

# A whole generation of technical, math illiterates

Emerging occupational areas in high technology demand a strong background in mathematics and the sciences.

However, a recent study conducted by the Michigan chapter of the American Association of University Women found the number of students taking math courses declined sharply after completion of algebra in high school.

In addition, the National Science Foundation (NSF) recently documented data from a number of sources indicating a decline in student achievement in both mathematics and science.

NSF based its findings upon the following trends:

- Science achievement scores of U.S. 17-year-olds as measured in three national assessments of science.
- Mathematics scores of 17-year-olds as measured in two national assessments of mathematics. The decline was especially severe in the areas of problem solving and applications of mathematics.
- Mathematical and verbal scholastic aptitude tests (SAT) scores of students over an 18 year period through 1980.

Students prepared for post-secondary study.

**REMEDIAL MATHEMATICS** enrollments at four-year institutions of higher education increased 72 percent between 1975 and 1980, while total student enrollments increased by only 7 percent.

At public four-year colleges, 25 percent of the mathematics courses are remedial; at community college, 42 percent are remedial.

The NSF study declared, "As many as one-third of U.S. secondary schools do not offer sufficient mathematics to qualify their graduates for admission to accredited engineering schools."

Only one-third of the 21,000 U.S. high schools teach calculus, and fewer than one-third offer physics courses.

**BESIDES INSTRUCTION** in mathematics and sciences, appropriate

courses in modern technology also are not available.

Few systematic attempts are made to integrate learning in mathematics, science and technology. As a result, little coherent preparation is offered for the disciplinary courses encountered for the first time in the ninth and 10th grades (usually earth science and biology).

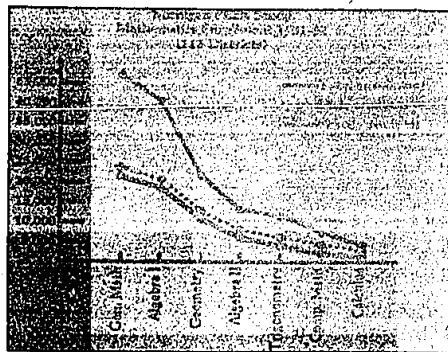
This condition is particularly unfortunate because a wealth of data supports the conclusion that students who dislike mathematics and science courses in the early grades, or who receive inadequate instruction in those grades, are unlikely to participate effectively in upper level courses.

We appear to be raising a generation of Americans, many of whom lack the understanding and the skills necessary to participate fully in the technological world in which they live and work.

This phenomenon is occurring at a time when the nation is experiencing unprecedented growth and development in highly technological areas.

SOME OBSERVERS have stated that we are in the process of developing two societies — one which is technologically literate, and one society which is not. To interrupt this trend, the National Science Foundation recommends the following three goals for educational systems.

1. To continue to develop and broaden the pool of students who are well prepared and highly motivated for advanced careers in mathematics, science and engineering;
2. To widen the range of high-quality educational offerings in mathematics, science and technology at all grade levels so more students will be prepared for, and thus have greater options to choose among, technically oriented careers and professions.
3. To increase the general mathematics, science and technology literacy of all citizens for life, work and full participation in the society of the future.



After they complete algebra, American high school students tend to quit taking mathematics courses.

## Adoptive parents get pointers

A series of Expectant Adoptive Parent Classes will start at 7 p.m. Monday, Nov. 21, in Botsford Hospital, Farmington Hills.

The classes are for families approved by a licensed adoption agency and awaiting placement of an infant up to 2 years of age. The sessions meet once a week for four weeks.

This series was designed to meet some of the needs prospective adoptive parents experience as they await placement of a child.

Most expectant parent classes are for the prenatal expectant couple and focus on baby care the first weeks of the infant's life. But most babies placed in the adoption process are at least 2 months old.

For information on future classes or to register for the upcoming one, call Maureen Sheat, Adoption Supervisor at Catholic Social Services of Wayne County at 855-2100, or Terry Alier at 459-7383.

Although no fee is charged, a tax-deductible donation of \$20 per couple is suggested and used for supplies.

**WORLD CAMERA'S CAMERA SHOW**  
MEADOWBROOK VILLAGE MALL  
WALTON AT ADAMS RD. BOCA RATON  
21 PHOTO MANUFACTURERS • LIVE MODELS  
CONTESTS  
FRI. SAT. & SUN. NOV. 11-12-13  
Fri 11:20 a.m. Sat 11:00 a.m. Sun 12:00 p.m.

**FREE** XGA \$75  
**FREE** X570 \$189.95

MEADOWBROOK - 375-9570

**Send Your Love Around The World.**  
With one call you can help give a needy child a brighter future  
**Christian Children's Fund, Inc.**  
1-800-228-3393  
(Toll Free)

**KIDS LOVE TO SKI**  
**WE TEACH THEM HOW! SATURDAYS**

- SINCE 1969
- Ages 7-17
- Small Classes
- Transportation
- Adult Supervision
- Certified CSA

**ENROLL NOW**

**MOUNTAINEER SKI SCHOOL**  
6600 Telegraph at Maple • Bloomfield Plaza  
626-9500  
HOURS: Mon.-Fri. 10-9, Sat. 9:30-5:30, Sun. 12-5

**Come January 1, you'll still get through to Edna in Engadine or your mom next door... as quickly and efficiently as ever.**

Starting January 1, 1984, whenever you place a local or long distance call within the LATA in which you live, you will be billed for that call by Michigan Bell, if Michigan Bell is your carrier.

When you place a call from your LATA to another LATA in Michigan or elsewhere, you will be billed by another long distance carrier. Some carriers may elect to have Michigan Bell include their charges in the bill Michigan Bell sends you. Others may not, and will bill you directly. We'll be telling you more about LATAs and other calling information as the details unfold.

So, as the expression goes — "not to worry." You'll still have your phone service — as good as ever — because we're working to make the changes in your phone company better changes for you. After all...

**IT'S AT&T WE'RE SEPARATING FROM... NOT YOU.**

**Facts down the line.**  
Because your telephone business office is busily engaged in normal, day-to-day telephone service matters, we are providing this toll-free number as a source for answers to the questions you may have about your changing telephone company. We also suggest that you watch for our informational messages in your newspapers and in your monthly telephone bills. 1 800 555-5000

**Michigan Bell**