

Lesson Outline

LESSON 1

Earth Systems

A. What is Earth?

1. Scientists divide Earth into four _____ that interact with each other.
2. Surrounding the planet is an invisible layer of _____, which is Earth’s outermost layer.
3. The liquid layer is made of Earth’s _____, some of which is _____ and some of which is fresh.
4. Earth’s largest system is the _____ material, which is made up of a thin layer of _____ covering a large sphere of rock.
5. The _____ is Earth’s system containing all the living things on the planet.
6. The _____ has no clear boundaries because it is found within each of the other three systems of Earth.

B. The Atmosphere

1. A mixture of gases forms a layer around Earth called the _____.
2. The atmosphere is made up of 78% _____, 21% _____, and 1% _____ gases.
 - a. Three trace gases—carbon dioxide, _____, and water _____—are important for regulating Earth’s temperature.
 - b. The atmosphere contains small amounts of _____, such as dust particles.
3. The atmosphere has different layers, which vary in their _____.
 - a. The _____ is the bottom layer of the atmosphere
 - b. The layer of the atmosphere above the troposphere is the _____.
 - c. The upper layers of the atmosphere, in order, include the _____, the _____, and the _____, which is the last layer before outer space.

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Lesson Outline continued

C. The Hydrosphere

1. The _____ is the system containing all of Earth's water.
2. The natural locations where water is stored are called _____; Earth's largest _____ is the world ocean, which is salty because it contains dissolved _____.
3. Most of Earth's _____ is not liquid, but instead frozen as _____ in glaciers and in ice caps at the _____ and the _____, where it can be stored for thousands of years.
4. Lakes and rivers hold less than 1% of Earth's _____, but this water is easily accessible and so meets the needs of most living things on the planet.
5. About 20% of Earth's freshwater is stored below Earth's surface in cracks and pores as _____.

D. The Geosphere

1. The _____ is the solid part of Earth, which includes the soil and rocks on land and beneath the oceans.
2. The geosphere is made of rock, soil, and _____.
 - a. _____ are naturally occurring, inorganic solids that have crystal structures and definite chemical compositions.
 - b. Minerals are identified by their physical properties, including color, _____ (the color of the mineral's powder), _____ (how easily the mineral can be scratched), _____ (the way the mineral reflects light), and _____ shape.
 - c. A(n) _____ is a naturally occurring solid composed of minerals and sometimes other materials such as organic matter.
 - d. The three kinds of rock are _____ rock, _____ rock, and _____ rock.
3. Earth has three layers: The _____ is the thin outer layer; the _____ is the middle and largest layer; the core of Earth is at the center and is made mainly of _____.

