

Tips for Parents: Algebra

What's wrong with algebra?

What is it about algebra that discourages even good math students? It's not actually algebra that's the problem. The real problem is the fact that students don't *do* algebra until ninth grade. Unfortunately, not only algebra but many important mathematical concepts are not introduced until later years.

An early start

Algebra should be introduced much sooner. In Japan, students are learning algebraic concepts as early as third grade. An early start would give students more opportunities to use algebra and, therefore, make them more comfortable with both the concepts and the vocabulary.

Understanding mathematics

In the twenty-first century, the need for a mathematically literate workforce is critical. Changing technology will place even higher demands on workers' knowledge and skills.

The emphasis must be on getting students to think about how to use math in real-life situations. Teachers need to teach children how to think mathematically.

Why change the way math is taught?

Studies show that the United States lags behind many other countries in math skills. Shifts in technology and how math is used require that math be taught using a different approach.

Jobs in the future will require skills such as:

- Understanding the underlying mathematical features of a problem
- The ability to see how mathematical ideas apply to both common and complex problems
- The ability to work with others on problems involving mathematics
- Belief in the utility and value of mathematics

Informed citizens

Today's students will be tomorrow's voters. They will need to be able to make educated decisions involving complex issues such as:

- Environmental protection
- Nuclear energy
- Defense spending
- Space exploration
- Medical advances

These needs cannot be met if 25 percent of high school students drop out before graduation, and only a few of those remaining complete four years of high school mathematics.

Equal opportunities

Most people who study advanced mathematics are white males. This fact explains why women and minorities are noticeably absent in careers involving science and mathematics.

What can you do to help?

Be positive about math. Express confidence in your teen's ability to do math. Don't stress your own fear of math, how difficult math is, or how much you admire anyone who can do math. Remember, *everyone* can and does use math all the time.

Talk to teachers. Teachers have materials that you can use at home. They also have access to books, kits, and professional organizations that can help. Discuss with teachers and the principal the need to incorporate algebra earlier into the mathematics program, giving students the head start they need.

Encourage your school district to provide teachers with additional training in mathematics.

Teachers need to be given the time and financial support to attend professional meetings, learn from math consultants, and share math-teaching experiences with colleagues.

Choose gifts that develop problem-solving skills. Blocks, building sets, geometric tile sets, puzzles, board games, weather stations, maps, calculators, strategy games, tangrams, scales, and origami are just a few of the gifts that will give pleasure and knowledge at the same time.

Help relate mathematics to real life. Instead of asking children to "find the sum" or "solve for 'y'", encourage the application of mathematics to their everyday experience. For example, ask children to prepare a realistic water conservation plan for your family or suggest ways to save rain water.

For more information:

Web articles:

"Who needs algebra? Everyone!" Northwest Teacher, 2005

<http://www.nwrel.org/comm/catalog/detail.asp?RID=16040>

Executive Summary

"Principles and Standards for School Mathematics"

National Council of Teachers of Mathematics

http://www.nctm.org/standards/12752_exec_pssm.pdf

Help our community grow—Share with a friend!

