

Study Island

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Title: **Grade 8 Earth & Space Science**

1. Astronomers classify galaxies by their shape. Which of the following terms describes a galaxy that looks like a round or flattened ball and contains little gas and dust between the stars?

- ☐ A. No galaxies are shaped like a ball
 - ☐ B. elliptical galaxy
 - ☐ C. spiral galaxy
 - ☐ D. irregular galaxy
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2. Which is closer to the Earth—the Sun or the outer planets?

- ☐ A. The Sun is closer to the Earth than the outer planets are.
 - ☐ B. They are the same distance from the Earth.
 - ☐ C. The outer planets are closer to the Earth than the Sun is.
 - ☐ D. The distance from the Earth to the Sun cannot be determined.
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3. Stars do not exist as separate entities in space, but instead belong to large groups of other stars that are held together by the force of gravity. What is the term describing a large grouping of stars in space?

- ☐ A. a nebula
 - ☐ B. a pulsar
 - ☐ C. a galaxy
 - ☐ D. a quasar
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4. Suppose an astronomer discovers a large, spherical-shaped body orbiting the Sun. The body is composed mostly of rock, and there are no other bodies sharing its orbit.

What is the best way to categorize this body?

- ☐ A. comet
 - ☐ B. planet
 - ☐ C. asteroid
 - ☐ D. moon
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5. Which of the following is true about convection in Earth's mantle and tectonic plate motion?

- Plate motion and mantle convection are related processes, but they cannot occur at the
- ☐ A. same time.
 - ☐ B. Evidence suggests that mantle convection stops plate motion from occurring.
 - ☐ C. Evidence suggests that plate motion and mantle convection are related processes.
 - ☐ D. Plate motion and mantle convection do not relate to each other in any way.
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6. In 1801, the Italian astronomer Giuseppe Piazzi discovered a large, rocky body orbiting the Sun. The body was surrounded by other similar rocky bodies that traveled in the same orbit.

What did Piazzi most likely discover?

- ☐ A. a planet
 - ☐ B. an asteroid
 - ☐ C. a comet
 - ☐ D. a moon
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7. Astronomers classify galaxies by their shape. Which of the following terms describes a galaxy that looks like a spiral galaxy except for the fact that the arms begin spiraling out from a straight line of stars instead of from the center?

- ☐ A. No galaxies are shaped like the description above.
 - ☐ B. barred spiral galaxy
 - ☐ C. long spiral galaxy
 - ☐ D. reverse spiral galaxy
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8. Throughout the year, areas of the Earth's surface either tilt away from the Sun or toward the Sun. This is a result of the Earth tilting on its axis. What is the main impact of this phenomena?

- ☐ A. It produces seasons.
 - ☐ B. It generates winds.
 - ☐ C. It causes tides.
 - ☐ D. It influences ocean currents.
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9. In mantle convection currents, hotter rock moves _____, while cooler rock moves _____.

- ☐ A. sideways; upward
 - ☐ B. downward; upward
 - ☐ C. upward; downward
 - ☐ D. downward; sideways
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10. The movement of Earth's tectonic plates relate to many factors, including density differences in the plates and

- ☐ A. how closely humans monitor plate movements.
 - ☐ B. convection cells in Earth's atmosphere.
 - ☐ C. convection currents in Earth's mantle.
 - ☐ D. the number of species living on each plate.
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11. Our solar system belongs to the Milky Way galaxy. Which of the following terms describes the Milky Way's classification?

- ☐ A. elliptical galaxy
 - ☐ B. spiral galaxy
 - ☐ C. irregular galaxy
 - ☐ D. spherical galaxy
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12. The outward transfer of Earth's internal heat helps drives _____ circulation in the _____.

- ☐ A. conduction; mantle
 - ☐ B. convection; crust
 - ☐ C. conduction; crust
 - ☐ D. convection; mantle
-

13. The celestial body at the center of the solar system is a large ball of gases, mostly made up of helium and hydrogen. The hydrogen in this celestial body undergoes nuclear fusion, thus producing helium.

What is the name of this celestial body?

- ☐ **A.** Jupiter
 - ☐ **B.** the Moon
 - ☐ **C.** the Sun
 - ☐ **D.** Earth
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14. Different seasons arise as the Earth revolves around the Sun because the Earth's axis is tilted. When the Northern Hemisphere is tilted towards the Sun, what seasons will the two hemispheres be experiencing?

- ☐ **A.** Both hemispheres will be in summer.
 - ☐ **B.** Both hemispheres will be in winter.
 - ☐ **C.** The Northern Hemisphere will be in summer, and the Southern Hemisphere will be in winter.
 - ☐ **D.** The Northern Hemisphere will be in winter, and the Southern Hemisphere will be in summer.
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15. While observing a planet through a telescope, a scientist observes a natural satellite orbiting the planet. What is the best classification for this satellite?

- ☐ **A.** asteroid
 - ☐ **B.** planet
 - ☐ **C.** comet
 - ☐ **D.** moon
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16. Which of the following causes the change in seasons on Earth?

- ☐ **A.** the tilting of the Earth on its axis and the Sun revolving around the Earth
- ☐ **B.** the tilting of the Earth on its axis and the Earth revolving around the Sun

- ☐ C. the spinning of the Earth on its axis and the Earth revolving around the Sun
 - ☐ D. the Earth revolving around the Sun and the Moon revolving around the Earth
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17. What type of weather is a warm front most likely to produce?

- ☐ A. strong winds
 - ☐ B. clear skies
 - ☐ C. light rain
 - ☐ D. thunderstorms
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18. Astronomers classify galaxies by their shape. Which of the following terms describes a galaxy that has no discernable shape or structure?

- ☐ A. irregular galaxy
 - ☐ B. No galaxies are shaped like a the description above.
 - ☐ C. elliptical galaxy
 - ☐ D. spiral galaxy
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19. Which of the following statements is true about fronts?

- ☐ A. The boundary between warm and cold air masses always slopes upwards over the cold air.
When warm and cold air masses meet, the masses combine, resulting in one air mass with
 - ☐ B. a uniform temperature throughout.
 - ☐ C. smaller mass.
When warm and cold air masses meet, the larger mass always slopes upwards over the
 - ☐ D. air.
The boundary between warm and cold air masses always slopes downwards over the warm
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20. Which of the following occurs when a cool air mass meets and replaces a warm air mass?

- ☐ A. warm front
- ☐ B. occluded front

- ☐ C. cold front
 - ☐ D. stationary front
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