

Planning & conducting investigations

Experiment Printout - Electrical switch

Task: Devise an electrical switch (open ended task)

Teachers may like to allow students to design, make and test their own electrical switch.

Suggested equipment

- role badges for manager, safety officer and speaker
- each team member's SciTech journal
- 1 x 1.5 volt battery
- 1 x bulb and lampholder (or buzzer)
- wire cutters, paper-clip and split pins
- a small piece of cardboard
- connecting wires

Activity steps

- Review previous sessions (open and closed circuits), refer to word wall and KWL chart.
- As a class, discuss the criteria for successfully constructing a switch, i.e. the switch must be:
 - safe.
 - able to be switched on and off repeatedly.
- Have students in groups draw a labelled diagram of their design.
- Allocate roles to the students and obtain equipment from teacher.
- Have students construct and present their designs to the class.
- Have students discuss the safety features incorporated in their designs and how their design could be improved.