McDonald Observatory Student Field Experience
Program and Activity Descriptions for Grades K-5

Grades K-5: SUN, PLANETS & STARS, OH MY! (Up to 80 students)
Young learners explore McDonald Observatory and tour a gigantic research telescope, make safe observations of the Sun using specially filtered telescopes and video cameras (weather permitting), and participate in a kinesthetic solar system activity.

Telescope Tour: Load up the bus! Your facilitator guides you to the summit of Mt. Locke to explore McDonald Observatory in transportation that you provide. Students will have dome-floor access to the Harlan J. Smith 2.7-meter (107-inch) telescope, where your facilitator will share its history and accomplishments, and explain how it's used by astronomers. (Although rare, due to unforeseen technical issues we may be forced to alter or cancel this portion of your program.)
Format: Inquiry-based Guided Tour

Our Star the Sun: The star of the show! Specially filtered telescopes and video cameras bring a real-time (weather permitting) or previously recorded video directly to your entire student group. Explore solar features such as sunspots, prominences, and solar flares! Students will learn about the solar features they observe on the Sun by watching unique science demonstrations.
Format: Classroom/Theater Presentation, Hands-On Activity

Modeling the Night Sky: Students explore the Earth's and Sun's positions in relation to the constellations of the ecliptic with a small model. They explore the motions of the Earth and inner planets in a larger classroom-size model. This is a very interactive and fun activity.
Format: Classroom/Theater Presentation, Hands-On Activity

Grades 3-5: LIGHT AND SHADOWS (Up to 60 students)
Your group will tour a gigantic research telescope, and investigate the reason for moon phases and eclipses using their own 3D model. Third grade students will draw shadows, learn about how the sky changes with time and discover the Earth's rotation rate. Students in 4th and 5th grade experiment with lasers and mirrors to test the law of reflection.

Telescope Tour: Load up the bus! Your facilitator guides you to the summit of Mt. Locke to explore McDonald Observatory in transportation that you provide. Students will have dome-floor access to the Harlan J. Smith 2.7-meter (107-inch) telescope, where your facilitator will share its history and accomplishments, and explain how it's used by astronomers. (Although rare, due to unforeseen technical issues we may be forced to alter or cancel this portion of your program.)
Format: Inquiry-based Guided Tour

Shadow Play (3-4): Everyone and everything has a shadow! Younger learners can learn about the Sun's relative motion in the sky as they experiment with shadows.
Format: Classroom/Theater Presentation, Hands-On Activity

Or:

Mirror, Mirror (5): In this activity, students test the Law of Reflection based on experimental evidence. Back-silvered mirrors make this activity engaging, as students must explain why their observations may not match up with their expectations.
Format: Classroom/Theater Presentation, Hands-On Activity

Moon Phases and Eclipses: In this activity, each student in your group uses their own 3-dimensional Sun, Earth and Moon model to explain the Moon's monthly cycle of phases. With a single lamp, the "Sun", lighting up each student's "Moon", the students are able to observe moon phases and eclipses and discover they are not caused by shadows.
Format: Classroom/Theater Presentation, Hands-On Activity

Grades 4-5: LOOK UP! (Up to 60 students)
Young learners explore McDonald Observatory and tour a gigantic research telescope, make safe observations of the Sun using specially filtered telescopes and video cameras (weather permitting), and participate in a creative activity that makes connections between models in science and early civilizations.

Telescope Tour: Load up the bus! Your facilitator guides you to the summit of Mt. Locke to explore McDonald Observatory in transportation you provide. Students will have dome-floor access to the Harlan J. Smith 2.7-meter (107-inch) telescope, where your facilitator will share its history and accomplishments, and explain how it's used by astronomers. (Although rare, due to unforeseen technical issues we may be forced to alter or cancel this portion of your program.)
Format: Inquiry-based Guided Tour

Ancient Models of the Universe: Students compare ancient models of the Earth to learn how people long ago explained common events seen daily in the sky. Students use artistic creativity to invent their own "ancient model" of the world. Students learn that the science of astronomy began when people of ancient cultures started comparing different models. This is a fun and engaging STEAM activity.
Format: Classroom/Theater Presentation, Hands-On Activity

Our Star the Sun: The star of the show! Specially filtered telescopes and video cameras bring a real-time (weather permitting) or previously recorded view of the Sun directly to your entire student group. Explore solar features such as sunspots, prominences, and solar flares! Students will learn about the solar features they observe on the Sun by watching unique science demonstrations.
Format: Classroom/Theater Presentation, Hands-On Activity