

## Electrical safety: Preliminary Design and Technology

In this activity you will learn about electrical safety and the workshop.

This material addresses aspects of the following syllabus outcome:

P 4.2 The student describes and uses safe working practices and correct workshop equipment maintenance techniques.

*Extract from: Stage 6 Design and Technology Syllabus © Board of Studies NSW 1999.*

### Electrical safety

Electricity is used to power many of the pieces of equipment used in the development of projects. Therefore it is important that the properties and safe handling of electricity are understood.

### Activity

Examine the information in relation to the use of electricity on the following web site < [http://www.ccohs.ca/oshanswers/safety\\_haz/electrical.html](http://www.ccohs.ca/oshanswers/safety_haz/electrical.html) > and complete the passage below by using the words from the word bank.

disconnect	positively	non-conductive	exposed	hazardous
combustible	fuse	current	cords	guards
aware	access	rated	damage	immediately

*Why is it so important to work safely with or near electricity?*

The electrical \_\_\_\_\_ in regular businesses and homes has enough power to cause death by electrocution. Even changing a light bulb without unplugging the lamp can be \_\_\_\_\_ because coming in contact with the live part of the socket could kill a person.

*What are some general safety tips for working with or near electricity?*

- Inspect tools, power cords, and electrical fittings for \_\_\_\_\_ or wear prior to each use. Repair or replace damaged equipment \_\_\_\_\_.
- Always tape cords to walls or floors when necessary. Nails and staples can damage \_\_\_\_\_ causing fire and shock hazards.
- Use cords or equipment that is \_\_\_\_\_ for the level of amperage or wattage that you are using.
- Always use the correct size \_\_\_\_\_. Replacing a fuse with one of a larger size can cause excessive currents in the wiring and possibly start a fire.

- Be \_\_\_\_\_ that unusually warm or hot outlets may be a sign that unsafe wiring conditions exist. Unplug any cords to these outlets and do not use until a qualified electrician has checked the wiring.
- Always use ladders made of wood or other \_\_\_\_\_ materials when working with or near electricity or power lines.
- Place halogen lights away from \_\_\_\_\_ materials such as cloth or curtains. Halogen lamps can become very hot and may be a fire hazard.
- Label all circuit breakers and fuse boxes clearly. Each switch should be \_\_\_\_\_ identified as to which outlet or appliance it is for.
- Do not use outlets or cords that have \_\_\_\_\_ wiring.
- Do not use power tools with the \_\_\_\_\_ removed.
- Do not block \_\_\_\_\_ to circuit breakers or fuse boxes.
- Do not touch a person or electrical apparatus in the event of an electrical accident. Always \_\_\_\_\_ the current first.