



# AERONAUTS INTERACTIVE

## KEY STAGE 1

### MATERIALS

**Find the 'Materials' exhibit!**

Push each of the long samples of material from side to side.  
Which material do you think is the **strongest**? .....  
Lift each sample. Which material do you think is the **lightest**? .....

Aeroplanes need to be very **strong** but **light**.  
**Stronger** materials are often **heavier**, **lighter** materials often have **less strength**.  
This means that aeroplanes cannot be too light as they will not have the strength to carry passengers and fuel.

Circle the materials below that you would use to make an aeroplane. Look at the exhibit to help you with some of your choices.

<b>Concrete</b>	<b>Steel</b>	<b>Plastic</b>	<b>Cotton Wool</b>
<b>Cardboard</b>	<b>Aluminium</b> (Used to make drink cans)	<b>Wood</b>	<b>Carbon Fibre</b>

During your visit, find an aeroplane that is made mostly of **wood**. In which year did this aeroplane fly? .....

Now find a **jet aeroplane**. Look at how different this aeroplane is in shape. What materials do you think have been used to make this aeroplane?

.....

.....

In which year did this aeroplane fly? .....

**Whilst exploring the rest of the museum!**

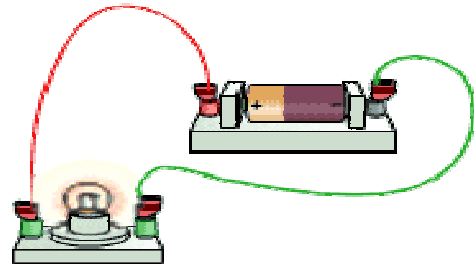
As you go around the aircraft Halls take a look at the **different materials** used to build the different aeroplanes. Think about **why** they have been used. Think about **how** different materials have been used over the years. **Why is this?**

# CIRCUITS

Electrical circuits in a modern aeroplane are very important and very complicated; they help the pilot to control all sorts of parts of the plane including the flaps on the wings and even help the plane to start.

Use the 'Circuit Table' exhibit!

Look at the diagram below. It shows a simple **Series Circuit**. Using the battery pack, wires and a light bulb, make your own circuit to light the bulb.



What happens if we take one of the wires out of the battery pack?

.....  
Now place the 'Switch' in your circuit. The switch can be used to allow electricity to flow through the circuit. It is similar to the light switch in your house.

What happens when you press the button? .....

# FORCES AND MOTION

An aeroplane has many moveable parts on it, which change the way it moves through the air. These are called **Control Surfaces**.

A **Force** is a type of **Push** or **Pull**

**PULL** the control lever towards you. What happens to the *elevator* on the tail of the aeroplane?

.....  
Would this make the aeroplane climb in the sky or go down? .....

**PUSH** the control lever. What happens to the *elevator* now? .....

What do you think will happen to the aeroplane now?.....

Find the small green aeroplane