



FANTASTIC FUTURES!

STEM Careers You Should Know About

SUPER
SCIENTISTS



TOP TECH
WHIZZES



ENGAGING
ENGINEERS



MASTER
MATHEMATICIANS



BONUS: WHAT KIND OF STEM CAREER IS BEST FOR YOU? TAKE THE QUIZ!

Presented By

SAMSUNG

STEM-TASTIC JOBS!

Do you have any bright ideas about the world around you? You might have a STEM-tastic future ahead! STEM stands for science, technology, engineering, and math. Kids who use their STEM skills are great problem solvers and find new ways to make their communities better places. Read on to learn more!



Dazzle the World With SCIENCE

Science jobs have something for everyone: You can work with animals, plants, or the environment. You can learn about Earth, outer space, or the deep sea. Science is everywhere!



Food scientist

The scoop: Food scientists study food and make new foods and flavors.

You might be a good food scientist if:

- › You love to eat and try new flavors
- › You think chemistry is cool
- › You like to think of new ways to prepare food

What do food scientists do?

- › Create new flavors for foods and drinks
- › Invent foods for astronauts in space
- › Research new ways to package foods to keep them from going bad
- › Test foods for germs
- › Test how many vitamins and minerals are in different foods

How to get there:

Food scientists need a college degree. Many have graduate degrees.

Did You Know?

The world's population is expected to rise to over 9 billion by 2065. Food scientists make it possible for the world's population to be able to buy different foods for a low cost. Food scientists also invent new foods. Food scientists invented freeze-dried ice cream, which flew in space with the Apollo 7 space mission in 1968.

Source: www.census.gov



Wildlife biologist

The scoop: Wildlife biologists study wild animals and the ecosystems they live in.

You might be a good wildlife biologist if:

- › You love animals
- › You like to write
- › You love to spend time outdoors

What do wildlife biologists do?

- › Study animals and how they interact with other species
- › Collect animals, plants, and other specimens to study in the lab
- › Design experiments with animals in labs or in the wild
- › Help make plans for protecting wild species
- › Write research papers and reports

How to get there: Most wildlife biologists have at least a college degree. Those who do research at universities have graduate degrees.

Did You Know?

We're not as different from apes as we thought. At the age of 26, wildlife biologist Jane Goodall was accepted into the lives of wild chimpanzees in what is now Tanzania. Through detailed observation and a slow buildup of trust, she was able to observe behaviors that had never been seen before. They held tight family bonds, had a chain of command, and not only were they able to use tools, but they were seen making them.

Source: www.pbs.org/wnet/nature



Astronomer

The scoop: Astronomers study space—stars, planets, moons, galaxies, and more.

You might be a good astronomer if:

- › You love staring at the night sky
- › You're good at math and physics
- › You're curious

What do astronomers do?

- › Help plan missions to other planets
- › Use telescopes and other technology to study objects such as stars, comets, asteroids, and black holes
- › Design new tools like telescopes
- › Analyze data using computers and math
- › Write research papers and reports

How to get there: Most astronomers need a graduate degree.

Did You Know?

Questions of astronomy can sometimes be stranger than fiction. In 2004, physicist Stephen Hawking said that he solved the black hole puzzle. "Black holes are stranger than anything dreamt up by science fiction writers, but they are firmly matters of science," he said. His theory that things inside a black hole can escape or even be transported to another galaxy, may literally open up another world of possibilities.

Source: www.pbs.org/newshour

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📺 Watch Scientists at Work! <http://to.pbs.org/1pegxPO>
📄 Find the STEM Career for You! <http://bit.ly/1h7Sqs9>

Are you into computers? Do you love to fiddle with phones and portable devices? You're in luck. Technology jobs are hot and getting hotter!



Software developer

The scoop: Software developers create new computer programs.

You might be a good software developer if:

- › You love computers
- › You like organizing things
- › You're a good problem solver

What do software developers do?

- › Study the needs of computer users
- › Design and test products such as games, databases, or operating systems

- › Plan how all the pieces of a computer program will work together
- › Make diagrams to explain how to write the software code
- › Work in teams with others to fix software problems

How to get there: Most software developers need a college degree in computer science.

Did You Know?

Software Developers made selfies possible. Philippe Kahn created the first camera phone in 1997. Kahn's photo of his daughter's birth on June 11, 1997, is the first photo ever transmitted from a camera phone.

Source: www.fullpower.com/home/philippe_kahn

Network security analyst



The scoop: Network security analysts protect a company's computer networks from hackers.

You might be a good network security analyst if:

- › You understand complicated games and situations
- › You like to figure out where problems start
- › You pay attention to details

What do network security analysts do?

- › Monitor the computer network for attacks
- › Install programs to protect the company's information
- › Design tests to look for weaknesses in the company's computer system
- › Stay up-to-date on computer security news



Web developer

The scoop: Web developers design websites.

