

The Solar System ▪ Chapter Test A**The Solar System****Multiple Choice**

Write the letter of the correct answer on the line at the left.

- _____ 1. The scientist who first used a telescope to make discoveries that supported the heliocentric model was
- a. Galileo.
 - b. Ptolemy.
 - c. Copernicus.
 - d. Brahe.
- _____ 2. The flash of light produced when a meteoroid passes through Earth's atmosphere is a(an)
- a. meteorite.
 - b. comet.
 - c. asteroid.
 - d. meteor.
- _____ 3. The four terrestrial planets all have
- a. hot temperatures.
 - b. rocky surfaces.
 - c. deep atmospheres.
 - d. large size.
- _____ 4. A stream of particles that extends outward from the sun's corona is called
- a. a sunspot.
 - b. chromosphere.
 - c. prominence.
 - d. solar wind.
- _____ 5. The planet Venus is similar to Earth in its
- a. rotation.
 - b. atmosphere.
 - c. surface temperature.
 - d. density and internal structure.
- _____ 6. Which of the following is *not* included in scientists' "Goldilocks conditions" for supporting life?
- a. liquid water
 - b. appropriate temperature range
 - c. ice
 - d. favorable atmosphere

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- _____ 7. The _____ is between the orbits of Mars and Jupiter.
- Oort cloud
 - asteroid belt
 - Kuiper belt
 - photosphere
- _____ 8. A(n) _____ is a loose collection of ice, dust, and small rocky particles that typically has a long, narrow orbit.
- asteroid
 - planet
 - meteoroid
 - comet
- _____ 9. _____ are loops of gas on the sun that link different parts of sun-spot regions together.
- Prominences
 - Solar flares
 - Solar winds
 - Auroras
- _____ 10. Large amounts of liquid water may have flowed on the surface of _____ in the past.
- Mercury
 - Mars
 - Saturn
 - Pluto

Completion

Fill in the line to complete each statement.

11. Kepler used Tycho Brahe's observations to show that the orbits of the planets are _____.
12. A natural satellite that revolves around a planet is called a _____.
13. Distances within the solar system are often measured in _____, one of which is equal to Earth's average distance from the sun.
14. _____ are areas of gas on the sun that are cooler than the gases around them.
15. Scientist believe that Europa, one of Jupiter's moons, may have _____ beneath its icy surface that could support life.

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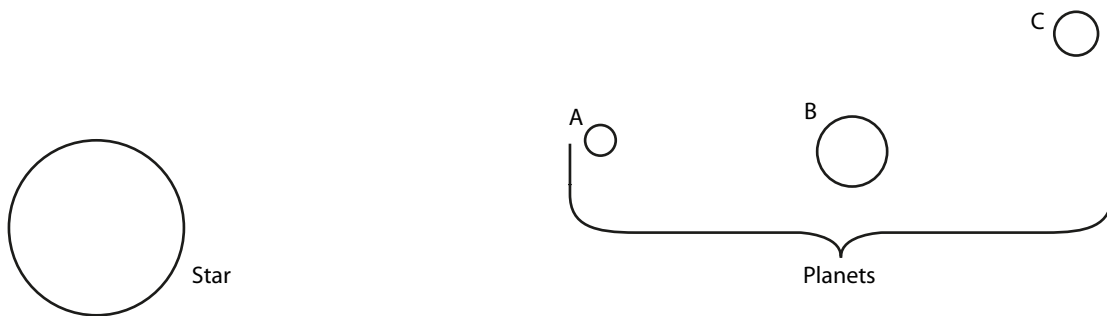
True or False

If the statement is true, write true. If it is false, change the underlined word or words to make the statement true.

- ___ 16. In the sun's radiation zone, hot gases rise and move energy toward the sun's surface.
- ___ 17. A geocentric model of the planets is sun-centered.
- ___ 18. Solar flares are eruptions that occur when gas on the surface of the sun becomes extremely hot.
- ___ 19. Asteroids are rocky objects in orbit that are too small and too numerous to be considered planets.
- ___ 20. The sun's energy comes from nuclear fission.

Using Science Skills

Use the diagram below to answer questions 21–22.



21. **Inferring** Which planet will take the longest time to revolve around the star? Why?

22. **Interpreting Diagrams** Suppose Planet B is Earth. Explain how the ancient Greeks probably would have described the orbits of Planets A and C.

Essay

Write an answer for each of the following on a separate sheet of paper.

- 23. How did the ancient Greeks distinguish planets from stars?
- 24. Describe how the sun creates energy in its core.
- 25. List the four gas giants and explain how they are similar to one another and different from the inner planets.

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Using Science Skills

Use the table below to answer questions 26 and 27 about Jupiter and its major moons.

Moon	Diameter (km)	Average Distance from Jupiter's Center (km)	Period of Revolution (Earth days)
Io	3,642	421,600	1.77
Europa	3,120	670,900	3.55
Ganymede	5,268	1,070,000	7.16
Callisto	4,800	1,883,000	16.69

26. Interpreting Tables What is the relationship between a moon's distance from Jupiter and how long it takes to revolve around Jupiter?

27. Calculating How many times does Io revolve around Jupiter for each time Callisto does?

Essay

Write an answer for each of the following.

28. The temperatures on Mercury range from 430°C in the day to below -170°C at night. Explain why the temperature varies so much.

29. Why do scientists suspect life on Mars might have been possible at one time?

30. Explain how the greenhouse effect works on Venus.
