

How does a fuse work?

Teachers Notes - Lesson 2 - Slide 12

Teacher Demonstration

How does a fuse work?

Equipment

- role badges for manager, safety officer and speaker
- each team member's SciTech journal
- 2 x 1.5 volt batteries
- low amp fuse wire (1 amp) or strands of steel wool
- connecting wires
- dinner plate

Activity steps

- Revise open and closed circuits with students.
- Discuss what may happen to wires if too much electric current flows through them.
 - Wires would melt and may cause a fire.
- Teacher creates an open circuit using the battery and connecting wire.
- Place a short length of fuse wire on the dinner plate.
- Connect the wires to each end of the fuse wire to close the circuit.
- Have students observe:
 - What happened to the fuse wire?
- Have students suggest:
 - an explanation for their observation (too much electricity flowing through the fuse wire).
- Have students draw and label a diagram of the demonstration.
- Discuss:
 - Ask students to explain the simile "a fuse is like an electrical watch dog."
 - Why should you not plug too many appliances into a wall socket.
- Most modern houses have circuit breakers or safety switches.
Research one of the devices.