

Boffins 5

**100M.** Complete the sentences with missing words.

- 1) We get electricity from the ..... or from .....
- 2) NEVER stick scissors, pens, fingers or anything else into a ..... .....
- 3) NEVER touch switches with ..... .....
- 4) NEVER use electrical appliances near .....
- 5) ALWAYS hold the ..... part of a plug when plugging in or unplugging appliances.  
(Two points for each correct answer)

Points: .....

**Javelin** Read the sentences and try to guess what the missing word might be.

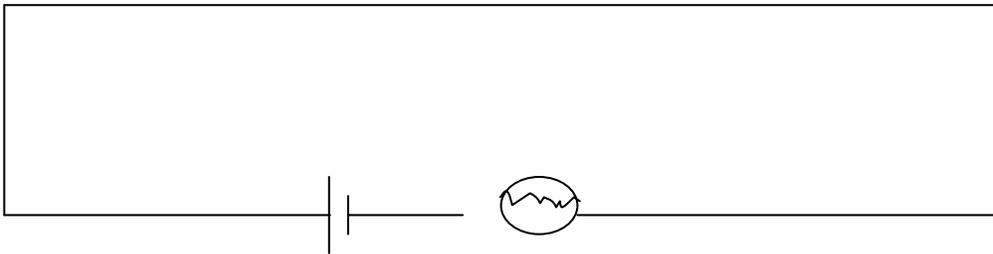
- 1) An a..... is a device in the home that uses electricity.
- 2) Electricity in a circuit might come from a b.....
- 3) Another word for a battery is a c....
- 4) When we draw a circuit, we must use a c..... d.....
- 5) We don't draw pictures in a diagram, we use c..... s.....
- 6) A c..... is anything that does a job in a circuit, such as a motor, bell or buzzer.
- 7) A c..... is any material that allows electricity to flow through it.
- 8) An i..... won't let electricity flow through.
- 9) A s..... is used to make a gap in a circuit, to turn it on or off.
- 10) When electricity flows from one end of a source and back to another, through any components, and without gaps, we call it a c..... c.....

(One point for each correct answer).

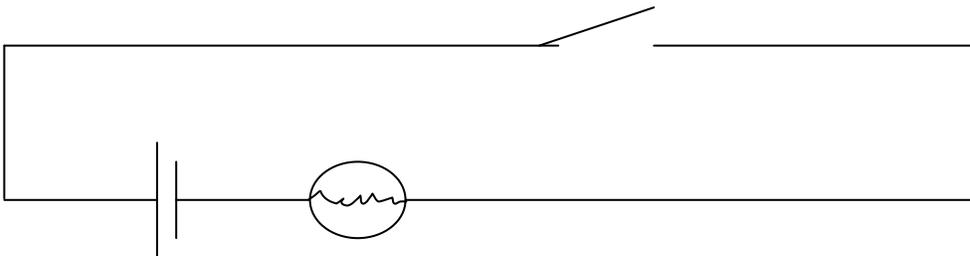
Points: .....

**200M.** Say whether you think these circuits would work, and why.

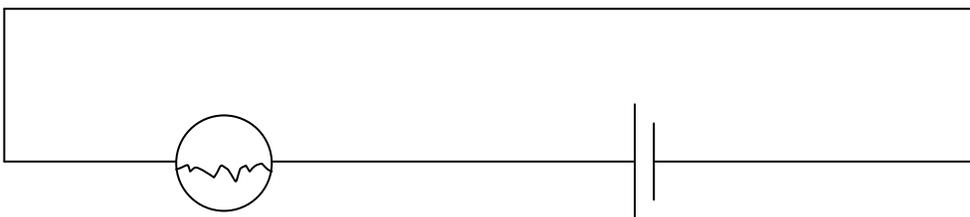
1)



2)



3)



**Discus** Answer these questions:

- 1) Name five things in your home that wouldn't work without electricity.
  - a)
  - b)
  - c)
  - d)
  - e)
- 2) Say yes or no. Which of these would conduct electricity and which would not?
  - a) copper
  - b) wood
  - c) paper
  - d) iron
  - e) rubber

(One point for each correct answer)

Points: .....

**Weight Lifting** Answer only one question from this section.

- 1) Why do bathroom light switches often work by pulling a cord? (2 points)
- 2) You are given a battery, two wires and a bulb. The bulb won't light. What might be wrong? (4 points)
- 3) If I add an extra battery to a circuit, how will this affect the bulb? (6 points)
- 4) When does a short circuit happen? (8 points)
- 5) Give two ways in which I could make a bulb in a circuit shine with a fainter light. (10 points)

Points: .....

**Steeple Chase** Answer each question carefully. If you get one wrong, you must stop marking!

- 1) Why are batteries safer than using the mains?
- 2) Why do we need to use metal for wires?
- 3) Why do we use a plastic coating around the wire?
- 4) Why is it sensible to wear rubber wellies to mow the lawn with an electrical mower?
- 5) What would happen if I cut a wire in a circuit?
- 6) What might happen if I kept on adding batteries to a simple circuit?
- 7) What would happen if I added more bulbs to a simple circuit?
- 8) Is the bulb nearest the battery brighter/dimmer/the same as the others in a circuit?
- 9) What is the name of the wire which glows red in a bulb?
- 10) Give another name for a) battery b) bulb

(One point for each correct answer)

Points: .....

Total Points: .....