

## Support Materials for Science Trek 360: Solar Eclipse

**Objective:** The learner will describe the appearance and the cause of a solar eclipse.

### **Background Reading:**

In August 2017, there was a solar eclipse that tracked across the entire continental United States. People traveled long distances to be in the path of totality, because a total eclipse can only be seen from a small part of the Earth. Stanley, Idaho, was one of the places where the total eclipse could be observed. At any given place on Earth, a total eclipse can be seen only about once every 360 years. So, seeing a total eclipse of the sun is a special thing to remember.

An eclipse of the sun happens when the moon comes directly between the Earth and the Sun. In a total eclipse, the moon covers the Sun completely for a short time. People can see a black circle with a ring of light around it — the corona of the sun. The sky goes dark and stars can be seen, even though it may be the middle of the day. The temperature drops, and sometimes birds and animals think it is time to sleep. The eclipse lasts no longer than 7 minutes. Why can the sun be covered by the moon, since the sun is so much bigger? The Moon may be 400 times smaller than the Sun, but the Sun is 400 times further away. This means that the moon and the sun appear to be roughly the same size in the sky. So, when they line up exactly, the moon is able to cover the gigantic Sun.

Learn more at <https://sciencetrek.org/topics/the-sun>.

### **Discussion Questions:**

- What observations can be made during a solar eclipse?
- What causes the sky to go dark in the middle of the day?
- Why can a total solar eclipse only be seen in certain places on the earth?
- What happens after the eclipse has passed?