

Lesson Outline

LESSON 1

Scientific Inquiry

A. Understanding Science

1. The investigation and exploration of natural events and the new information that results from those investigations is called _____ .
2. Marie Curie was a scientist who won two Nobel prizes in the early 1900s for her work with _____ .

B. Branches of Science

1. The study of matter and energy is called _____ .
2. The study of natural processes that occur on and deep within _____
is called Earth science.
3. _____ is the study of all organisms and the many processes that occur in them.

C. What is Scientific Inquiry?

1. When scientists want to answer questions about the natural world, they conduct _____ .
2. _____ is a series of skills used to answer questions.
3. Using one or more of your senses to gather information and taking note of what occurs is called making _____ .
4. A logical explanation of an observation that is drawn from prior knowledge or experience is called a(n) _____ .
5. A hypothesis is a possible explanation for an observation that can be tested by scientific _____ .
6. A statement about what will happen next in a sequence of events is called a(n) _____ .

7. Testing a hypothesis includes: design a(n) _____ , make a model, gather and evaluate evidence, and collect data/record observations.

8. Three ways to analyze _____ are: graph results, classify information, and make calculations.

9. To communicate their results, scientists might write scientific _____ articles, speak at science conferences, or exchange information on the Internet.

D. Scientific Theory

1. An explanation of observations or events based on knowledge gained from many observations and investigations is called a(n)_____ .
2. The _____ theory, which explains the behavior and energy of particles that make up a gas, is an example of a scientific theory.

E. Scientific Law

1. A rule that describes a repeatable pattern in nature is called a(n)_____ .
2. A scientific law only states that a pattern will happen; it does not explain_____ or how the pattern happens.

F. Results of Scientific Inquiry

1. The practical use of scientific knowledge, especially for _____ or commercial use, is called technology.
2. Scientific investigations can lead to the discovery of _____ or events such as colliding galaxies.
3. Scientific investigations are often launched to answer Who, _____ , when, where, or how questions.

G. Evaluating Scientific Information

1. _____ information is information that is incorrectly represented as being scientific.
2. Comparing what you already know with the information you are given, in order to decide whether you agree with it, is called_____ .

H. Science cannot answer all questions.

1. Science cannot answer questions that deal with _____ , values, personal opinions, and feelings.
2. Science cannot answer some questions because it is impossible to objectively

collect _____ about these topics.

I. Safety in Science

1. You should always wear _____ equipment when you begin scientific inquiry.

2. To be safe while doing science, you should learn the meaning of _____