Innovative Relationships Solve Problems

When people study the Earth scientifically, what they learn is called *geoscience*. Geoscience can be useful in solving many problems communities face. What are some problems that might need geoscience to help solve them? Think of a problem in your community that can be helped with geoscience.

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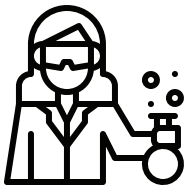
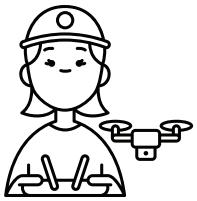
✎ Draw a picture that represents the problem in the middle of the circle below.

► Look at the people below. Which of these people use geoscience knowledge in their work? How could these different professions and community members work together towards solving the problem you drew?

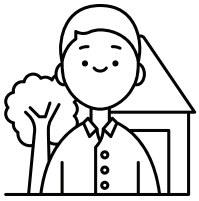
Geologist



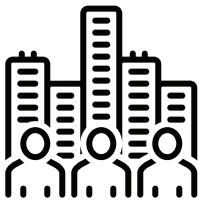
Physical Scientist



Drone Pilot

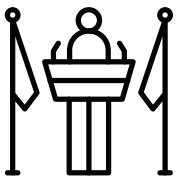


Community Member



Social Scientist

Student



Mayor/Politician

✎

► What other careers or community members can you think of that work together and use geoscience to solve problems in your community? Draw one in the blank square above. Color the pictures when you are done.

Icon credits: The Noun Project

Teaching about Innovative Relationships

DISCUSSION TOPICS AND QUESTIONS

- Let's talk about each profession on the page. What do you think they do? How could they use geoscience to help solve problems?

- What other professions could use geoscience to solve problems?

- Water quality is an issue around the world. Understanding natural sources of water is part of geoscience.

  - How do you think different communities are supplied with safe drinking water? Consider your community, another community in your country, and a community from somewhere else in the world.

  - How could each of the professions on the page help improve water quality in a community?

  - Think about how much time it takes for families to obtain safe drinking water in different communities around the world.

- Earthquakes are common and can be dangerous in certain communities. How do you think each of these professions can help use geoscience to decrease earthquake damage?

- Time is important to consider when dealing with natural hazards, such as earthquakes, tsunamis, or volcanoes. How could the relationships between the professions on the page help reduce the time for communities to receive help during a crisis?

Geoscientists *without* Borders® (GWB) (**www.seg.org/gwb**) is a program that uses Earth science to collect, process, and interpret data to help communities face environmental hardship and natural hazards. Ongoing projects in Nepal related to water quality issues and earthquakes utilize a variety of professionals from different disciplines who work together to help the community.

- Nepal ranks among the countries with the world's highest seismic risk due to large earthquakes, a dense population, and vulnerable residential buildings. GWB's project team is working to establish a low-cost, real-time earthquake monitoring system. Learn more about the earthquake project here: **https://bit.ly/444idBW**

- Water security is an issue that GWB's project lead is hoping to improve in Nepal. Scientists and students are using water quality and quantity testing, geological mapping, and an Electrical Resistivity Tomography (ERT) survey to solve the water problems of two communities. Learn more about the drinking water project here: **https://bit.ly/3KYQx8I**

To learn more about GWB Projects visit: **https://seg.org/About-SEG/Geoscientists-Without-Borders/Projects/map**

NGSS Connections

SEP: Asking Questions and Defining Problems; Obtaining, Evaluating, and Communicating Information
DCI: Human Impacts on Earth Systems
CCC: System and System Models, Stability and Change

SDG Connections

3: Good Health and Wellbeing: Professions work to improve and ensure the good health and wellbeing of community members.
10: Reduced Inequalities: Different professions work toward solving community issues for everyone.
11: Sustainable Cities and Communities: Different professions work together to solve community issues.

Geoscientists *without* Borders® is sponsored by the Society of Exploration Geophysicists

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