

Total Solar Eclipse



Total solar eclipses occur when the Moon comes between the Sun and Earth and casts the darkest part of its shadow, the umbra, on Earth. A full solar eclipse, known as totality, is almost as dark as night.

On average, there is a total solar eclipse every 18 months, however only viewers located in the path of the Moon's full shadow, its umbra, can see a total solar eclipse. Many parts of Southern Idaho were able to view the total solar eclipse in 2017 (with protective eyewear of course). If you missed that one, you'll have another chance in April of 2024. Students can use this phenomenon to investigate the cyclic patterns of the Sun, Moon, and Earth.

Additional Resources:

- SciNews video [Total Solar Eclipse 2017 from Idaho Falls, Idaho, 21 August 2017](#)
- Great American Eclipse [Total Solar Eclipse, Idaho](#)
- Space [Total Solar Eclipses: How Often Do They Occur \(and Why\)?](#)
- NASA [What is an eclipse?](#)

Performance Standards

1 st Grade	5 th Grade	Middle School	High School
1-ESS-1.1. Use observations of the sun, moon, and stars to describe patterns that can be predicted. 1-ESS-1.2. Make observations at different times of year to relate the amount of daylight to the time of year.	5-ESS-1.2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	MS-ESS-1.1. Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.	HS-ESS-1.4. Use mathematical or computational representations to predict the motion of orbiting objects in the solar system.



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