

Sample Lesson #1

The Scientific Method

The scientific method is a procedure that scientists follow when they want to answer questions or solve problems. Here are the basic steps:

- **Ask a Question** based on observations you have made.
- **Form a Hypothesis**; in other words, make a prediction. A hypothesis must be something that can be tested.
- **Conduct an Experiment**. This is how scientists test a hypothesis. An experiment includes a list all of the materials needed and a list of procedures.
- **Collect Data**. To get the best results, scientists run as many tests as possible, and they gather lots of information from these tests.
- **Draw Conclusions**. The final step in the scientific method is to analyze and draw conclusions based on information that was recorded during experiments. Scientists organize data to see how it fits the hypothesis. Then, they share their results with the scientific community.



1. A hypothesis is a statement of something that can be tested. A hypothesis should be as specific as possible. Which of these is the best statement of a hypothesis?
 - A) It's bad to smoke in a room full of plants.
 - B) Fresh air is very good for plants and animals.
 - C) Exposure to cigarette smoke will have a negative effect on the growth of a bean plant.
 - D) Air pollution damages crops.
2. Which instrument is used to measure how hot or cold something is?

barometer balance thermometer anemometer
3. Which of the following is an example of animal instinct?
 - A) responding to commands by humans
 - B) performing circus tricks
 - C) hibernating during very cold days
 - D) all of the above

4. Which of the following has shelter as one of its basic needs?

 fir trees squirrels African grasses dandelions

5. What do plants use to make food during the process of photosynthesis?

- A) oxygen, fertilizer, and water
- B) carbon dioxide, sunlight, and water
- C) soil, nitrogen, and plant food
- D) sand, silt, and loam

6. Match each plant part with its definition.

- | | |
|------------|---|
| _____ leaf | A) holds the plant up |
| _____ stem | B) makes the plant's food |
| _____ root | C) takes in water and nutrients from the soil |

7. Write T if the statement is *true*. Write F if it is *false*.

_____ Mountain ranges are formed by the movement of tectonic plates.

8. All of the living and non-living things interacting and affecting each other in a certain area make up a(n) _____.

- | | |
|---------------|---------------|
| A) atmosphere | C) ecosystem |
| B) community | D) population |

9. This photo shows an example of a _____.

- | | |
|------------|------------|
| A) reptile | C) root |
| B) seed | D) process |

10. Physical properties can be observed and measured; they describe and identify an object. Which of these is NOT a physical property of a rock?

 color hardness value weight

