

What Science Is and What it Isn't

A WebQuest for Scientific Methods

Introduction

It might seem like the questions humans have about the world around them have always been investigated using science. But scientific methods were not always used to investigate questions about nature. When an idea about nature was proposed, philosophers debated the idea intellectually. Often, the ideas of the most influential philosophers were accepted and ideas of less influential philosophers were rejected. With the advent of modern science, scientific ideas are accepted only after they have been supported by many observations made by many scientists. What are the characteristics of science? What types of questions can be answered by science?

Task

Your task is to research and summarize what characterizes science and its methods. Identify a question you think can be answered through science and explain why you think so.

Process

Use the resources listed in the Resources section to begin your research. The Web sites listed are good starting points, but further Internet research will be necessary. Record your answers to the following questions.

1. What are five main characteristics of scientific inquiry?
2. What types of questions can't be completely answered by science?
3. Why is the term *scientific methods* more accurate than *scientific method*?

Write a Summary

Once you have completed your research, write a summary about what characterizes science and its methods. Identify a question that you think can be answered by science and describe why you think this is a scientific question. Provide support for your summary using your Internet research.

Resources

[American Association for the Advancement of Science](#) (search "the nature of science")
[National Science Teacher's Association](#)
[Science Magazine](#)

Evaluation

Read this rubric to see how you will be scored on this activity.

Criteria					Points
	0	5	10	15	
Process	The process was not followed and questions were not answered.	The process was followed but answers to questions showed no evidence that resources were used.	It was evident that resources were used to answer process questions but answers were incomplete or incorrect.	Answers to process questions were complete and supported by evidence from resources.	
Summary	A summary was not written.	The summary did not include or incorrectly identified characteristics of science.	The summary correctly identified characteristics of science and included an example of a question that can be answered scientifically.	The summary was well written and thoroughly explored characteristics of science. It gave an example of a question that can be investigated scientifically and explained why this question is scientific.	
Total Score					