

## **What Parents and Families Can Do**

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### **Your Role**

The family is the most important force in a child's education. The parent's influence can make the greatest impact on whether a child succeeds in school, especially in mathematics. Parents and other family members can help by:

- *Encouraging their children in mathematics, showing by their own attitude that it is important.* Be positive about learning math, support the idea that anyone can learn math if they study. Reinforce the idea that learning math and solving problems can be enjoyable and rewarding.
- *Set high expectations for children's performance and work in mathematics.* Encourage children to take the best and most advanced courses available. Make sure that they take algebra in eighth or ninth grade and continue to take mathematics each year they are in school. Set a goal to take Advanced Placement (AP) courses in high school that carry college credit.
- *Get to know the school, the teachers, and the courses that are available.* Make sure schools offer mathematics courses that reflect the standards of the National Council of Teachers of Mathematics and other professional organizations. Be aware of the school achievement levels in math and science. Attend PTA and other parent meetings. Make time to volunteer in school and other community educational programs, especially those in math and science.
- *Provide opportunities for informal education for your children.* Include visits to museums, zoos, and technology exhibits among family outings. Encourage children to do projects, build models, make collections, and explore scientific and technical topics. Help children to recognize the many ways that mathematics serves as a tool for science and many other activities. For birthday and holiday gifts, buy mathematical and scientific books, kits, puzzles, games, calculators and

toys. Encourage children to read scientific magazines; borrow these from the library or subscribe or share a subscription with other parents. Have them read about the lives of scientists and engineers, especially minorities and women. Encourage watching television programs such as Square One TV, Futures, Newton's Apple, National Geographic, and Nova. If possible, get access to a computer and some interesting software for exploring mathematics and science. Some schools have computer loan programs; many libraries have computers that students can use. Some communities have community computer centers. As the prices of computers come down, owning a home computer is in the reach of more and more families.

- *Spend time with your child.* Work together on projects, doing household jobs, visiting museums, talking about school work, and thinking about the future. The *Math Power* activities can be a starting point for exploring ideas and talking about things going on at school or about a career. Even while shopping, have your child do the mental computations connected to discounting or to tallying the grocery bill or computing tax.

### **Facts about Mathematics and Going To College**

Recent studies have shown that the average high school graduate earns \$1,045 a month, a college graduate earns \$1,841 a month, and a person with a doctorate degree earns \$3,265 a month.

A recent survey showed that 95 percent of job offers to college graduates went to people with degrees requiring calculus.

<b>Major</b>	<b>Percent of Offers</b>	<b>Monthly Salary</b>
Engineering	50%	\$2,434
Business	42%	\$1,926
Sciences	08%	\$2,281
Economics	03%	\$2,051
Ag/Health Sciences	02%	\$1,847
"Non-Calculus" fields	05%	\$1,731

*Source: CPC Salary Survey, A Study of 1987-88 Beginning Offers.*

For students to enter one of the fields requiring calculus, they must take a full four years of mathematics in high school. Here are the math courses that a student should take, beginning in 7th grade:

<b>Grade</b>	<b>Required Math Course</b>	<b>Optional</b>
7th	Pre-algebra or Algebra I	
8th	Algebra I or Geometry	Computers
9th	Geometry or Algebra II	Computers
10th	Algebra II or Pre-calculus	Computers
11th	Pre-calculus or Calculus I	Statistics
12th	Calculus I or Calculus II	Matrix Algebra

Avoid courses such as Business Math, General Math, Consumer Math, or Fundamentals of Math. None of these provide preparation for college study. In addition to the math courses, take physics, chemistry, biology, and other science courses that require mathematics background.