

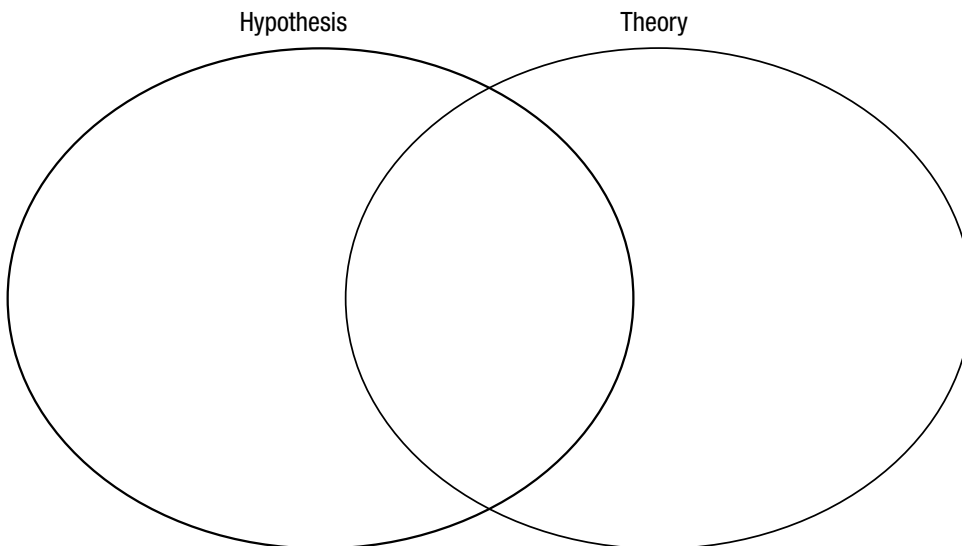
Chapter 1 Introduction to Earth Science

Section 1.5 What Is Scientific Inquiry?

This section describes methods used for scientific inquiry.

Reading Strategy

Comparing and Contrasting As you read, complete the Venn diagram by listing the ways that a hypothesis and a theory are alike and how they differ. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.



Hypothesis


1. 🎧 What is a hypothesis? _____

2. Is the following sentence true or false? Before a hypothesis can become an accepted part of scientific knowledge, it must be tested and analyzed. _____
3. Describe a well-known hypothesis that was discarded because it was found to be untrue. _____

4. Circle the letter of each sentence that is true about hypotheses.
 - a. If a hypothesis can't be tested, it is not scientifically useful.
 - b. Hypotheses that fail rigorous testing are discarded.
 - c. A hypothesis is a well-tested and widely accepted principle.
 - d. The concept of plate tectonics is a hypothesis.
5. Is the following sentence true or false? Sometimes more than one hypothesis is developed to explain the same set of observations.

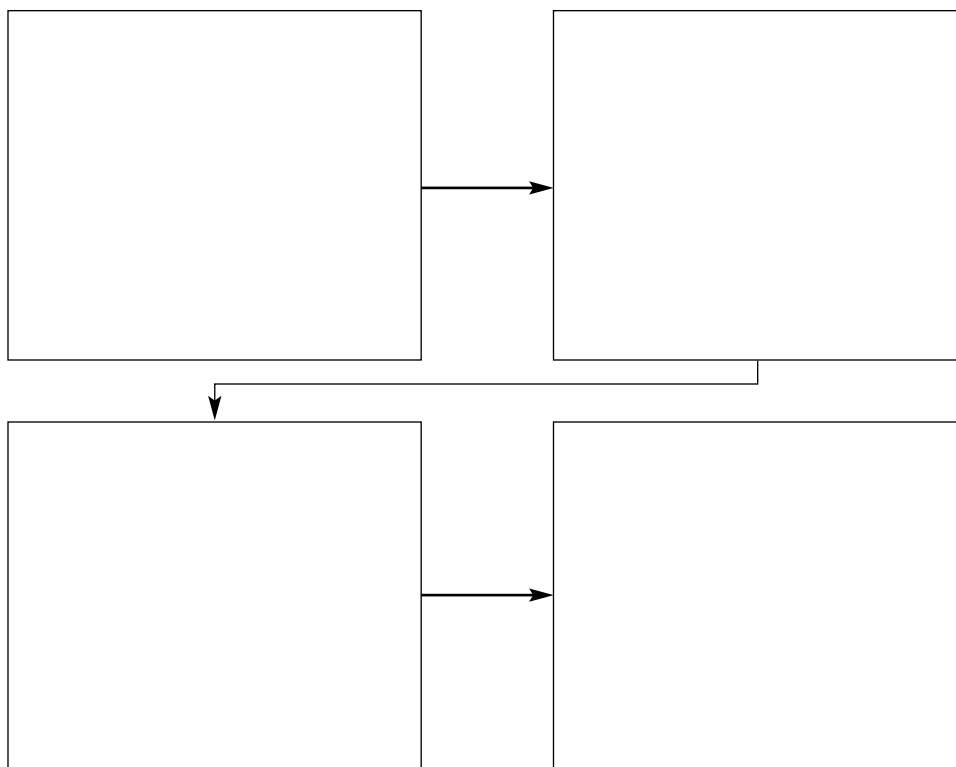
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Theory

6.  A scientific _____ is well tested and widely accepted by the scientific community and best explains certain observable facts.
7. Describe a scientific theory that is currently accepted as true. _____
- _____
- _____
- _____

Scientific Methods

8. Circle the letter that best answers the question. What is the process of gathering facts through observations and formulating scientific hypotheses and theories called?
- a. scientific hypothesis
 - b. scientific theory
 - c. scientific method
 - d. scientific testing
9. Complete the flowchart showing the basic steps of the scientific method.



10. Is the following sentence true or false? All scientists follow the same steps outlined above when doing scientific research.
- _____

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WordWise

Complete the sentences by using the scrambled vocabulary terms below.

troasnmyo
 ttldaiu
 eoghsree
 yggeool
 oieepshbr

ymteeogorlo
 tidelngou
 ncoourt ilnes
 gocoaitprph pma
 yhydroeeshrp

tmsaohpeer
 coountr lavterin
 essithopyh
 mstyes
 traeh ncsiece

The name of the group of sciences that deal with Earth and its neighbors in space is called _____.

All the water on Earth makes up the _____.

A word that means “study of Earth” is _____.

A distance measured in degrees north or south of the equator is called _____.

A distance measured in degrees east or west of the prime meridian is called _____.

The _____ tells you the difference in elevation between two adjacent lines on a topographic map.

Lying beneath both the atmosphere and the ocean is the _____.

A _____ can be any size group of interacting parts that form a complex whole.

An untested scientific explanation is called a _____.

The gaseous envelope surrounding Earth is called the _____.

A _____ represents Earth’s three-dimensional surface in two dimensions.

The elevation on a topographic map is shown using _____.

The _____ includes all life on Earth.

The study of the atmosphere and the processes that produce weather and climate is _____.

The study of the universe is _____.