Careers at the Coast

Investigate how geoscience careers use evidence

ESS.4.5 "Enrichment: Research and communicate information regarding geoscience career options (e.g., geologist, petroleum engineer, meteorologist, paleontologist, astronomer, and oceanographer."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each specialist's job title and circle the evidence that specialist studies. Number two statements that would help you decide which career to research further.

Who Studies a Changing Shore?

1. After a winter storm, waves strip sand from a public beach and uncover an old walkway. The town wants to know whether the next storm could damage a nearby road. A meteorologist analyzes air pressure, winds, and storm tracks to estimate when severe weather may arrive. An oceanographer studies wave measurements, currents, and water levels to see how moving water could reach the shore. A geologist examines beach sediment and older shoreline deposits to learn where erosion has happened before. These specialists study the same place, but they ask different questions and gather different kinds of evidence.

2. No single forecast tells the town exactly where the beach will be ten years from now. A storm forecast concerns approaching conditions; patterns of waves and currents help explain water movement; sediment layers preserve clues about past changes. Working together, the researchers can identify risks while making clear which predictions remain uncertain. Their jobs also differ in daily practice. A meteorologist might interpret radar and computer models, an oceanographer might deploy water sensors, and a geologist might describe sediment samples. Field trips are only part of the work: analyzing data and explaining findings to other people matter, too.

3. If you are exploring one of these careers, a dramatic storm report is not enough evidence about the job. A career profile from a government agency or a university can give details about typical duties, preparation, and workplaces. Check who published it and when, because tools and entry requirements can change. Compare its claims with another source when possible, and separate a common duty from something only one worker does. In a short career report, name your source, describe a specific finding, and explain how that finding changes your picture of the work. Unanswered questions can guide further research.

2 ANSWER WITH EVIDENCE

Use the passage

1. The town needs a warning before the next storm reaches the road. Which specialist's work is most useful first, and what evidence would that person study?

2. The town also wants to understand how the shore has changed over time. How would a geologist's evidence differ from an oceanographer's?

3. A student says a storm forecast can show exactly where the beach will be in ten years. Use two details from the passage to challenge that claim.

4. You find an undated news story about one scientist's storm work. What two checks would make it more useful as evidence about that career?

3 YOUR TURN

Your own words

Choose one career from the passage. Consult a career profile from a library book, government agency, or university, then write 80 to 110 words naming the source and page or chapter title, reporting one duty and one preparation requirement you found, connecting a finding to the passage, and posing one question for further research.

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PART 1 · READ AND MARK

Underline each specialist's job title and circle the evidence that specialist studies. Number two statements that would help you decide which career to research further. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	The town needs a warning before the next storm reaches the road. Which specialist's work is most useful first, and what evidence would that person study?	**A meteorologist would be most useful first, using air pressure, winds, and storm tracks to estimate when severe weather may arrive.**
2	The town also wants to understand how the shore has changed over time. How would a geologist's evidence differ from an oceanographer's?	**A geologist would examine sediment and older shoreline deposits for evidence of past erosion. An oceanographer would study waves, currents, and water levels to explain moving water's effects.**
3	A student says a storm forecast can show exactly where the beach will be in ten years. Use two details from the passage to challenge that claim.	**A storm forecast concerns approaching conditions, not an exact shoreline position years later. The passage also states that no single forecast can tell the town exactly where the beach will be in ten years.**
4	You find an undated news story about one scientist's storm work. What two checks would make it more useful as evidence about that career?	**Check who published the story and when. Compare its description with another source to see whether the work is a common duty or specific to that scientist.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I researched meteorologists using the U.S. Bureau of Labor Statistics profile “Atmospheric Scientists, Including Meteorologists.” It says atmospheric scientists collect information from sources such as radar and satellites, and they typically need a bachelor's degree in meteorology or a related field for entry-level work. The passage mentions interpreting radar and computer models, but the profile helped me see that gathering observations is also part of the job. The degree requirement shows that studying this career means investigating its education path, not just its daily tasks. I still want to know how much time meteorologists spend explaining forecasts to the public.

For Part 3, accept a different credible career profile if the student identifies it and accurately reports a duty and preparation requirement. The connection must explain what the outside source adds to or clarifies about the passage.