

Skills Worksheet

Directed Reading 28.1 (ODD)**Section: Earth's Moon**

In the space provided, write the letter of the description that best matches the term or phrase.

- | | |
|--|---|
| _____ 1. satellite | a. a natural body that revolves around another body and has a smaller mass than that body |
| _____ 2. moon | b. the first artificial satellite launched by the United States, in 1958 |
| _____ 3. <i>Sputnik I</i> | c. a natural or artificial body that orbits a larger body |
| _____ 4. <i>Explorer I</i> | d. an information-gathering satellite now in orbit around Earth |
| _____ 5. <i>Hubble Space Telescope</i> | e. the first artificial satellite; launched by the Soviet Union in 1957 |

EXPLORING THE MOON

- _____ 6. Between 1969 and 1972, the United States sent six spacecraft to the moon as part of what space program?
- Gemini
 - Apollo
 - Hubble
 - Explorer
- _____ 7. Why is the gravity experienced on the moon's surface so much less than the gravity experienced on Earth's surface?
- Earth has much less mass than the moon.
 - The moon has much more weight than Earth.
 - Earth has much more weight than the moon.
 - The moon has much less mass than Earth.
- _____ 8. A person who weighs 600 N on Earth weighs how much on the moon?
- 100 N
 - 600 N
 - 800 N
 - 1,200 N
- _____ 9. Why doesn't the moon have an atmosphere?
- Its air is too thin for gases.
 - Its cold temperature freezes gases.
 - Its gravity is too weak to hold gases.
 - Its ground is too dry to hold gases.

Directed Reading *continued*

- _____ 10. How does the absence of an atmosphere affect the moon's surface temperature?
- The moon's surface is always cold.
 - The moon's surface is always hot.
 - The moon's surface varies greatly with the time of year.
 - The moon's surface varies widely with the time of day.

THE LUNAR SURFACE

- _____ 11. What word comes from the Latin word *luna* and refers to any feature of the moon?
- lunar
 - moony
 - marine
 - loony
- _____ 12. A dark, smooth area of the moon that reflects less light than other areas is called a(n)
- luna.
 - anorthosite.
 - mare.
 - crater.
- _____ 13. Most of the moon's craters formed about 4 billion years ago when the moon was struck by
- pieces left over from Earth.
 - rocks from volcanic eruptions.
 - another moon.
 - debris left over from the formation of the solar system.
- _____ 14. Rilles, or long, deep channels running through the maria, are thought to be left over from
- heavy rainstorms.
 - the formation of maria.
 - the Apollo space spacecraft.
 - asteroids striking the moon's surface.
- _____ 15. How are lunar rocks similar to rocks on Earth?
- Lunar rocks are metamorphic.
 - Lunar rocks contain many of the same elements as Earth rocks.
 - Lunar rocks are sedimentary.
 - Lunar rocks contain fossils.

Directed Reading *continued*

- _____ 16. Where on the moon do light-colored, coarse-grained anorthosites rich in calcium and aluminum come from?
- a. rilles
 - b. maria
 - c. lunar highlands
 - d. lava plains
- _____ 17. Fine-grained rocks from the maria that contain titanium, magnesium, and iron are
- a. rilles.
 - b. basalts.
 - c. anorthosites.
 - d. regolith.

Use the terms from the list below to complete the sentences that follow. Each term may be used only once. Some terms may not be used.

| | | |
|----------|-----------|--------------|
| craters | water | anorthosites |
| rilles | asteroids | breccia |
| regolith | ridges | |

18. Rough highlands composed of rocks called _____ form light patches on the moon.
19. Maria are plains of dark, solidified lava that formed when the lava filled basins created by impacts of massive _____.
20. Many bowl-shaped depressions called _____ cover the surface of the moon.
21. Long, narrow elevations of rock called _____ rise out of the surface of the moon and criss-cross the maria.
22. Over billions of years, meteorites have crushed the surface of the moon into _____, or dust and small fragments of rock.
23. The substance _____ is missing from the minerals in lunar rocks.
24. One type of rock found both in the highlands and maria is _____, which formed when meteorites struck the moon.

Directed Reading *continued***THE INTERIOR OF THE MOON**

- _____ 25. How do the rocks on the lunar surface compare with those on Earth?
- Lunar rocks are lighter in color.
 - Lunar rocks are less dense.
 - Lunar rocks are darker.
 - Lunar rocks are equal in density.
- _____ 26. How does the overall density of the moon compare with the density of Earth?
- The moon's density is three times that of Earth.
 - The moon's density is three-fifths that of Earth.
 - The moon's density is five times that of Earth.
 - The moon's density is one fifth that of Earth.
- _____ 27. Compared with Earth's interior, the interior of the moon
- is denser.
 - is equal in density.
 - is less dense.
 - has no density.
- _____ 28. Where do most moonquakes occur?
- on the crust
 - in the mantle
 - under the crust
 - in the core
- _____ 29. Scientists have learned from moonquakes that the moon's interior
- is made up of water.
 - has only one compositional layer.
 - has three compositional layers.
 - is frozen.
- _____ 30. The side of the moon that always faces Earth and the side that always faces away from Earth are called, respectively, the
- close side and distant side.
 - light side and dark side.
 - near side and far side.
 - hot side and cold side.
- _____ 31. What caused the crust on the far side of the moon to be thicker than the crust on the near side?
- the pull of Earth's gravity
 - the rotation of the moon on its axis
 - heat from the sun
 - the moon's unbalanced core

Directed Reading *continued*

- _____ 32. The surface of the far side of the moon is mountainous and has
- many large maria.
 - only a few small maria.
 - only a few ridges.
 - no ridges.
- _____ 33. The thickest layer of the moon is the
- maria.
 - crust.
 - mantle.
 - core.
- _____ 34. The moon's non-uniform rotation indicates that the core is
- neither completely solid nor completely liquid.
 - completely liquid.
 - completely solid.
 - completely magnetic.

THE FORMATION OF THE MOON

- _____ 35. The theory that a Mars-sized body struck Earth and began the development of the moon is called the
- giant impact hypothesis.
 - big bang theory.
 - theory of relativity.
 - huge explosion hypothesis.
- _____ 36. The collision with a Mars-sized body ejected chunks of Earth's
- liquid crust into orbit.
 - molten mantle out of orbit.
 - frozen core into orbit.
 - molten mantle into orbit.
- _____ 37. The material ejected from Earth by its collision with a huge body eventually
- flew out of the solar system.
 - clumped together to form the moon.
 - formed asteroids.
 - was absorbed by the sun.
- _____ 38. Why did the material from the collision that clumped together continue to revolve around Earth?
- because of the moon's density
 - because of Earth's density
 - because of the moon's gravitational pull
 - because of Earth's gravitational pull

Directed Reading *continued*

39. How did the lunar interior change over time?

40. What happened to the outer surface of the moon when the moon cooled and a crust formed over the molten interior?

41. What developments took place on the moon about 3 billion years ago?

42. Why is the moon a valuable source of information about the conditions that existed in the solar system long ago?

Directed Reading *continued*

43. What do scientists think happened after impacts on the moon's surface formed deep basins?

44. Why did more lava flow into the craters on the near side of the moon than into those on the far side?

45. There is no evidence of plate tectonics or convection currents in the moon's mantle to supply energy. How do scientists think that magma might have reached the moon's surface?

46. When and why did lava flows end?
