

Workshop 3 Stars and Electronics

Core STEM: ENGINEERING, TECHNOLOGY

Core Subjects: ELECTRONICS, CIRCUITS, MATERIALS SCIENCE, ASTRONOMY

Activity: Build your own circuit. Creating a star projector.

General description: During this activity students will learn about the basics elements of electric circuits and will use this knowledge to create a portable star projector to learn about their favourite constellations.

Parts:

PART 1) During this workshop, students will explore the basics of energy and electromagnetism, with particular emphasis in electricity. Students will build their first electric circuit, which will include a battery, a switch and a high brightness LED.

PART 2) Students will assemble their circuit inside a extensible cardboard tube to produce a star projector with crude focusing capabilities. Students will create interchangeable projection plates of their favourite constellations.

Space Theme Rationale: Electricity and electronic circuits are parts of or day to day lives. Understanding electronics and circuits will allow future space explores to be able to design new technologies and carry out repairs in existing ones (like the spaceships!).

Core Concepts: Magnetism and Electricity, Forces, Properties and characteristics of materials Light and Energy.

Core Skills: Designing and Making, Working Scientifically

Strands: Energy and Forces, Materials