

## Answers continued

8. Sun
9. rock

### Key Concept Builder (page 19)

1. B
2. D
3. the Sun, because it has the most mass of any object in the solar system

### Key Concept Builder (page 20)

1. balloon full of air
2. wood
3. water
4. syrup
5. glass
6. lead
7. balloon full of air, wood
8. floats
9. in the center or core
10. near the surface or crust

### Enrichment (page 21)

1. Possible answer: The hydrologic and geologic cycles interact when water erodes rock, moves sediment, and deposits sediment on lake and river bottoms, deltas, low-lying land, or the seafloor.
2. Possible answer: If no energy was available from the Sun, all cycles would stop because water would not vaporize, rain would not fall, rivers would not flow, the temperature would drop, and plants and animals would die.

### Challenge (page 22)

The map should include all the items listed in the instructions. Positive Earth system interactions might be organisms in the biosphere using rocks to find or build shelters or might be organisms in the biosphere using water from the hydrosphere. Negative interactions might be industries that discharge toxic waste into the hydrosphere and atmosphere and endanger the lives of organisms in the biosphere and construction, including buildings, roads, and parking lots that change the pattern of water runoff.

### Lesson Quiz A (page 23)

#### Matching

1. B
2. H
3. F
4. G
5. A
6. J
7. E

8. I
9. D
10. C

### Lesson Quiz B (page 24)

#### Completion

1. hydrosphere
2. sphere
3. diameter
4. biosphere
5. Gravity
6. density
7. atmosphere
8. solar nebula

#### Short Answer

9. A turtle is a part of the biosphere. It interacts with the atmosphere when it breathes and with the hydrosphere when it swims. A turtle interacts with the geosphere when it walks on land.
10. During Earth's formation, the densest materials were pulled toward the center by gravity. The least dense materials remained on the outer part of Earth. That is how the layers of Earth formed.

## Lesson 2

### Launch Lab (page 26)

1. Possible answer: An avocado and a kiwi have layers that can model parts of Earth.
2. Possible answer: The egg has three layers, like Earth does. The thinnest layer of the egg, like Earth, is the outer layer.

### Content Vocabulary (page 27)

1. core
2. asthenosphere
3. crust
4. magnetosphere
5. mantle
6. nickel
7. observation
8. lithosphere

### MiniLab (page 30)

1. The liquids formed distinct layers. The corn syrup stayed on the bottom, followed by the glycerin, the water, and the vegetable oil on the top. The liquids did not mix because they have different densities.
2. The liquids in the experiment formed layers according to density. Similarly Earth's layers formed because the materials in each layer