

A vertical decorative bar on the left side of the page, featuring a background of vertical stripes in blue, yellow, and pink. Overlaid on these stripes are various mathematical symbols in corresponding colors, including the Greek letter Psi (Ψ), Phi (Φ), Delta (Δ), Pi (π), Sigma (Σ), Omega (Ω), and the letter S. The symbols are arranged in a vertical column, some overlapping each other.

**a guide to
online resources
for high school
math students**

**summer programs
who wants to be a mathematician
math in the media
career choices
...and more**

ams resources for math students

Maybe you already like math. Maybe you already do well in math. Maybe you would like to do well in math! Maybe you are already using math in everyday ways and didn't even know it! The AMS website has resources and links to other websites that will open your mind and expand your experiences as you study and progress in algebra, geometry, and calculus and begin to explore the ever-changing world of mathematical research.

summer programs

www.ams.org/careers-edu/mathcamps.html

For very talented high school students, the best chance to spend time with other gifted students and explore the world of mathematical research is at a summer math camp or program. Visit the web page for an up-to-date list of programs all around the U.S.



who wants to be a mathematician

www.ams.org/wwtbam/



In this game developed by Mike Breen (AMS Public Awareness Officer) and Bill Butterworth (DePaul University), high school students compete for cash and prizes by answering multiple choice mathematics questions. The top prize in each game is \$1500, donated by the AMS. Read highlights of past games and watch videos of games!

math in the media

www.ams.org/mathmedia



Here's a centralized tracker of articles about mathematics that appear in newspapers and science magazines. The collection includes "Tony Phillips' Take on Math in the Media," "Math Digest" (summaries of math in the news), and "Reviews" of books, plays, films, and TV shows with math themes.

arnold ross lectures

www.ams.org/meetings/ros-lect.html



The AMS sponsors a series of annual lectures for advanced math students. Read about past lectures and see if the next one will be in your area.

what's happening in the mathematical sciences

www.ams.org/ams/happening.html

Read sample chapters from this series of books published by the AMS on current mathematical research and applications.



web page for high school math students

www.ams.org/outreach/highschool.html

This AMS web page provides links to competitions and contests, posters and tools, math clubs and events, and sources for math help.

career choices

College graduates with a bachelor's degree in mathematics can qualify for a broad range of positions in business, industry, government, and teaching. Companies in the computer and communications industries employ many mathematicians, as do energy companies, banks, insurance companies, and consulting firms. Almost every bureau and branch of the federal government employs mathematicians in some capacity – in accounting, statistics, computer programming, energy, defense, space, among other areas. Those with a B.S. or M.S. degree in mathematics are in demand as K-12 math teachers, and those with a Ph.D. degree may find a career in research and teaching. Mathematical ideas and models are used in physics, chemistry, astronomy, and increasingly in the biological sciences. Even the social sciences – particularly economics and psychology – use mathematics. Actuarial science, computer science, and statistics all have math as their foundation.

All these careers can begin with an education in mathematics and a curiosity about the use of mathematics to solve problems.

the early career profiles network

www.ams.org/early-careers/



Most students have only a vague idea about the utility of a major in the mathematical sciences: “What can I do with a math degree?” In response, the AMS recruits and supports a network of math departments to systematically provide job profiles of their recent bachelors-degree alumni. Read about graduates of small colleges

and large universities who majored in math, where they work, how they use math on the job, and what advice they give to students. The program is supported in part by the Alfred P. Sloan Foundation.

investment analyst
computer programmer
actuary
climate analyst
financial manager
credit/loan officer
numerical analyst
mortgage broker
cost estimator
banker
forensic analyst
buyer
bank examiner
information scientist
data analyst
insurance agent/broker
animator

foreign-exchange trader
market research analyst
inventory control specialist
investment researcher
irs investigator
mathematician
budget analyst
appraiser
external auditor
cryptoanalyst
benefits administrator
commodities trader
claims adjuster
epidemiological analyst
contract administrator
controller
financial planner
estimator
air traffic controller
financial aid director
college professor
engineering analyst

mathematical moments

www.ams.org/mathmoments

Mathematics is used in careers in many fields. Mathematical Moments is a series of mini-posters that promote appreciation and understanding of the role mathematics plays in science, nature, technology and human culture. See the integral role mathematics plays in:



- + Routing Traffic through the Internet
- + Securing Internet Communication
- + Being a Better Sport
- + Recognizing Speech
- + Listening to Music
- + Describing the Oceans
- + Designing Aircraft
- + Storing Fingerprints
- + Investing in Markets
- + Tracking Products
- + Making Movies Come Alive
- + Manufacturing Better Lenses
- + Defeating Disease
- + Beating Traffic
- + Bringing Robots to Life
- + Forecasting Weather
- + Enhancing Your Image
- + Mapping the Brain
- + Making Votes Count

careers in mathematics

www.msri.org/ext/CareersInMathematics.html

This video contains interviews with mathematicians working in industry, business and government – at industrial based firms such as Kodak and Boeing, business and financial firms such as Price Waterhouse and D. E. Shaw & Co., and government agencies such as the National Institute of Standards and Technology and the Naval Sea System Command. Hear from people working outside academia about what their day-to-day work life is like and how their background in mathematics contributes to their ability to do their job. Careers in Mathematics was developed jointly by the American Mathematical Society (AMS), the Society for Industrial and Applied Mathematics (SIAM), and the Mathematical Association of America (MAA). The video is posted at the Mathematical Sciences Research Institute.

visit these interesting and entertaining math websites

mathematics awareness month

www.mathaware.org

Read the theme essays and download posters.

math forum's student center

www.mathforum.org/students/

Get help from Ask Dr. Math, try the Problems of the Week, and find math ideas for science fair projects.

plus magazine

www.plus.maths.org

Bookmark this website to read each month's articles, career interviews, puzzles and more.

mactutor history of mathematics archive

www-groups.dcs.st-andrews.ac.uk/~history/

Look up mathematicians, mathematical topics, and mathematics in various cultures from ancient times to the present day.

mathematics is everywhere

www.pims.math.ca/education/everywhere/

See illustrated essays about "Soccer Ball Symmetries," "Prime Numbers," "The Violin String," and "Chance and Randomness."

contact these professional societies for more information and resources

American Mathematical Society (AMS)

www.ams.org

American Statistical Association (ASA)

www.amstat.org

Association for Women in Mathematics (AWM)

www.awm-math.org

Mathematical Association of America (MAA)

www.maa.org

National Council of Teachers of Mathematics (NCTM)

www.nctm.org

Society for Advancement of Chicanos and Native Americans in Science (SACNAS)

www.sacnas.org

Society for Industrial and Applied Mathematics (SIAM)

www.siam.org