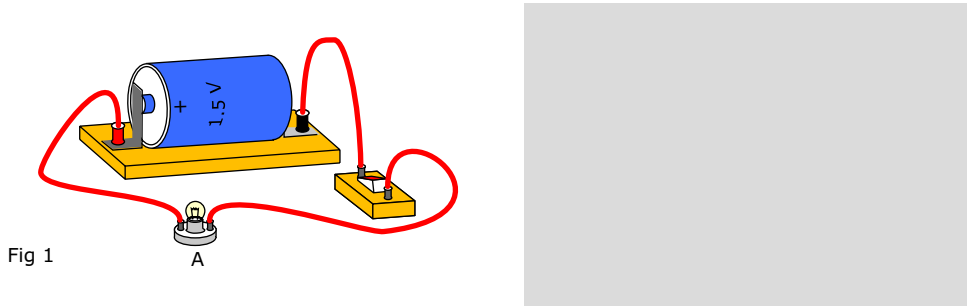


# Circuits 1

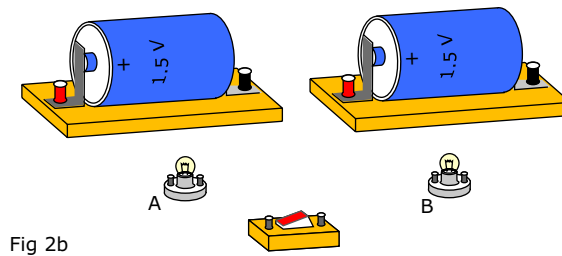
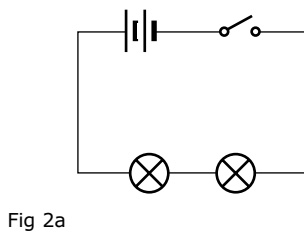
**Name & Set**

1 (a) Bulb A is rated at 1.5 V. Draw a circuit diagram for the arrangement shown in figure 1 [1]



(b) (i) What type of circuit is shown in figure 2a? \_\_\_\_\_ [1]

(ii) Complete figure 2b by joining the components to make the circuit shown in figure 2a. [3]

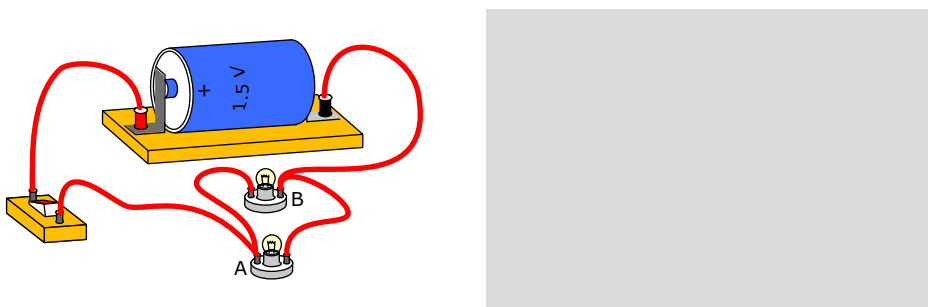


(iii) How does the brightness of bulb A and B in figure 2b compare to the brightness of bulb A in figure 1 given that they are all identical bulbs.

\_\_\_\_\_ [1]

(c) (i) What type of circuit is shown in figure 3? \_\_\_\_\_ [1]

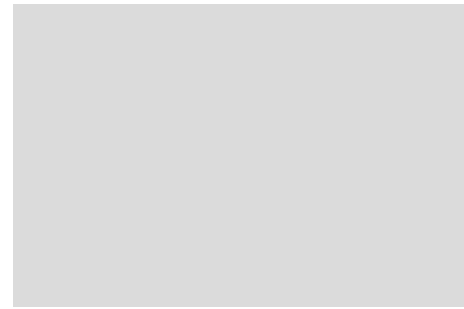
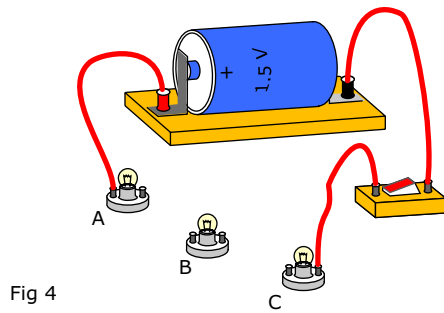
(ii) Draw the circuit diagram for figure 3. [3]



