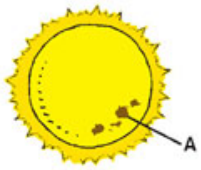
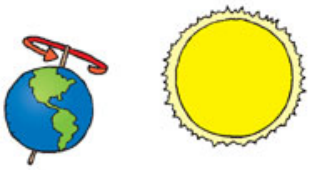
14. Which **best** describes the sun's location in the universe?
   A. near the barred spiral galaxy
   B. at the edge of the solar system
   C. at the edge of a galaxy called the Milky Way
   D. in the center of a galaxy called Alpha Centauri

15. Samantha must label this diagram of the sun.



Which label should she use to identify area A?
   F. bits of rock **H.** spinning dust
   G. oxygen **J.** sunspot

16. What does this illustration **best** show?



   A. why Earth rotates
   B. why planets orbit the sun
   C. why the moon has phases
   D. why Earth has seasons

Inquiry Skills

17. You **used numbers** to help you understand distances in space. What other ideas in this chapter did using numbers help you understand?

18. How could **measuring** the orbit of a comet help scientists understand when it will next be visible from Earth?

Critical Thinking

The Big Idea

19. If you look at the moon every night for a month, you can see it change shape. These changes in appearance are the phases of the moon. Why are there phases of the moon?

20. Suppose that you have been asked to do a presentation about our solar system. You are to present information about the planets and show where they are located in space. Make a labeled drawing of the solar system. Include the nine planets and the sun. Write a paragraph that explains how the inner planets and the outer planets are different.

Inquiry Skills (5 pts. each)

17. Possible answers: using numbers helped me understand the length of a year on different planets, or the size of the sun compared to the planets.

18. Measuring the orbit would help scientists know how long it takes for the comet to go around the sun and when the orbit will next be close to Earth.

Critical Thinking (5 pts. each)

19. The movements of Earth and the moon in relation to the sun cause the phases of the moon.

20. Students' drawings should include the sun in the center and the eight planets Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune (in that order). They may choose to include Pluto as a "dwarf" planet. The inner planets are smaller and rocky. They are also closer to the sun. The outer planets are gas giants, or huge balls of gas, that are farther from the sun. The outer planets also have at least two moons.

Chapter Test

See ***Assessment Guide*** pages AG 70–75 for a Chapter Test and Performance Task, with Long Option rubric. Assessment options appear on page 404H.

Short Option Performance Assessment

Task

Construct the Universe

Give students construction paper of different colors, scissors, glue, markers, and black construction paper to use in making a backdrop. You may also have students do this assessment with markers and paper. Ask students to make representations, label, and describe each of these: *sun, star, planet, full moon, orbit, comet, asteroid,* and *galaxy.*

Rubric

Preparation Provide several colors of construction paper (including black), glue, scissors, and markers. Students may also draw the universe with markers on white paper.

Scoring Rubric—Performance Indicators

_____ Includes accurate representations of all objects.

_____ Accurately labels all objects.

_____ Accurately describes all objects.

_____ Accurately portrays relationships between objects.

Observations and Rubric Scores

3 2 1 0