

## SOL 4.8 EARTH, SUN, MOON

Key concepts include

- the motions of Earth, the moon, and the sun;
- the causes for Earth's seasons;
- the causes for the phases of the moon;
- the relative size, position, age, and makeup of Earth, the moon, and the sun; and
- historical contributions in understanding the Earth-moon-sun system.

### MOTION - ROTATION, REVOLUTION, SEASONS

1. Which of these is the most responsible for the changes of the seasons on Earth?

(2010 test – question -25)

- Position of the Moon
- Tilt of Earth on its axis**
- Temperature of the Sun
- Distance to Mars

2. Which of these takes about one year to complete?

(2010 test – question 32)

- Earth to orbit the Sun**
- The Sun to orbit Earth
- Earth to rotate on its axis
- The Moon to orbit Earth

3. Earth makes a complete revolution around the Sun about once every —

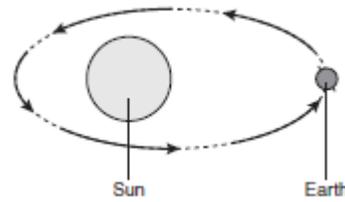
(2008 test – question 9)

- day
- year**
- season
- minute

4. Which of these describes rotation?

(2009 test – question 22)

- Mercury goes around the Sun every 88 days.
- The Moon goes around Earth every 28 days.
- Earth orbits the Sun about every 365 days.
- Earth makes one turn on its axis every 24 hours.**



5. The motion of Earth around the Sun most affects the —

(2007 test – question 14)

- timing of tides
- length of a month
- cycle of the seasons**
- phases of the Moon

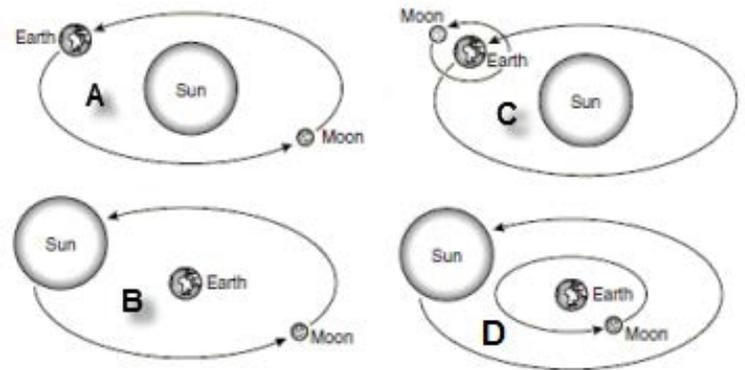
6. The time between today's sunrise and tomorrow's sunrise would be about —

(2003 test – question 4)

- 12 hours
- 24 hours**
- 36 hours
- 48 hours

7. Which of these best shows that the Earth revolves around the sun as the moon revolves around the Earth? ( c )

(2004 test – question 30)



8. The rotation of the Earth on its axis causes —

(2002 test – question 21)

- seasons
- years
- months
- days**

9. The moon revolves around —

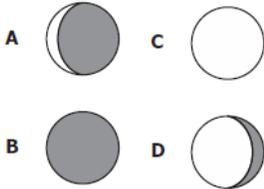
(2001 test – question 8)

- itself
- the Earth**
- the sun
- the solar system

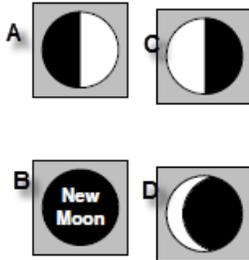
# MOON PHASES



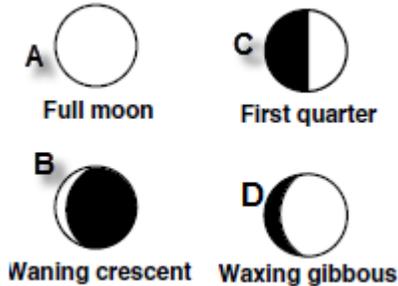
10. The phases of the Moon occur in a certain order. Three phases are shown here. Which is the next phase in the sequence? (c)  
(2008 test – question 17)



11. Which of the following is the next phase of the moon? (d)  
(2004 test – question 26)



12. Which of these is the next phase of the moon?  
(2002 test – question 14) (c)



# CHARACTERISTICS OF EARTH, MOON

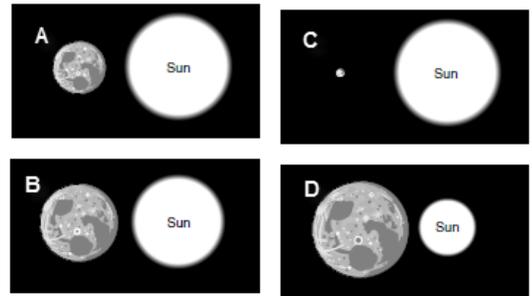
13. The surface of the **Moon** is made up of —  
(2011 test – question 35)

- a. craters, highlands, and flat areas
- b. swirling gases
- c. large bodies of water
- d. a mixture of gases and water

14. Which of these best describes the Moon?  
(2009 test – question 8)

- a. Older than Earth
- b. Smaller than Earth
- c. Having the same climate as Earth
- d. Having the same atmosphere as Earth

15. Sometimes you can see the moon during the daytime. The moon looks the same size as the sun, but the moon is 1/400 the size of the sun. Which of these best shows the size of the moon relative to the sun? (c)  
(2006 test – question 40)



16. If the Earth moved farther away from the sun, which of these would probably happen?  
(2005 test – question 1)

- a. There would be no moon.
- b. There would be more solar eclipses.
- c. There would be colder weather.
- d. There would be more seasons.

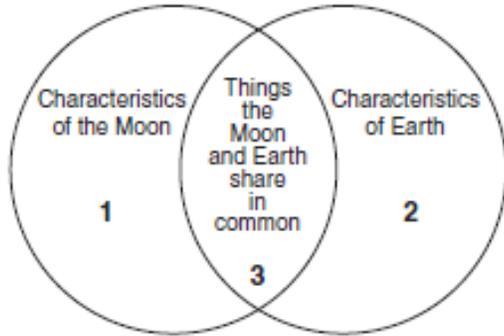
17. How is the Earth different from all of the other planets?  
(2005 test – question 15)

- a. It has a breathable atmosphere.
- b. It has a rocky surface.
- c. It is warmed by the sun.
- d. It rotates on its axis.

18. The Earth is very different from other planets in the solar system because it has the most —

(2003 test – question 39)

- a. solid rock
- b. volcanoes
- c. **liquid water**
- d. high winds



19. Which of these would fit best in area 3 of this Venn diagram?

(2007 test – question 32)

- a. **Rocky surface**
- b. Active volcanoes
- c. Liquid water present
- d. Oxygen in atmosphere

20. The distance between which of these is the shortest?

(2003 test – question 30)

- a. Earth and sun
- b. Moon and sun
- c. Earth and Mars
- d. **Earth and moon**

## HISTORICAL CONTRIBUTIONS

21. About 400 years ago, Galileo became the first person to record what the moon looked like through a telescope. He was able to tell that the moon had —

(2006 test – question 35)

- a. **many craters**
- b. plants but no animals
- c. active volcanoes
- d. polar ice caps

22. The Apollo 11 mission was able to retrieve samples of the Moon's surface because it was the first mission to have astronauts —

(2009 test – question 3)

- a. **land on the Moon**
- b. orbit a planet
- c. return to Earth
- d. walk in space

23. Which of these objects in the solar system has been visited by people from Earth?

(2010 test – question 10)

- a. **Moon**
- b. Sun
- c. Mars
- d. Asteroid