

Week 10: The Elements

Name _____ Class _____ Date _____

Case 10

Read the passage and answer the questions that follow. "The first step in the process of the scientific method is to ask a question. This question is usually based on an observation or a problem. For example, you might observe that a plant grows better in one type of soil than in another. This observation leads to the question, 'Does this plant grow better in one type of soil than in another?' The next step is to make a hypothesis, which is an educated guess about the answer to the question. For example, you might hypothesize that the plant will grow better in the soil that you observed it growing in. The third step is to design an experiment to test the hypothesis. This involves setting up a controlled experiment in which you can vary the soil type and measure the plant's growth. The fourth step is to collect data and analyze it. This involves recording the plant's height, number of leaves, and other characteristics over time. The fifth and final step is to draw a conclusion based on the data. If the data supports the hypothesis, you can conclude that the plant does indeed grow better in that soil. If not, you may need to revise your hypothesis and try again."

1. Why are the steps in the scientific method important for being "being smart"?

2. The passage says "The first step in the process of the scientific method is to ask a question." Why is this important?

3. Explain the meaning of the word "hypothesis".

Case 11

Read the passage and answer the questions that follow. "The scientific method is a process of inquiry that is used to investigate natural phenomena. It is a systematic approach to the study of the natural world that involves making observations, asking questions, forming hypotheses, testing hypotheses, and drawing conclusions. The scientific method is a key part of the scientific process and is used by scientists in a wide range of fields, from biology and chemistry to physics and astronomy. The scientific method is a powerful tool for understanding the natural world and for developing new technologies and discoveries. It is a process that is constantly evolving and improving, and it is a key part of the scientific revolution that began in the 16th century. The scientific method is a process that is used to investigate natural phenomena and to develop new technologies and discoveries. It is a process that is constantly evolving and improving, and it is a key part of the scientific revolution that began in the 16th century. The scientific method is a process that is used to investigate natural phenomena and to develop new technologies and discoveries. It is a process that is constantly evolving and improving, and it is a key part of the scientific revolution that began in the 16th century."

1. Why is the scientific method important?

2. What are the steps of the scientific method?

3. Explain the meaning of the word "hypothesis".
