

**M O D E R N E A R T H S C I E N C E**

## Chapter 2

**The Earth in Space****Review**

Choose the best response. Write the letter of that choice in the space provided.

- \_\_\_\_\_ 1. The zone that makes up nearly two-thirds of the earth's mass is the  
a. crust.                      b. mantle.                      c. core.                      d. lithosphere.
- \_\_\_\_\_ 2. The boundary between the earth's crust and mantle is called the  
a. shadow zone.      b. asthenosphere.      c. Moho.                      d. magnetosphere.
- \_\_\_\_\_ 3. Both P waves and S waves can travel through  
a. liquids and solids.                      b. solids.  
c. liquids.                      d. gases.
- \_\_\_\_\_ 4. The possible source of the earth's magnetism is the earth's  
a. crust.                      b. mantle.                      c. core.                      d. lithosphere.
- \_\_\_\_\_ 5. The amount of matter in an object is the object's  
a. mass.                      b. weight.                      c. gravity.                      d. plasticity.
- \_\_\_\_\_ 6. As the distance from the center of the earth increases, the force of gravity  
a. decreases.                      b. increases.                      c. stays the same.                      d. doubles.
- \_\_\_\_\_ 7. The measured weight of an object is slightly less at the equator than it is at the poles because of the earth's  
a. orbit.                      b. axis.                      c. shape.                      d. tilt.
- \_\_\_\_\_ 8. The point closest to the sun in the earth's orbit is called  
a. apogee.                      b. perigee.                      c. aphelion.                      d. perihelion.
- \_\_\_\_\_ 9. At noon on the winter solstice, the sun's vertical rays strike the earth along the  
a. Tropic of Cancer.                      b. Tropic of Capricorn.  
c. equator.                      d. North Pole.
- \_\_\_\_\_ 10. At noon on the vernal equinox, the sun's vertical rays strike the earth along the  
a. Tropic of Cancer.                      b. Tropic of Capricorn.  
c. equator.                      d. North Pole.

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- \_\_\_\_\_ 11. When the sun’s rays reach their highest angle in the Northern Hemisphere, the season there is  
a. spring.                      b. summer.                      c. fall.                      d. winter.
- \_\_\_\_\_ 12. The wobbling motion made by the earth’s axis as it turns in space is called  
a. precession.                      b. gravity.                      c. plasticity.                      d. equinox.
- \_\_\_\_\_ 13. A person crossing the International Date Line gains or loses  
a. 2 hours.                      b. 8 hours.                      c. 12 hours.                      d. 24 hours.
- \_\_\_\_\_ 14. A satellite in geosynchronous orbit is always directly above the  
a. equator.    b. North Pole.  
c. South Pole.    d. International Date Line.
- \_\_\_\_\_ 15. Landsat provides information about the  
a. earth’s surface.    b. moon’s surface.  
c. sun’s surface.    d. stars.

**Critical Thinking**

**Read each question or statement and answer it in the space provided.**

1. Is a hard-boiled egg a good model of the earth’s different zones? Why or why not?

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2. Explain why the weight of an object might increase when the object moves from point A to point B on the earth’s surface.

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**Read each question or statement and answer it in the space provided.**

3. Although the earth's orbit brings it closest to the sun in January, the Northern Hemisphere is having winter at that time of the year. Explain.

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4. If the earth ceased rotating as it revolved around the sun, how would periods of daylight and surface temperatures on the earth be affected?

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5. Suppose the earth's rotation slowed to one rotation every 48 hours. How might that change affect time-keeping systems?

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**Application**

**Read each question or statement and answer it in the space provided.**

- 1. A scientist proposes the hypothesis that the moon has a liquid core. How might this hypothesis be tested?

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- 2. If scientists discovered that the earth’s magnetic field had weakened substantially, what might they suspect to be the cause of this change?

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- 3. A group of scientists is planning to launch a satellite into orbit around the earth. The satellite will be used to survey the entire earth’s surface in search of oil deposits. Which type of orbit would you recommend for such a satellite? Why?

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