UNSW MAKERBUS WORKSHOPS

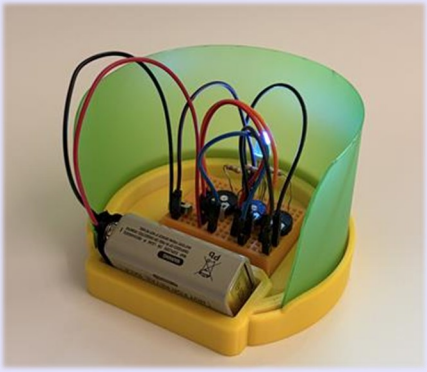
Colour Change LED Lantern

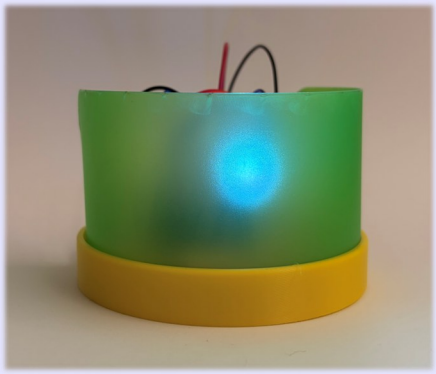
DIFFICULTY

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WORKSHOP AGES
Years 3-9

DURATION
Approx. 90-120 minutes





Learning Outcomes

- Laser cutting
- 3D printing
- Colour theory
- Hand construction
- Simple circuits

Parts List

Premade

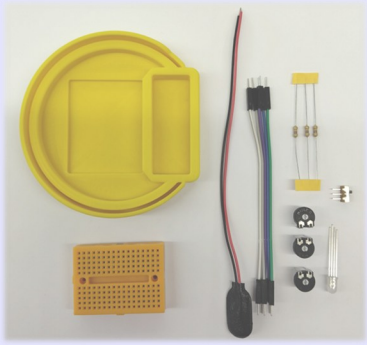
- 3D printed base
- Breadboard
- Electronic components

Made during workshop

- Laser cut lantern façade

Optional Tools

- Scissors
- Hole punches



Pre-workshop

Students will be introduced to the technologies used in making their lantern kits i.e. 3D printing, electronics, and laser cutting. Some colour theory will also be explained in relation to their 3 colour LED. Teachers may like to introduce similar topics to students prior to the day of the workshop.

Practical Workshop

A step-by-step procedure will be walked through by Makerbus ambassadors with all construction being either press fit or placed together. A full diagram will be given to each student to follow for circuit assembly, but some students may require a little extra attention in placing components correctly.

Electronic components should fit firmly into the breadboard but should not require any excess force to be put in place. The LED does have a polarity to follow for the circuit to function, so confirmation of the right placement should be done before students power up their project.

A portion of the workshop can also include learning and using a laser cutter to create the lantern façade. Students will be shown following their circuit construction how to use the laser software and draw their own designs within a provided template. Makerspace ambassadors will then run the laser cutter for them to produce their own custom façade to be fitted to their project.

Safety

Tools and parts used in this workshop pose low risk for safety concerns with the attending students when given appropriate supervision. No PPE is required beyond basic school uniform.

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