

CASTING SHADOWS

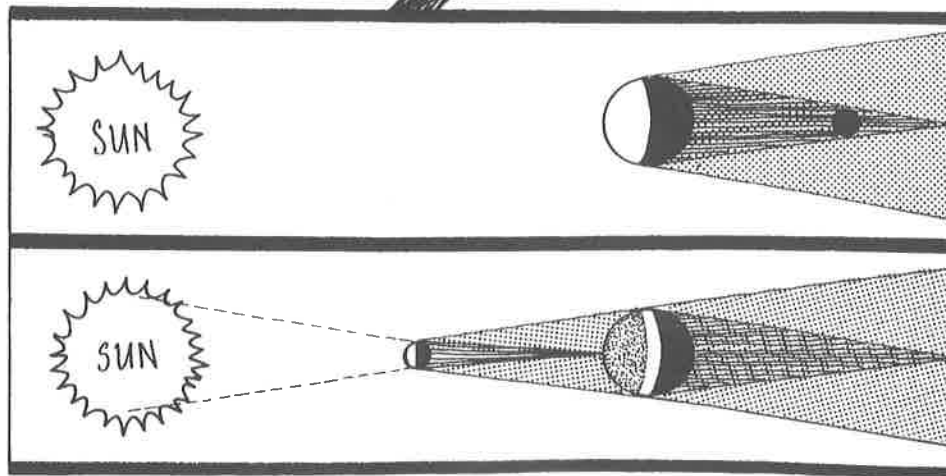


Have you ever seen the sun disappear? Or watched an eerie shadow move across the moon? Imagine what it was like for primitive people when the sky suddenly fell dark in the middle of the day! When three celestial objects fall into alignment, some great shadows are the result. These shadows are called eclipses of the moon or sun, and they're pretty spectacular to watch! These eclipse-watchers have written down some information about eclipses. Do they have all their facts straight? Write T (true) or F (false) next to each statement.

- | | |
|---|--|
| <input type="checkbox"/> 1. A solar eclipse occurs when Earth falls between the sun and the moon. | <input type="checkbox"/> 11. A total lunar eclipse occurs when the moon passes through Earth's penumbra. |
| <input type="checkbox"/> 2. All eclipses are visible. | <input type="checkbox"/> 12. Partial lunar eclipses occur more often than total eclipses. |
| <input type="checkbox"/> 3. All eclipses are total. | <input type="checkbox"/> 13. A solar eclipse may last over 3 hours. |
| <input type="checkbox"/> 4. The umbra is the inner part of the shadow. | <input type="checkbox"/> 14. A total solar eclipse is visible at all spots on Earth. |
| <input type="checkbox"/> 5. Eclipses of the sun occur 2-4 times a year. | <input type="checkbox"/> 15. All lunar eclipses are total. |
| <input type="checkbox"/> 6. A lunar eclipse occurs when the moon travels through the shadow of Earth. | <input type="checkbox"/> 16. In a total solar eclipse, the moon completely covers the sun. |
| <input type="checkbox"/> 7. There are about 2 lunar eclipses a year. | <input type="checkbox"/> 17. Lunar eclipses occur every 3 years. |
| <input type="checkbox"/> 8. A lunar eclipse can take place only when the moon is full. | <input type="checkbox"/> 18. A lunar eclipse may last over 3 hours. |
| <input type="checkbox"/> 9. A total solar eclipse lasts a few minutes. | <input type="checkbox"/> 19. The penumbra is the outer part of the shadow. |
| <input type="checkbox"/> 10. In a solar eclipse, no sunlight penetrates the umbra. | <input type="checkbox"/> 20. When the sun's disk is covered in an eclipse, the corona is still visible. |

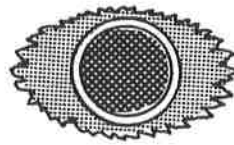
Label the diagrams below **solar eclipse** or **lunar eclipse**.

Label **Earth**, **moon**, **umbra**, and **penumbra** on each diagram.

