



## Sun-Earth-Moon Study Guide

- \_\_\_\_\_ 14. When the shadow of the Moon appears on Earth's surface a \_\_\_\_\_ is occurring.  
a. solar eclipse      b. new moon      c. lunar eclipse      d. astral eclipse
- \_\_\_\_\_ 15. Why do solar eclipses happen only during a new moon?  
a. A new moon occurs when the Sun, the Moon and Earth are all aligned. This allows the Moon to appear to cover the Sun.  
b. A new moon occurs when the Sun, the Moon and Earth are all in a 90 degree angle. This allows the Moon to appear to cover the Sun.  
c. A new moon occurs when the Sun, the Moon and Earth are all aligned. This allows the Sun to appear to cover the Moon.  
d. A new moon occurs when the Sun, the Moon and Earth are all in a 90 degree angle. This allows the Sun to appear to cover the Moon.
- \_\_\_\_\_ 16. A lunar eclipse can only occur during which type of moon phase?  
a. first quarter moon      c. new moon  
b. full moon      d. third quarter moon
- \_\_\_\_\_ 17. A tide is a \_\_\_\_\_ rise and fall of sea level.  
a. daily      b. monthly      c. yearly      d. rare
- \_\_\_\_\_ 18. What force is mostly responsible for tides?  
a. the gravity of the Sun      c. the gravity of the Moon  
b. the gravity of Earth      d. wind
- \_\_\_\_\_ 19. Spring tides--  
a. occur at new and full moons, and have the highest high tides and lowest low tides.  
b. occur at first- and third-quarter moons, and have the lowest high tides and highest low tides.  
c. occur at new and full moons, and have the lowest high tides and highest low tides.  
d. occur at first- and third-quarter moons, and have the highest high tides and lowest low tides.
- \_\_\_\_\_ 20. When do neap tides occur?  
a. at new and full moons, and have the highest high tides and lowest low tides  
b. at first- and third-quarter moons, and have the lowest high tides and highest low tides  
c. at new and full moons, and have the lowest high tides and highest low tides  
d. at first- and third-quarter moons, and have the highest high tides and lowest low tides

### Completion

*Complete each statement.*

21. Hours of daylight and nighttime are equal during a(n) \_\_\_\_\_.
22. Earth is \_\_\_\_\_ the Sun in January.
23. The Moon revolves around \_\_\_\_\_.
24. The spinning of Earth on its axis is called \_\_\_\_\_.
25. Earth \_\_\_\_\_ on its axis and \_\_\_\_\_ around the Sun.
26. The Sun's apparent path through the sky in the southern hemisphere is highest during the \_\_\_\_\_.
27. Since the Moon revolves once around Earth in the same amount of time that it takes to rotate on its axis the \_\_\_\_\_ faces Earth.
28. In order to see the total solar eclipse, you would have to be in the \_\_\_\_\_.

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## Matching

*Match each term with the correct description below.*

- |               |                      |
|---------------|----------------------|
| a. waxing     | e. new Moon          |
| b. axis       | f. equinox           |
| c. rotation   | g. December solstice |
| d. revolution | h. Moon phases       |

- \_\_\_ 29. Earth's yearly orbit around the Sun
- \_\_\_ 30. changing appearances of the Moon from Earth
- \_\_\_ 31. Moon phase in which none of the lighted surface of the Moon can be seen from Earth
- \_\_\_ 32. when the Sun's rays strike Earth directly at the equator
- \_\_\_ 33. turning of Earth on its axis
- \_\_\_ 34. Moon phases in which the amount of lighted surface seen on Earth increases
- \_\_\_ 35. December 21 or 22
- \_\_\_ 36. imaginary line extending between the poles around which Earth spins

*Match each description with the correct term below.*

- |                  |                  |
|------------------|------------------|
| a. first quarter | f. lunar eclipse |
| b. full moon     | g. maria         |
| c. new moon      | h. craters       |
| d. third quarter | i. 27.3 days     |
| e. solar eclipse |                  |

- \_\_\_ 37. occurrence caused by Earth's coming between the Sun and the Moon and casting its shadow on the Moon
- \_\_\_ 38. Moon phase in which none of the lighted surface of the Moon can be seen from Earth
- \_\_\_ 39. amount of time of the Moon's revolution and rotation
- \_\_\_ 40. depressions on the Moon caused by the impact of meteorites
- \_\_\_ 41. waxing Moon phase in which one half of the Moon's lighted surface can be seen from Earth
- \_\_\_ 42. occurrence caused by the Moon's being between the Sun and Earth and casting its shadow on Earth
- \_\_\_ 43. dark-colored, relatively flat regions of the Moon formed from lava filling large basins
- \_\_\_ 44. phase in which all of the lighted side of the Moon can be seen from Earth
- \_\_\_ 45. waning Moon phase in which one half of the lighted side of the Moon can be seen from Earth

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Other

46.

Draw and label each phase of the moon.  
Shade the part of the moon that we DO NOT SEE

The diagram shows eight circles representing the moon, arranged in a ring. Each circle has a label box below it, numbered 1 through 8. Sunlight is indicated by arrows on the right side, labeled "SUNLIGHT".

1. [Label box]

2. [Label box]

3. [Label box]

4. [Label box]

5. [Label box]

6. [Label box]

7. [Label box]

8. [Label box]

SUNLIGHT