

CAREERS SPEED MENTORING: MENTOR INSTRUCTIONS (~5 minutes)

- Prior to the event, Mentors need to familiarize themselves with STEM career fields such as those in the table below and the descriptions on the following pages.
- Tell the students that **STEM** stands for **Science, Technology, Engineering, and Math**.
- Let the students know that today they will be rotating through 4 different tables performing a hands-on activity for each STEM category.

<u>S</u> cience	<u>T</u> echnology	<u>E</u> ngineering	<u>M</u> ath
Microbiologist	Medical Laboratory Technologist	Mechanical Engineer	Accountant
Marine Biologist	Computer Programmer	Electrical Engineer	Budget Analyst
Physicist	Information Security Analyst	Civil Engineer	Statistician
Doctors, Optometrist		Software Engineer	

Reference: <https://www.gafutures.org/career-exploration/career-planning/research-career/>

- Introduce the STEM category at your table and the hands on activity that the students will be performing. (Refer to the separate instructions for the specific hands on activities.)
- **Ask the students if they can think of any career fields in your table's STEM category?**

SCIENCE

<u>S</u> cience	<u>T</u> echnology	<u>E</u> ngineering	<u>M</u> ath
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Ask the students - What is Science? A system of studying, observing, experimenting, and testing on things in the physical/natural world.

There are different science disciplines, for example, life science (the study of plants, animals, and the human body) and physical science (how things work, move, and function).

Ask the students - What are some careers in science and what do they do?

Microbiologist: Investigate the growth, structure, development, and other characteristics of microscopic organisms, such as bacteria, algae, or fungi. Includes medical microbiologists who study the relationship between organisms and disease or the effects of antibiotics on microorganisms.

Marine Biologist: Marine biologists study life in the oceans and sometimes the oceans themselves. They may investigate the behavior and physiological processes of marine species, or the diseases and environmental conditions that affect them. They may also assess the impacts of human activities on marine life.

Physicist: Conduct research into physical phenomena, develop theories on the basis of observation and experiments, and devise methods to apply physical laws and theories.

Doctors/Optometrist: Diagnose, manage, and treat conditions and diseases of the human eye and visual system. Examine eyes and visual system, diagnose problems or impairments, prescribe corrective lenses, and provide treatment.

TECHNOLOGY

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Ask the students - What is Technology?

The application of scientific knowledge or scientific discoveries for practical purposes, especially in industry.

Ask the students - What are some careers in technology and what do they do?

Medical Laboratory Technician/Technologist: Perform complex medical laboratory tests for diagnosis, treatment, and prevention of disease.

Computer Programmer: Create, modify, and test the code, forms, and scripts that allow computer applications to run. Develop and write computer programs to store, locate, and retrieve specific documents, data, and information.

Information Technology/Security Analyst: Plan, initiate, and manage information technology (IT) projects. Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information.

Mechatronics: Electro-mechanical technicians operate, test, and maintain unmanned, automated, robotic, or electromechanical equipment.

ENGINEERING

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Ask the Students - What is Engineering?

Engineering is the process of creating and building structures, products, and systems by using math, science, and technology. Engineers solve problems. They use math and science and technology to create new things or to improve a product.

Ask the Students – What are some different types of engineers and what do they do?

Mechanical: Plan and design tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment such as centralized heat, gas, water, and steam systems

Electrical: Research, design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use.

Civil: Plan, design, and oversee construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, and water and sewage systems.

Software: Research, design, develop, and test operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computing applications.

MATH

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Ask the Students - What is Math?

Math is the study and the use of numbers, quantities, shapes, and angles.

Ask the Students – What are some different types of math careers and what do they do.?

Accountant: Analyze financial information and prepare financial reports to determine or maintain record of assets, liabilities, profit and loss, tax liability, or other financial activities within an organization.

Budget analyst: Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Analyze budgeting and accounting reports.

Statistician: Develop or apply mathematical or statistical theory and methods to collect, organize, interpret, and summarize numerical data to provide usable information. May specialize in fields such as bio-statistics, agricultural statistics, business statistics, sports statistics, or economic statistics.

Mathematician: Conduct research in fundamental mathematics or in application of mathematical techniques to solve problems.