

ELECTRIC CIRCUITS

Aim: To design and build simple electrical circuits.

Apparatus: Battery, switches, wires, light globes.

Method: Design, construct and draw a circuit diagram of each circuit described in the “design briefs” below. After you have constructed the circuit and drawn the circuit diagram, call your teacher over to check it and to get it signed. Then continue on with the next one.

(Before you begin, check that all your wires and globes are working.)

Design Briefs:

A. One switch which switches on one light.

B. One switch which switches on two light globes.
(Series) (Parallel)

C. 2 switches which switch on two lights. One switch switches on one light globe and the other switch switches on the other light globe.

D. 2 switches and both need to be pressed to turn a light on.

E. 2 lights. 1 stays on all the time. The other can be switched on and off.

Name: _____

F. 2 switches and 3 light globes. 1 switch switches on one light globe and the other switch switches on two (different) light globes.

G. 3 switches and if any one of them is pressed the light globe turns on.

H. 3 lights. 1 stays on all the time and 2 can be switched on and off independently of one another.

I. 2 switches, 2 lights. 1 switch switches on one light globe and the other switch switches on both light globes.

J. 2 lights, 3 switches. 1 master switch needs to be pressed for everything else to work (like the switch in your meter box at home). The other 2 switches switch on 2 different light globes which operate independently of one another.