

Ideas That Help

Trace how research, solutions, and career resources connect to society.

3.4 "Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation for society..."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the sentences that tell how research or an innovation helps people. Circle each resource someone could use to explore a STEM career.

Research, Solutions, and STEM Careers

- ① Scientists ask questions, test ideas, and share evidence. For example, Marie Curie studied radiation, a kind of energy from some materials. Her research helped scientists learn more about atoms and led to new ways to use radiation in medicine. Today, doctors can use radiation to help find or treat some illnesses. A discovery can change what scientists study next and can help people.
- ② An innovation is a new or improved way to solve a problem. Engineers may test materials to make a water filter that removes dirt and some harmful germs. A useful filter can help a community get safer drinking water. As people use the filter, engineers collect information and improve its design. Research and innovation work together, so solutions can become safer and more helpful.
- ③ To explore a STEM career, use more than one resource. At a library, you might read a book about a civil engineer. At a science museum, you might notice a bridge-building display. A professional engineering organization or a company website can describe jobs and training. An online video from a trusted museum can add ideas. You can also ask a STEM mentor about daily work and the problems that person helps solve.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 How did Marie Curie's research impact science and society?

2 How do research and innovation work together in the water-filter example?

3 Name two resources a student could use to investigate a civil engineer. Tell what the student could learn from each resource.

4 What two things could a STEM mentor tell you about a STEM career?

3 YOUR TURN _____ Your own words

Choose a STEM career you want to explore. Write the career, name two resources you would use and what each could teach you, then explain one way this career could help society.

PART 1 • READ AND MARK

Underline the sentences that tell how research or an innovation helps people. Circle each resource someone could use to explore a STEM career. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	How did Marie Curie's research impact science and society?	Her research helped scientists learn more about atoms and led to medical uses of radiation that help doctors find or treat illnesses.
2	How do research and innovation work together in the water-filter example?	Engineers test materials to make a filter. After people use it, engineers collect information and improve the design so it can become safer and more helpful.
3	Name two resources a student could use to investigate a civil engineer. Tell what the student could learn from each resource.	Answers may include a library book to learn about a civil engineer, a science museum display about bridge building, or a professional organization or company website to learn about jobs and training.
4	What two things could a STEM mentor tell you about a STEM career?	A mentor could tell about daily work and the problems the person helps solve.

PART 3 • YOUR TURN (SAMPLE ANSWER)

I want to explore the career of a wildlife veterinarian. I would use a library book to learn which animals this scientist treats, and I would ask a veterinarian mentor about helping injured animals. This work helps society by keeping animal populations healthy and teaching people how to protect wildlife.

Accept any STEM career and two appropriate resources, as long as the student explains what each resource could provide. The response should include a reasonable, specific way the career can help people, communities, animals, or the environment.