PARACHUTE CHALLENGE

This week's science challenge is to make parachutes from different materials and test which one is the most effective.

Think about why people use a parachute?

Will the more effective parachute make a person fall faster or slower? Why?

You will need:

1) Small lego figures or similar.
2) String, thread or wool
3) Sticky tape
4) Scissors
5) A ruler or measuring tape
6) A variety of materials such as a plastic bag, tissue paper, wrapping paper, light fabric
7) A phone with a stopwatch or similar to time how long the figure takes to drop

How to make the parachutes

1) Cut out squares from your materials that are all equal in size (My squares had sides 30cm long)

2) Cut 4 pieces of string for each parachute they MUST all be the same length

3) Attach one piece of string to each corner of your square and then ask an adult to tie a knot near the bottom and then tie the ends to the lego figure.

When we are being scientists, we need to make sure we do a fair test. We do this by only changing one thing and try and keep everything else the same. We are only going to change what our parachute is made from. We are going to keep the following things the same:

The **size** of the parachute canopy

The **length** of the strings

The **weight and size** of the figure on the end of the strings

The **height** from which we drop each parachute

Now it is time to test your parachutes.

Make a prediction: which parachute do you think will be the best? Why?

You will need to drop them from somewhere fairly high up like the top of a climbing frame or a small upstairs window.

PLEASE DO THIS WITH ADULT SUPERVISION AND STAY SAFE

Time how long each parachute takes to drop to the ground and record it in this table.

Type of parachute	Time it takes to travel to the ground in seconds	How well it flew.

Here is a video and some photographs of how my experiment went.

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Have a think about how you think a parachute works. Why do you think the parachute slows a person down and stops them falling to the ground too quickly?

Which of your parachutes was the most effective? Why do you think that might be?

The Science Bit: How the parachute works.

If you tried dropping a piece of paper and a LEGO man, the paper will drop to the floor more slowly than the man, this is because the paper has a larger surface area, so has to push against more air as it drops, which means the air resistance is greater and it drops more slowly.

A parachute will slow the fall of the LEGO figure, this is because the parachute has a large surface area and so the air resistance acting on it is greater than for just the LEGO man by himself.