(iii) How does the brightness of bulb A and B in figure 3 compare to the brightness of bulb A in figure 1 given that they are all identical bulbs.

\_\_\_\_\_ [1]

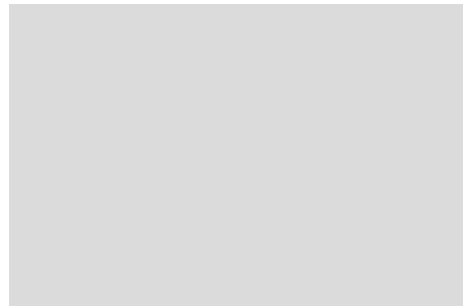
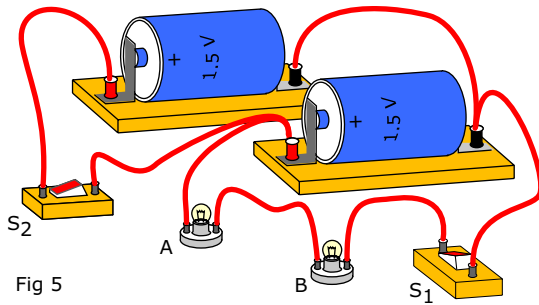
- (d) (i) Complete figure 4 so that the three lamps are in parallel with one another. [2]  
(ii) Draw the circuit diagram for this arrangement in the space on the right. [2]



- (ii) How does the brightness of bulbs A, B and C in figure 4 compare to the brightness of bulb A in figure 1 given that they are all identical bulbs.

\_\_\_\_\_ [1]

- (e) (i) Draw the circuit diagram for the arrangement in figure 5 in the space on the right. [2]



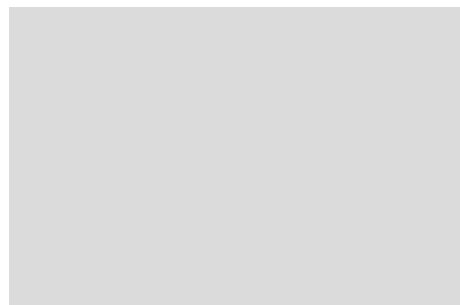
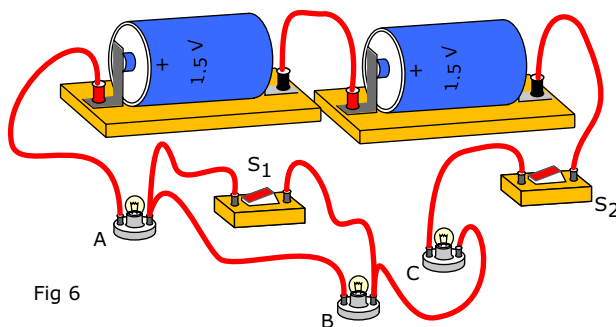
- (ii) How does the brightness of A & B in figure 5 compare with the brightness of A in figure 1 when both switches  $S_1$  and  $S_2$  are closed?

\_\_\_\_\_ [1]

- (ii) How does the brightness of A & B compare with the brightness of A in figure 1 when switch  $S_1$  is closed and  $S_2$  is open?

\_\_\_\_\_ [1]

- (f) (i) Draw the circuit diagram for the arrangement in figure 6 in the space on the right. [2]



- (ii) How does the brightness of A, B & C compare with the brightness of A in figure 1 when both switches  $S_1$  and  $S_2$  are closed?

\_\_\_\_\_ [1]