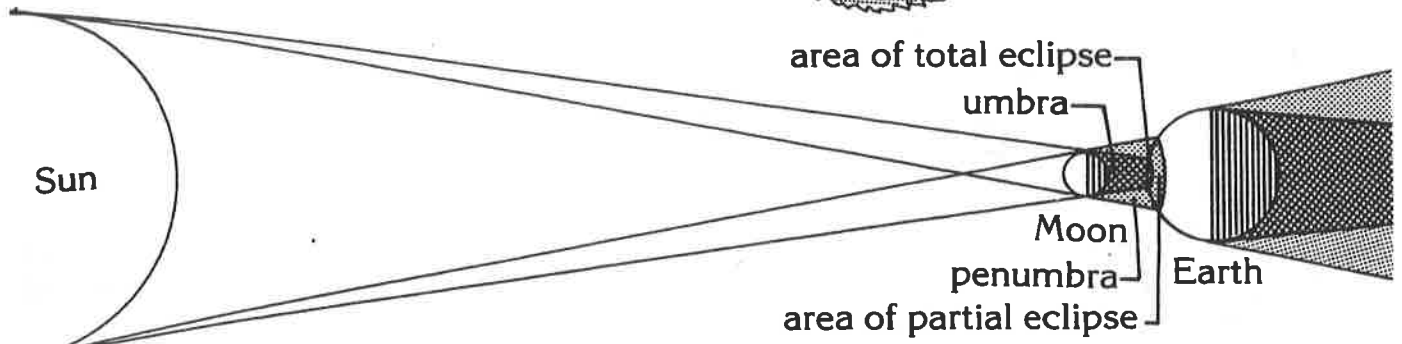


Name _____

Eclipses



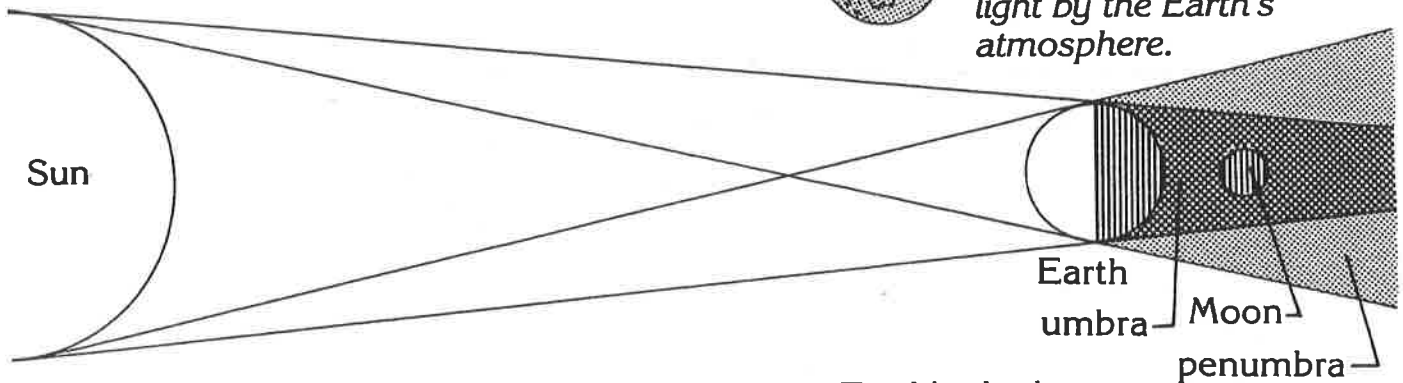
The sun's corona during total eclipse.



Solar Eclipse—Moon passes directly between the sun and Earth.



Total eclipse of moon shines with a dull orange glow due to scattering of light by the Earth's atmosphere.



Lunar Eclipse—Moon passes into Earth's shadow.

1. During a solar eclipse, the _____ falls on the _____ ; in a lunar eclipse, the shadow of the _____ falls on the _____ .
2. The darkest part of a shadow is called the _____ ; the broader, outer part is called the _____ .
3. In a total solar eclipse, the sun's _____ is visible because the _____ blocks out the sunlight.
4. Why do partial eclipses of the moon occur more frequently than total solar eclipses?
