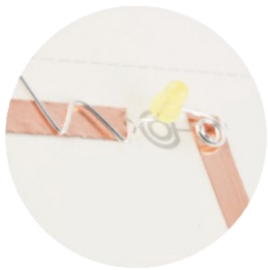


Knowledge Navigator



- ⇒ Copper is a conductive material used in electrical circuits.
- ⇒ Copper tape is thin with an adhesive backing, ideal for use in small projects when linked to a battery and LED.
- ⇒ Alternatively, conductive paints can be used in place of wires or copper tape.



Vocabulary

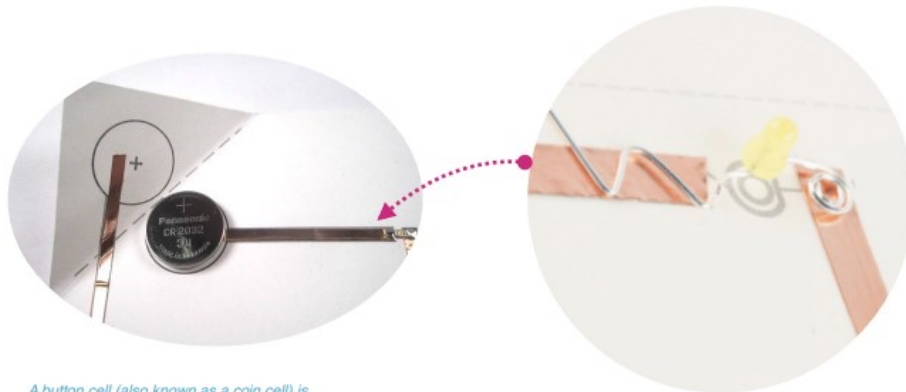
LED—Light Emitting Diode—a type of small light bulb

Conductive—allows electricity to pass through it

Adhesive—able to stick to a surface

Circuit—a combination of electrical components joined by a conductive material

Components—the parts that make up something



A button cell (also known as a coin cell) is lightweight and can be used in a variety of projects. In this example, copper tape is stuck to paper and folded to form a switch.

This exploded diagram shows, in more detail, how the LED is attached to the copper tape.

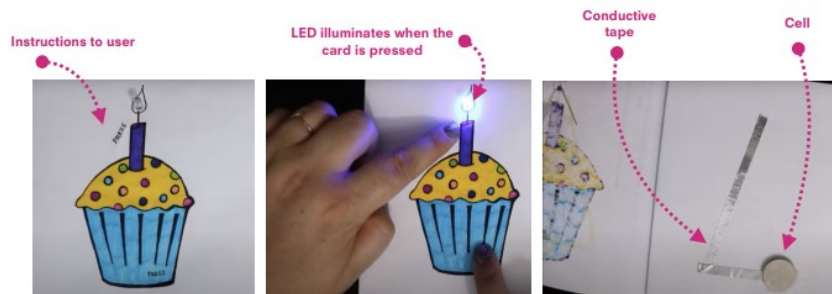
Switches:



Switches may be made by laying out circuits of copper tape in different ways.

Folded paper or other components can be used to break or complete a circuit.

Design Ideas:



Using LEDs and artwork in different ways can add interesting effects and enhance your products.



Thinking Point:

Can you explain how you think this card could work?



Knowledge Navigator



- ⇒ A pneumatic machine uses compressed air or other gases to create motion.
- ⇒ Air or gas is squeezed into a small space or container and therefore at a higher pressure.
- ⇒ The pressure is used to create movement.
- ⇒ If you add water (or oil) to the system the force will be even stronger as it cannot be compressed. This is called hydraulics.



Pneumatic comes from the Greek word 'pneuma' meaning air or wind.

Did you know...

Hydraulics comes from the latin word 'hydra' meaning water.



Vocabulary

rigid—an object that is stiff, doesn't bend or change shape.

truss—a structure made of triangles

strut—something that strengthens a structure

joining plate—attached to a joint to strengthen it

chord—the top or bottom of a truss structure

pier—a solid structure supporting a bridge

jinks corner—using triangular card corners to join two pieces together

Assembling Frame Structures:

Design Inspiration: