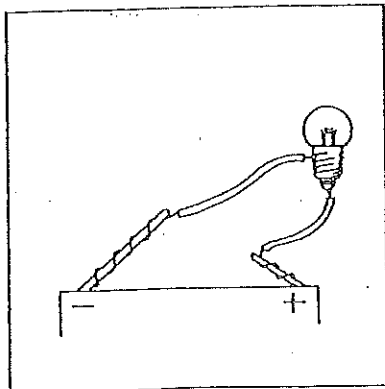


Audit feedback: electricity

Assessment Task 1a



Assessment Task 1b

The only bulb that will be lit in the four diagrams is 1 f).

- 1.d). The bulb is not correctly connected.
- 1.e). Both the positive and negative ends of the battery need to be connected.
- 1.g). This is a short circuit as the two ends of the battery are connected just by a wire.

Assessment Task 1c

- (i) Connections are made to the plastic of the bulb holder: no electricity can flow through the bulb as the circuit is not complete.
- (ii) The batteries are not connected to each other so the circuit is incomplete. No electric current passes through the circuit.
- (iii) Bare wires are touching. Electric current passes through the battery but not through the bulb: the battery is short-circuited.

Assessment Task 1d

- (i) Keys, nail, coin, wire wool, aluminium foil.
- (ii) They are all metals.
- (iii) Pencil lead (graphite), anything made of graphite or metal.
- (iv) The electrons are firmly held by the atoms; they do not form an electric current.

Assessment Task 1e

- (i) Bulb (b) will be dimmer than (a) because the thin wire in the circuit reduces the current.
- (ii) Bulb (c) will be dimmer than (a), for the reason given in (i).
- (iii) Bulb (c) will be dimmer than (b) because a longer thin wire reduces current more than a short thin wire.
- (iv) Bulb (d) will be brighter than (c) because two thin wires twisted together behave like a thicker wire.

Assessment Task 1f

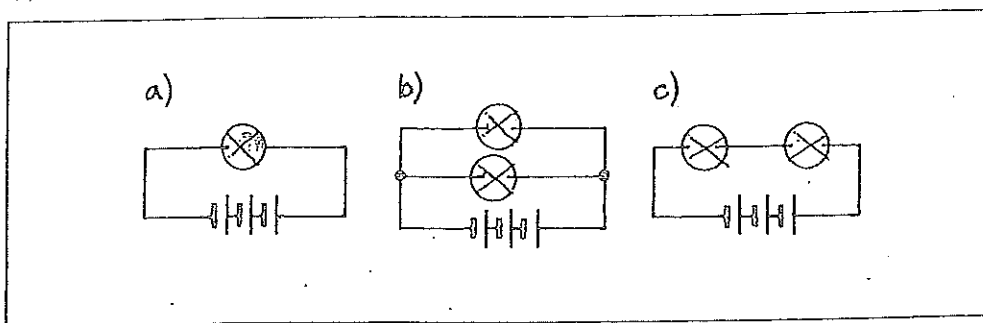
The current would be the same at any point in the circuit.

Assessment Task 2c

- (i) In a series circuit the components are connected in a single loop with no branches.
- (ii) In a parallel circuit there are branches and electric current can take more than one route around the circuit.

Assessment Task 2d

(i)



- (ii) Drawings (a) and (c) show series circuits.

Assessment Task 2f

- (i) The bulbs in (b) will be dimmer than that in (a) because the current in the circuit is reduced – there are two bulbs each having a resistance to the current.
- (ii) Each bulb in (c) will be almost as bright as that in (a). The battery supplies three times as much current as that in (a) and it divides equally between three bulbs.