

CHAPTER 47

The Biosphere
Section 47-3**SKILL ACTIVITY**
Classifying organisms***Finding the Right Biome***

The Earth is made up of two main types of biomes: land biomes and aquatic biomes. In each type of biome are organisms that are uniquely suited to that particular environment. In this activity, you will consider six major land biomes and four divisions of the marine biomes in order to decide which types of organisms are best suited to each biome.


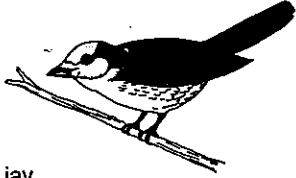


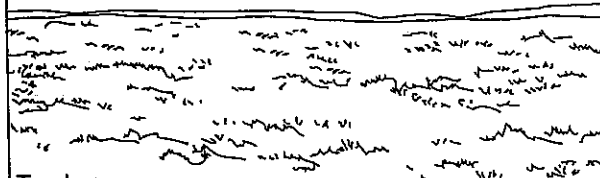







1. Use the information contained in the table to identify the characteristic properties of four major life zones of the oceans.

Life Zones	Characteristic Properties
INTERTIDAL ZONE	<ol style="list-style-type: none"> a. Located between the average high- and low-tide levels of the ocean b. Is alternately dry and wet as the tides change from low to high c. Sunlight penetrates the entire zone. d. Many living organisms in this zone attach themselves to rocks or dig into the sand to protect themselves from the constant pounding of waves.
NERITIC ZONE	<ol style="list-style-type: none"> a. Located between the average low-tide level of the ocean and the edge of the open sea b. Is approximately 200 m thick at its maximum thickness c. Sunlight penetrates the entire zone. d. Richest in life forms of any life zone of the ocean. Most commercial fishing areas are within this zone. e. Dense forests of seaweed from 60-90 meters long may cover the floor of this zone.
OPEN-SEA ZONE	<ol style="list-style-type: none"> a. Contains phytoplankton responsible for 80 to 90 percent of the Earth's photosynthesis b. Contains most free-floating or swimming life forms c. Organisms unable to anchor themselves
DEEP-SEA ZONE	<ol style="list-style-type: none"> a. Area of high pressure, cold temperature, and total darkness b. Inhabited by a great variety of bottom dwellers

Match the descriptions of the sea organisms to the zone that is best suited to the adaptations of that organism.

Life Form	Description	Life Zone(s) best suited to
a. Diatoms	<ul style="list-style-type: none"> • Free-floating plants that require sunlight to produce food • Must remain in shallow water where nutrients are readily available or must be near up-welling of nutrient-rich water that moves toward the shore 	<hr/> <hr/> <hr/>
b. Seaweed	<ul style="list-style-type: none"> • Needs sunlight to produce food and must be anchored to the bottom to extract nutrients from the sediment 	<hr/> <hr/>
c. Blue whale	<ul style="list-style-type: none"> • Adapted to filter small organisms from ocean water for food • Needs extremely large amounts of food each day 	<hr/> <hr/> <hr/>
d. Squid	<ul style="list-style-type: none"> • Have extremely large light-gathering organs adapted to very dim light • Remain in cold temperatures 	<hr/> <hr/> <hr/>
e. Anglerfish	<ul style="list-style-type: none"> • Contains light-producing organs that attract prey in the very dim light and total darkness of the deep ocean 	<hr/> <hr/> <hr/>
f. Lobster	<ul style="list-style-type: none"> • Bottom-dwelling animal that lives between the average low-tide level of the ocean and the edge of the open sea 	<hr/> <hr/> <hr/>
g. Clams	<ul style="list-style-type: none"> • Bury themselves in sand to protect themselves from waves • Are able to live, buried in moist sand, during periods when the ocean bottom is exposed to the atmosphere 	<hr/> <hr/> <hr/> <hr/>
h. Crinoids (Sea Lilies)	<ul style="list-style-type: none"> • Bottom-dwelling animals that are anchored on the ocean floor • Live under extremely high water pressures in the absence of sunlight 	<hr/> <hr/> <hr/>

2. Now use the following illustrations of six land biomes to decide which of the animals shown belongs in each biome. Write the name of the animal in the space provided next to each biome.

<p>A. _____</p>	 <p>Grasslands</p>	 <p>Gray jay</p>
<p>B. _____</p>	 <p>Taiga</p>	 <p>Lemming</p>
<p>C. _____</p>	 <p>Tundra</p>	 <p>Ferns</p>
<p>D. _____</p>	 <p>Taiga</p>	 <p>Lions</p>
<p>E. _____</p>	 <p>Tropical</p>	 <p>Cacti</p>
<p>F. _____</p>	 <p>Desert</p>	 <p>Canopy of trees</p>

