

Module 4: Electronics

Module 4 explores electronics through hands-on activities and challenges. Sessions draw on range of disciplines such as physics, electrical engineering and maths. The activities and challenges are designed to foster team work and critical thinking.

The Module 4 Risk Assessment highlights potential risks and their management strategies. Please read the Risk Assessment document before commencing any of the sessions.

Feedback forms have been provided for students, parents/guardians and coordinators to complete at the end of each session. Feedback assists with continued improvement of your club experience and the resources.

Module 4.1: Energy

This session explores energy. Students learn about the different forms of energy and how energy transformations can occur. This knowledge is then expanded upon and utilised in a battery building challenge using everyday materials to build a battery strong enough to power LED light globes.

Module 4.2: Circuits

This session explores electronic circuits. Students explore what they are, where they are found, and how they can be represented with circuit diagrams. Students use their circuit diagram drawing skills to design a simple circuit, and then a wire loop game as this module's challenge.

Module 4.3: Motors

This session explores motors. Students build on their knowledge of energy, and circuits, and explore how: electric motors transform electrical energy into mechanical energy; magnets play a role in electric motors; two different types of electrical current are harnessed by motors, direct current (DC) and alternating current (AC). Students learn how to differentiate between DC and AC and what each form is used for. Students use their knowledge to construct a DC motor powered car as this module's challenge.

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