

PARACHUTE

for JACK

You'll need

Bin bag/plastic sheet/paper or other flat material.

4 pieces of string

Sellotape or masking tape

Small toy figure



Instructions

Lay the bin bag out flat and cut out a large square.

Make a hole in each corner, thread a piece of string through the hole and tie a knot.

Tie all 4 pieces of string together and sellotape the small toy figure (Jack) to the bottom.

Extension Ideas

Create a basket for Jack to sit in.

Experiment with different materials for the parachute.

Try dropping the parachute from different heights.

A toy dropped without anything to slow it down will fall fast. The parachute adds air resistance which slows the fall of the toy, hopefully stopping it from breaking as it hits the ground.

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MAKING MUSIC

You'll need

Tissue or shoebox
Elastic bands



Instructions

Place 5 elastic bands over the shoebox.

Pluck each one and listen to the sound.



What is happening?

When you pluck the elastic band it vibrates. This makes air molecules near the elastic band vibrate. When the air vibrations reach the ear, they shake tiny hairs connected to nerves. These nerves send a message to the brain, telling it that a noise has been heard.

The pitch (highness or lowness) of the sound a rubber band makes depends on the thickness of the elastic band and how tightly it is stretched. Thinner elastic bands make a higher pitched sound.

Extension idea

Add elastic bands of different thicknesses to the box.

Pluck an elastic band and then touch it to stop the vibrations.

GROW A BEAN



You'll need

Bean seed

Jar

Cotton wool or paper towel

Water



Instructions

Swirl a small amount of water around the jar.

Place either folded paper towel or some cotton wool inside the jar.

Place the bean seed in the jar resting on the cotton wool.

Sprinkle water on top of the bean seed.

Spray water on the bean every 2 days.

A seedling should start to sprout after a few days, this is called germination.

What is happening?

Germination is when a new plant grows from a seed.

Water, oxygen and warmth are all needed for germination to occur.



Extension idea

Try growing two beans, place one in a sunny spot and one in a dark cupboard.

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GROW A BEAN



Attach the castle to a lollystick and place behind your bean plant.

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CLEAN COINS

You'll need

Vinegar

Salt

Small Bowl

Copper coins



Instructions

Place a teaspoon of salt into the bowl.

Add about 50ml of vinegar and stir to dissolve.

Place the coins in the vinegar and salt solution and leave for about 30 minutes.

When the coins look shiny, take them out of the vinegar and rinse with water.

Why does it work?

Copper coins don't stay shiny because the copper reacts with oxygen in the air to form copper oxide, which is a dull greenish-grey colour.

When you mix salt (sodium chloride) with vinegar (acetic acid), sodium acetate and hydrogen chloride form. Hydrogen chloride is an acid which works well at rapidly cleaning the surface of the copper coin, leaving it beautifully shiny and removing the oxide.

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ZIP LINE

FOR JACK

Help Jack escape the giant with a zip line down the beanstalk.

You'll need

String/rope
Pipe cleaners
Small toy figure
Timer



Instructions

Tie the string or rope between two points, one higher than the other.
Use the pipe cleaner to create a simple harness for the figure.
Time how long Jack takes to travel down the zip line.
Experiment with different types of string or rope and by changing the incline of the zip line.

REMEMBER - only change one variable at time

Extension Ideas

Build two zip lines and have a race!
Experiment with different types of harness. One idea is to thread a straw through the string and attach the figure to that.



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