

Solar Eclipse

Check for Understanding

1. What is a solar eclipse?

A solar eclipse is when the sun, moon, and Earth align in this order. The light from the sun is blocked on Earth for a period of time.

2. Explain the alignment of the Earth, sun, and moon during a solar eclipse.

During a solar eclipse the moon is between the Earth and the sun.

3. During which moon phase can a solar eclipse take place?

A solar eclipse can only take place when there is a new moon.

4. If you are standing on the moon during a solar eclipse and look at Earth describe what you would see.

During a solar eclipse if you were standing on the moon looking back towards Earth, you would see a shadow cross Earth, the moon eclipsing Earth.

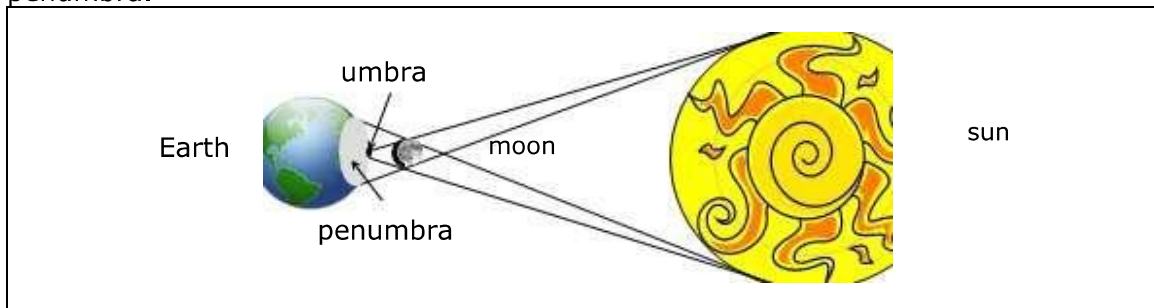
5. How frequent are solar eclipses?

The Earth, sun, and moon align approximately 2 to 5 times per year to cause a solar eclipse [Source: NASA <http://eclipse99.nasa.gov/pages/faq.html>]; however to see the eclipse you must be in a precise place on Earth. Only those in a few mile area can see the occurrence.

6. What is the difference between the umbra and penumbra?

The umbra is the darkest area cast by the moon's shadow on Earth. The penumbra is the lighter shadowed area surrounding the umbra.

7. Draw an illustration of a solar eclipse. Label the sun, Earth, moon, umbra, and penumbra.



8. What is the difference between a total solar eclipse and a partial solar eclipse?

A total solar eclipse occurs when the new moon completely blocks out the sun. When a total eclipse takes place the umbra will cast a shadow on Earth. During a partial solar eclipse only the penumbra will cast a shadow on Earth. Part of the sun will remain visible during a partial solar eclipse.

9. What is the corona?

The corona is the outer atmosphere of the sun.

10. Describe precautions that must be taken when observing a solar eclipse.

Looking directly at the sun can cause permanent damage to your eyes. The safest way to view a solar eclipse is with a pinhole camera. With a pinhole camera you are actually looking at the shadow of the eclipse.