**Science Activity: Short Circuits**

**Aim:** To investigate what causes a short circuit.

**Materials:**

* 12 V power supply
* 3 connecting wires
* 12 V light globe in holder
* 4 alligator clips

**Method:**

Connect the 12 V DC power supply to the light globe, using alligator clips at the globe terminals.

Turn the switch on and check that the light globe works.

Fit alligator clips to both ends of the remaining connecting wire. Clip one end onto the alligator clip at one of the globe’s terminals.

Now ... ready ... this is the short circuit bit coming up ... you sure you’re ready??

**Touch** the other free alligator clip briefly to the clip at the other globe terminal. As soon as you see what happens take the clip away. Try it again. Just touch it quickly, as it may cause the circuit breaker inside the power supply to ‘trip’. Try it one more time.

Did you see what happens in a short circuit? Short circuits are sometimes just called ‘shorts’ for short ... get it? Shorts in circuits at home can cause a fire sometimes if the house has faulty wiring. They are dangerous and need to be avoided.

**Questions:**

**1.** Describe what you observed when the globe was short circuited.

**2.** Draw a neat circuit diagram of this set up. Draw the short circuit wire in too and label it.

**3.** Why do you think it is called a short circuit? See if you can work out where the electrons go when the short circuit wire is connected.