

Grade



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Grade 7



Observation and Science

At the end of this lesson you will be able to:

1. Understand that observation skills are the most important of all science skills.
2. Practice the skill of scientific observation.

Science describes what we know about our world. We learn about the world by observing what is happening all around us. We observe through our senses: we watch, we listen, and we feel. Then we reach conclusions about what it all means: we make sense out of the world.

Observing and exploring Earth is about being receptive to what lies all around us. It is observing closely with our eyes, ears, nose, hands, and feelings as fully as we can.

Most of us depend almost entirely upon our eyes. But there is so much going on that our eyes cannot perceive. What goes on beneath the surface of Earth? What forces are carving and molding the face of Earth? There is the world of little things that we can just barely see. There is the world of things so big, our eyes cannot see the whole.

1. Find a natural area outdoors. Look around for something to observe. It can be animal, vegetable or mineral; for example, rock, river, tree, plant, bug or beast. Use each of your senses: sight, hearing, taste, smell, and touch. Write a general description of the area in which you are observing.
2. Write a detailed description of one part of the area or an object within the area you are observing.



Observation and Science

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3. List any tools or instruments that would be useful in making a more detailed analysis of your observation.
4. Describe your feelings about what you are observing. Do you feel any connection or similarity between yourself and what you have observed? Explain.

Observation and Change

What is it that happens when we observe? What is it that we are noticing? How is it that our senses perceive what is happening?

What our senses notice are *changes*. Living things grow, die, move, change size, shape, and place. When we notice anything it is usually because there has been some change.



Forest Service botanist Mark Jaunzems takes a close look at one of the plants in the Sand Dunes area of the Hiawatha National Forest, MI.

With practice, the right tools and the guidance of teachers and scientists, we can make our senses work more clearly in providing information to our brains. This way we can sense changes and know what to do in a particular situation. The more complete the information, the more sound our conclusions.

5. Make two lists: list five things that change so quickly they are easy to observe; also list five things that change so slowly they are almost unnoticeable.

- a. For each item on each list, tell if it is living or non-living. How can you tell?
- b. For each item in the first list, describe what is happening that causes you to notice the change.



Roylene Rides at the Door-Waln, NRCS, Resource Conservationist taking an inventory of pasture grasses

- c. For each item in the second list, tell what you think is happening, even though you might not notice (or be sure of) what it is.



USDA Photo Library:
Observation is part of
research projects.

Observation and Science

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Test

- 1. Explain why observation skills are the most important of all science skills.
- 2. List three tools that could enhance your ability to observe nature.
- 3. List the five main sensory perceptions and the body organ that corresponds to each sense.



USDA Photo Library: Soil scientist Eton Codling observes the changes in corn growth on manured soil treated with alum residue.

