual charts and graphs, identify patterns in science and math, and make predictions based on the information they compile.
- Graphing calculators are great tools for high school students, allowing them to pose "what if" questions and see what happens when a single variable is changed and everything else remains the same. Because these calculators can produce 20 graphs in the time it takes to plot just one with paper and pencil, it encourages students to thoroughly explore mathematics situations.
- Internet websites can provide students of all ages with math instruction, homework help, or challenging interactive math-focused games and puzzles. The Internet resources listed on page 27 are a good place to start looking for educational math websites.

