



# Discovering Science Outdoors

Pretest

Read each statement below carefully. Please answer honestly so you can determine whether or not you should take this course. If you have never practiced this knowledge or skill before, please rate with a “1.”

**If you answer 80% or more of the questions with a 3 or 4, you probably do not need to take this course.**

Rate each of the statements below using the following scale:

1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree.

1. I am a good reader.
2. I am a good writer.
3. I observe nature often outdoors.
4. When I observe, I tend to do all of the following: make comparisons, label, categorize, look for patterns, and observe something carefully over a long period of time.
5. I can ask scientific questions that are complex, that search for patterns, that categorize, and that avoid yes or no answers.
6. I have kept a field notebook that contains accurate, precise sketches and appropriate notes illustrating my scientific investigations and observations.
7. I can draw conclusions from data.
8. I can present clear scientific explanations to others using models.
9. I can carefully observe and sketch the moon.
10. I can recognize all of the moon's phases.
11. I can interpret magnetograms of the sun.
12. I can read and use a star map, plot locations of planets on it, and I can identify several constellations.
13. I can use a thermometer and rain gauge to collect weather data.
14. I can plot temperatures on a map and draw isotherms.
15. I can plan and carry out a scientific project related to weather, and I can draw conclusions about weather data based on my measurements, records, and maps.
16. I can correctly identify cloud types and estimate the percentage of cloud cover.



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17. I can estimate the altitude of clouds using dew point calculation.
18. I can make a cross-sectional profile of a stream (make measurements, choose scale, and draft a map).
19. I can measure the velocity of a stream.
20. I can calculate the discharge of a stream using profile and velocity.
21. I can perform and interpret some or all of the following water quality tests: temperature, turbidity, dissolved oxygen, pH, nitrates, phosphates, macroinvertebrates, and/or coliform bacteria.
22. I can make recommendations for future management of a stream based on water quality data collected.
23. I can observe, sketch, collect behavioral data, and develop questions about animals in their habitats.
24. I can study sediments, rocks, and landforms to learn more about streams and/or past geological events.
25. I can develop a research plan to answer a scientific question, execute the study, draw conclusions, and communicate scientific results.