You might be a good web developer if:

- › You like understanding how things work
- › You're creative
- › You spend a lot of time online

What do web developers do?

- › Talk with clients to understand what they want their websites to do
- › Write computer code to make the website work
- › Choose colors and images to make the site easy to use
- › Make sure graphics, audio, and video all work together

How to get there: Most web developers need a two-year degree in web design. Some need a four-year college degree.

Did You Know?

Web developers use psychology to help guide viewer's actions. The way our eyes move through a web page is pretty much out of our control. Pages are designed to lead the eye with key words and even color. Studies have shown that certain colors can inspire different kinds of emotions. Yellow is believed to bring feelings of happiness, blue is said to be relaxing, and red is supposed to bring energy.

Source: <http://webdesign.tutsplus.com>

How to get there: Most network security analysts have a college degree in a computer-related field.

Did You Know?

Network security analysts make for happy online shoppers. Online hackers use computer programs to access accounts at online stores to steal buyers' personal information. But network security analysts are constantly at work making sure that your information is kept safe. Source: <http://www.wisegeekedu.com>



3D animator

The scoop: This type of animator uses computers to make 3D images for movies, commercials, or video games.

You might be a good 3D animator if:

- › You're artistic
- › You love going to the movies
- › You're good at math and computers

What do 3D animators do?

- › Map out scenes for new animated movies
- › Use computers to create 3D characters for animated films and games
- › Produce special effects like smoke and explosions
- › Work with a team to edit animations

How to get there: Most animators need a college degree in computer graphics or art.

Did You Know?

The majority of the cartoon movies you have seen were created by animators. In 1928 Walt Disney and animator Ub Iwerks produced "Steamboat Willie," the first cartoon to be synced with sound. The first full-length computer animated movie was "Toy Story" in 1995. Now computer animation is everywhere from video games to online and is more realistic than ever.

Source: www.imdb.com

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Get the Scoop on Biotech! <http://bit.ly/P9pzgn>
 Play the STEM Career Game! <http://ionfuture.org>

Buildings, cars, highways, and cities: Engineers design the systems that make our world work. Here are just a few of the cool things engineers can do!



Automotive engineer

The scoop: Automotive engineers create the ideas, designs, and machine parts for cars.

You might be a good automotive engineer if:

- › You love cars
- › You like to use your imagination
- › You like to take things apart to see how they work

What do automotive engineers do?

- › Design new fuel-efficient engines
- › Test how cars will protect passengers in a crash
- › Make cars safer and more comfortable
- › Develop exciting new car designs
- › Look for problems when a car's systems don't work right

How to get there: Most automotive engineers need a college degree in mechanical engineering. Many have graduate degrees.

Did You Know?

In 1939 a newspaper in San Antonio wrote that cars would one day be folded into a neat and tidy suitcase. Unfortunately, we haven't gotten there yet, but we may start seeing driverless cars on the road in the next few years. As of 2013, General Motors, Ford, Mercedes Benz, Volkswagen, Audi, Nissan, Toyota, BMW, and Volvo are all beginning to test driverless cars that use radar and GPS to navigate their environment.

Source: www.ianallanford.co.uk; www.forbes.com

Did You Know?

"Architects make civilization not only possible, but also beautiful." —Frank Lloyd Wright Wright was an American drafter and architect in the 20th century and is said to be the greatest American architect. He designed more than 1,000 buildings in his lifetime. One of his best-known masterpieces is the Guggenheim Museum in New York City.

Source: www.franklloydwright.org



Drafter

The scoop: Drafters take designs from engineers and architects. Then they turn them into technical plans.

You might be a good drafter if:

- › You enjoy using computers
- › You like to be part of a team
- › You're good at spotting details and problems

What do drafters do?

- › Turn sketches into technical drawings
- › Create plans for all kinds of products: toys, toasters, skyscrapers, spaceships, and more
- › Use special computer programs to create design plans
- › Work on a team with engineers and architects

How to get there:

Most drafters complete a technical program or two-year college.



Landscape architect

The scoop: Landscape architects design areas for spaces like parks, playgrounds, and gardens.

You might be a good landscape architect if:

- › You like to spend time outside
- › You enjoy working with other people
- › You're good at coming up with creative solutions

What do landscape architects do?

- › Fix damaged places like wetlands or rivers
- › Design gardens that collect storm water or trap air pollution
- › Repair historic places
- › Design new public places such as parks
- › Use computers to create models of new landscape designs

How to get there: Most landscape architects need a college degree. Some need a graduate degree. They must also earn a landscape architect's license.

Did You Know?

