



# METALWORK

*All Level*

## Purpose

To help you learn about metals and basic metalwork skills.

## Exploring

Most metals that you see every day are in their basic form. Metals are also combined with each other or with other chemical elements. These are known as alloys. Here are some of the main metals and alloys we see and hear about:

Metal or Alloy	Quality	Use
Copper	resists corrosion	tubing
Iron	low cost	castings
Tin	preservative	food containers
Aluminium	light weight	kitchen utensils
Brass	decorative	hardware
Steel	strength	tools
Stainless Steel	resists corrosion	knife blades
Nickel Steel	high strength	armour plate
Tungsten	strong metal	aircraft parts
Magnesium	very light metal	missiles

God has put these minerals in the earth for our use. The following terms explain how we take them from the earth and use them.

- **MINING**  
Open cut and underground mining are used to remove the metal ores from the ground.
- **EXTRACTING**  
A broad term covering the entire process of separating the metal from its ore (see an encyclopedia for a more detailed explanation).
- **REFINING**  
Additional stages of smelting to produce pure metal.

## Doing

1. Join two pieces of metal (about 12 cm in length) together in each of the following ways.
  - Soldering.
  - Riveting or fastening with screws.
2. Demonstrate to your Counsellor that you can.
  - Cut metal in a straight line (12 cm or longer) and cut out a circle (at least 12 cm in diameter).
  - Drill metal.
  - Fold and form metal.
3. Make a useful article out of metal.

Ask your Counsellor to sign below and arrange for the presentation of your badge.

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