

Lesson Quiz A

LESSON 1

Earth's Motion

True or False

Directions: *On the line before each statement, write T if the statement is true or F if the statement is false.*

- _____ 1. Earth's orbit is nearly circular.
- _____ 2. The motion of Earth around the Sun is Earth's rotation.
- _____ 3. As Earth revolves, it always tilts toward the Sun.
- _____ 4. The Sun produces energy through nuclear fusion.
- _____ 5. Day and night are caused by Earth's rotation.
- _____ 6. The equator is warmer than the poles because the Sun's energy is more concentrated at the equator than at the poles.
- _____ 7. Seasons take place because the tilt of Earth's rotation axis relative to the Sun stays the same during the year.
- _____ 8. On the December solstice, the north end of Earth's rotation axis continues to point away from the Sun, but it does so less and less.
- _____ 9. A day when Earth's rotation axis is leaning along Earth's orbit, neither toward nor away from the Sun, is called an equinox.
- _____ 10. When the southern hemisphere is experiencing summer, the northern hemisphere is experiencing summer.

Lesson Quiz B

LESSON 1

Earth's Motion

Short Answer

Directions: Respond to each statement on the lines provided.

1. **Define** Earth's revolution and tell what keeps Earth in its orbit.

2. **Describe** the effect of Earth's rotation.

3. **Contrast** the temperatures at Earth's poles and equator. Explain what causes these differences.

4. **Contrast** a solstice and an equinox.

5. **Explain** why the southern hemisphere experiences summer when the northern hemisphere experiences winter.

6. **Assess** whether a nonrotating Earth would have seasons.

7. **State** how the Sun produces energy.

Enrichment**LESSON 2**

Earth's Moon

The surface of the Moon is different from the surface of Earth. The Moon has little or no water on its surface. Volcanic activity ceased long ago. No wind, erosion, or atmosphere are present. Yet the surface of the Moon has at least four interesting features.

Terrae

The surface of the Moon has areas of low elevation, high elevation, and craters. The areas of high elevation are called highlands. You see these as the bright areas of a full moon. They are also known as lunar *terrae*, the Latin word for "land."

Craters

The highlands are covered with impact craters made by meteorites. Because there is no blowing wind, flowing water, or shifting tectonic plates on the Moon, impact craters rarely change. There are two ways they can change, even if slightly—through human activity and by another cosmic hit. Some craters are as large as 1,000 km across. These were violent impacts that greatly affected the topography of the Moon.

Maria

The Moon may be geologically inactive now, but it has not always been inactive.

Applying Critical-Thinking Skills

Directions: Respond to each statement.

1. **Explain** how early astronomers could mistake the maria for seas.
2. **Compare** the cratered surface of the Moon to the surface of Earth. Explain why the Moon has so many craters and why very few would be observable on Earth, even if Earth were bare.
3. **Hypothesize** why human artifacts on the Moon might need to be protected.

Looking up at a full moon, you can see smooth, dark areas. These markings lead some to see a face, or "the man in the Moon." These are areas of low elevation that were filled by lava flows. There is some speculation that lava flows filled some enormous impact craters. The impacts would have been violent enough to crack the Moon's crust and release lava over its surface.

When Galileo first identified the surface characteristics of the Moon, he and other scientists of the day thought they were looking at land (*terrae*) and that the smooth lowlands were large seas. That is why we have the name *maria* (MAHR ee uh; singular *mare*), meaning "seas."

Footprints

Though the Moon has never had native inhabitants, it has many archaeological treasures. There are flags, plaques, rover tracks, footprints, and food bags left by astronauts on its surface. Archaeologists want to preserve the rover tracks and the first human footprints on another world by designating the landing site as a National Historic Landmark.

Content Vocabulary

LESSON 3

Eclipses and Tides

Directions: In this word search puzzle, find and circle the five terms listed below. Then write each term on the line before its definition.

lunar eclipse

penumbra

solar eclipse

tide

umbra

U E O F S E N A A D A P S
 V D S G V U S R L Z R Q M
 J C G P Z O B L Z V B H Q
 P H B J I M T I D E M V T
 O D N D U L K Z E B U L P
 S M S T Y B C N Z O N P F
 J F K B G I D E A G E U U
 G J Z U I C A H R F P P J
 H R H C U U G I W A F C V
 V U K Q J Y Z U L F N X I
 S G P M J Q Q G T R H U E
 E V W G I I Q H G P C J L
 C P S M F F I L X M O Y H
 E S P I L C E R A L O S N

1. the daily rise and fall of sea level

2. the lighter part of a shadow

3. the darker part of a shadow

4. occurs when the Moon moves into Earth's shadow

5. occurs when the Moon's shadow appears on Earth's surface