One person can drastically affect the way America looks. Beginning in 1857, landscape architect Frederick Law Olmsted and his firm created the designs for more than 6,000 green spaces across North America. Some of Olmsted's most famous green spaces are Central Park in New York City and Niagara Falls State Park. He is single-handedly responsible for preserving much of the natural space of environments all across North America.

Source: www.nps.gov



Civil engineer

The scoop: Civil engineers design big construction projects like dams, bridges, and water-supply systems.

You might be a good civil engineer if:

- › You want to build big things
- › You're good at math and problem solving
- › You have good writing skills

What do civil engineers do?

- › Study reports and maps to plan projects
- › Learn about government rules and apply for project permits
- › Test soil and building materials
- › Use computers to design new projects
- › Test buildings to make sure they are safe and strong

How to get there: Civil engineers need a college degree. Some have a graduate degree. They usually need to earn an engineer's license.

Did You Know?

The oldest example of civil engineering is one of the Seven Wonders of the World. The Great Pyramid at Giza is at least 5,000 years old. It was the tallest man-made structure in the world for nearly 4,000 years, which is even more impressive when you consider that it was built as a tomb.

Source: www.nationalgeographic.com

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🔗 **Engineer Your Path** <http://bit.ly/1hZLQUJ>
👩 **Girls Who Engineer** www.engineergirl.org

These awesome jobs have one thing in common: Killer math skills! But these jobs aren't just about numbers. Depending on your path, you'll also need creativity, communication skills, and/or a love of the outdoors. Math comes in handy in many kinds of careers.



Land surveyor

The scoop: Land surveyors map the environment to determine property borders.

You might be a good land surveyor if:

- › You want to work outdoors
- › You like gadgets
- › You pay attention to small details

What do land surveyors do?

- › Take measurements to help architects and builders plan new construction
- › Map crime scenes for court cases
- › Survey land under the ocean to

look for oil or find hazards that could damage boats

- › Use tools like scanners, cameras, and computers to measure distances and make maps

How to get there: Some land surveyors learn by being an apprentice. (They train with an experienced land surveyor.) Others get a four-year college degree.

Did You Know?

Land surveying goes back as far as Stonehenge. Humans have used the mathematical process of land surveying as a way of dividing up land and creating boundaries for centuries. The work of this STEM career can be seen in the perfect lines and angles of classic Greek and Roman buildings—many of which are still standing today.

Source: www.landsurveyors.com



Actuary

The scoop: Actuaries estimate how likely certain events are—and how much they might cost.

You might be a good actuary if:

- › You're interested in the future
- › You like to understand why events happen
- › You're good at explaining complex information

What do actuaries do?

- › Use computers to gather and analyze data for insurance companies and other clients
- › Estimate the likelihood of certain events—such as illnesses, accidents, floods, or fires—occurring
- › Figure out how much those events are likely to cost
- › Produce charts and reports to explain their estimates

How to get there: Actuaries need a college degree. They must pass a series of exams to become certified.

Did You Know?

You can use math to predict your life span. Using data and health information, actuaries can crunch the numbers for a group of people and figure out how long they will live. And the great part of predicting the future is that they can also help change it. Actuaries provide great information to the doctors and nurses that help us live long, healthy lives.

Source: www.ssa.gov



Statistician

The scoop: Statisticians collect and analyze data to solve real-world problems.

You might be a good statistician if:

- › You're logical and a critical thinker
- › You're good at creating categories and solving math problems
- › You can write and speak well to communicate your findings

What do statisticians do?

- › Use statistical methods to solve practical problems in science, engineering, business, and other fields
- › Decide what statistical methods will best solve a particular problem
- › Design surveys, polls, or experiments to collect data
- › Analyze and interpret the data
- › Present findings in ways that other team members can understand

How to get there: Statisticians usually have a college degree, plus a graduate degree in statistics or math.

Did You Know?

Fun facts brought to you by statisticians. Statisticians review all kinds of data and come up with important statistics as well as just-for-fun facts, like the ones below.

- One person uses about 57 sheets of toilet paper per day
- In Canada, 0.3% of all accidents involve a moose
- Only 30% of people can flare their nostrils
- The average person has over 1,460 dreams per year

Source: www.omgfacts.com; www.dslreports.com; www.funfanatic.com

Financial analyst



The scoop: Financial analysts help people manage their money.

You might be a good financial analyst if:

- › You're a good communicator
- › You have strong math and computer skills
- › You can make quick decisions

What do financial analysts do?

- › Learn about financial history and

new money trends

- › Study companies' financial information
- › Help clients figure out the best ways to invest their money
- › Work with other analysts

How to get there: Financial analysts must have a college degree. Many

also need a graduate degree. They also must earn a special professional license or certificate.

Did You Know?

Current events affect the economy every minute of the day. You can find tons of newspapers and articles on a financial analyst's desk. They have to keep up with social, political, and media trends, which makes them pretty interesting people to talk to.

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