



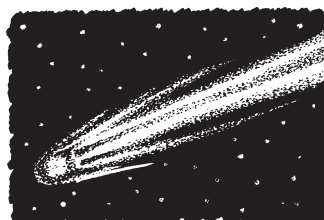
Name \_\_\_\_\_

**Vocabulary Review**

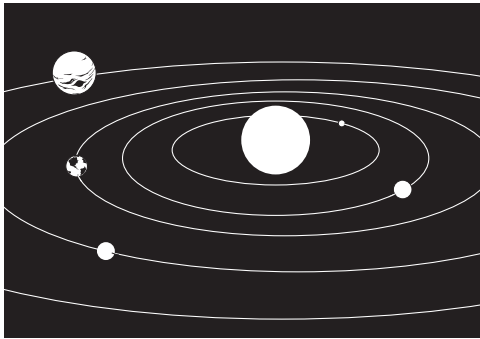
Use the terms in the box to complete the sentences.

1. Together, a star and all the planets and other objects orbiting it form a(n) \_\_\_\_\_.
2. A chunk of rock or iron that orbits the sun is called a(n) \_\_\_\_\_.
3. A huge ball of very hot, glowing gases in space that can produce its own heat and light is called a(n) \_\_\_\_\_.
4. A group of solar systems that are held together by gravity and classified by shape is called a(n) \_\_\_\_\_.
5. The picture shows an example of a(n) \_\_\_\_\_.

asteroid  
comet  
galaxy  
solar system  
star

**Science Concepts**

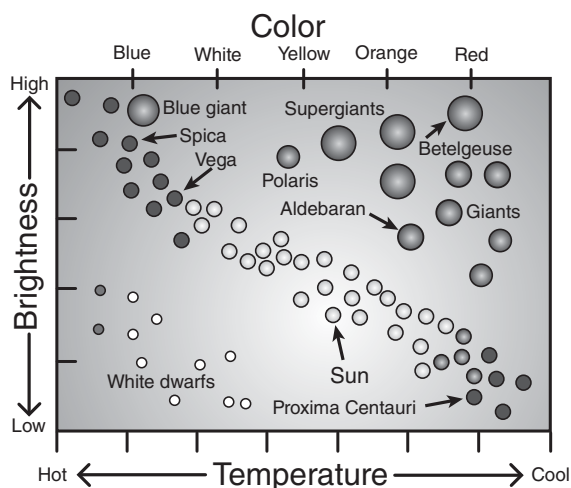
Fill in the letter of the choice that best answers the question.

6. Scientists use models to represent or explain things in the natural world. Why are models useful for the study of the solar system?  
(A) because models cannot be proven wrong  
(B) because models are always accepted by all scientists  
(C) because models describe the way things actually are  
(D) because models can be used to describe how things work
7. The illustration below shows several planets orbiting a star.  
  
What type of group is the figure illustrating?  
(F) constellation      (H) galaxy system  
(G) solar system      (I) universe

8. Galaxies are composed of many different objects. What kind of objects make up most of the visible matter in a galaxy?

(A) asteroids (C) dust  
(B) planets (D) stars

9. Astronomers use the term *brightness* to describe how much light a star produces, not how bright a star appears from Earth. The diagram below compares the size, temperature, and brightness of some stars that can be seen from Earth.



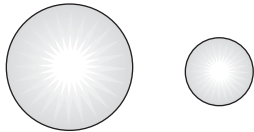
Which of these stars produces the most light?

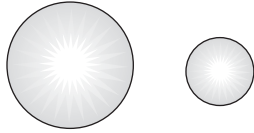
(F) Betelgeuse  
(G) Sun  
(H) Proxima Centauri  
(I) Vega

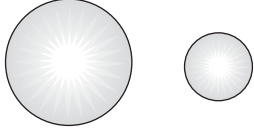
10. Some elliptical galaxies appear to be perfect spheres. How are the stars distributed within this kind of galaxy?

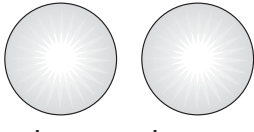
(A) The stars are evenly distributed through the galaxy.  
(B) The center is very dense with many stars, and density decreases farther out.  
(C) Most of the stars are near the outside of the sphere, with dust clouds in the center.  
(D) The stars are spread throughout the sphere in bands that look like the arms of spiral galaxies.

11. There are many different colors of stars. Each of the images below shows two stars of the same color. Which picture and statement is correct?

(F)   
The larger star must be brighter.

(G)   
The smaller star must be hotter.

(H)   
The smaller star must be closer to Earth.

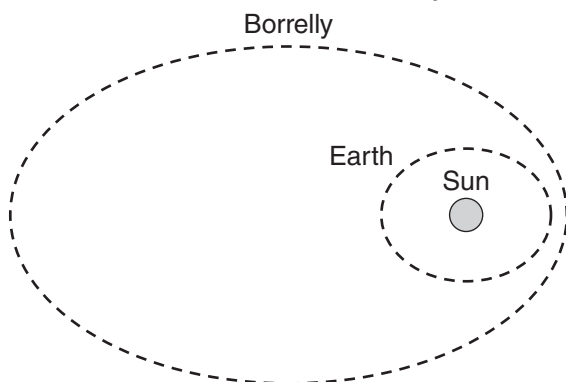
(I)   
Stars that are the same color are usually the same size.

Name \_\_\_\_\_

12. All the planets in the solar system orbit the sun. What is the main difference between the orbits of the inner and outer planets?

- (A) The inner planets travel a greater distance than the outer planets do.
- (B) The inner planets have almost round orbits, and the outer planets do not.
- (C) The outer planets rotate as they orbit the sun, and the inner planets do not.
- (D) The outer planets take longer to orbit the sun than the inner planets do.

13. The diagram below shows the orbit of Earth and the orbit of Borrelly.



Which of these types of space objects is Borrelly most likely to be?

- (F) an asteroid
- (G) a moon
- (H) a comet
- (I) a star

14. Ming is doing a project on planets in other solar systems. She learns about a planet called Planet Z. Planet Z is very large, has a thick atmosphere, and has a low density. Which of these planets in our solar system is Planet Z most similar to?

- (A) Earth
- (B) Mercury
- (C) Saturn
- (D) Mars

15. Earth is part of the Milky Way galaxy. How does the Milky Way appear in the night sky from Earth?

- (F) a small, very dim group of stars
- (G) a faint band of clouds among the stars
- (H) a large number of stars in a broad, spiral shape
- (I) a large cloudy band of stars spreading across the sky

## Apply Inquiry and Review the Big Idea

Write the answers to these questions.

16. When Galileo used his telescope to observe the Milky Way, the stars appeared as small points of light. Write a claim based on this evidence and explain how the evidence supports the claim.

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17. Describe the structure of our galaxy and the position of our solar system within our galaxy.

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18. Sofia observes an object in the night sky. What questions and observations can she use to determine whether the object is a planet or a star?

Questions \_\_\_\_\_

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Observations \_\_\_\_\_

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19. People have developed models of the universe for thousands of years. Identify two observations that a model of the universe would need to explain in order to be useful.

a. \_\_\_\_\_

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b. \_\_\_\_\_

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