

4-H Solar Eclipse Activity



Summary of Learning Outcomes

Activity	Project Skill	Life Skill	Educational Standard*	Success Indicator
1. Small Moon, Big Sun 1	Understanding how size and distance affect the appearance of the Earth, moon, and sun	Decision making	NGSS 1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted.	Predicts and records data about distance and the sizes of objects
2. Small Moon, Big Sun 2	Understanding how size and distance affect the appearance of the Earth, moon, and sun	Decision making	NGSS 3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. NGSS 5-ESS1-2. 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.	Predicts and records data about distance and the sizes of objects
3. Small Moon, Big Sun 3	Understanding the spatial relationships of the Earth, sun, and moon during a solar eclipse event	Problem solving	NGSS MS-ESS1-1. 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.	Makes an analog model of a solar eclipse event
4. Solar Eclipse Shadow Play	Understanding the path and intensity of a solar eclipse	Problem solving	NGSS MS-ESS1-1. 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.	Analyzes light and shadow to understand the umbra and penumbra
5. Camera Obscura* (Pinhole Camera)	Learning how a camera obscura works	Processing information	NGSS 4-PS4-2. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.	Builds a model to observe rays reflecting off an object to create an image

*The educational standards cited here are from the Next Generation Science Standards (NGSS). Complete information about each performance indicator is available at nextgenscience.org.

