



SCIENCE SPARKS



AUTUMN PACK



2021

STATIC ELECTRICITY



Jumping Leaves

You'll need:

Balloon

Hair or wool jumper

Tissue paper - cut into
leaf shapes

Instructions

Rub the balloon on your hair or jumper.

Hold the balloon over the tissue paper leaves and watch them jump up to the balloon.

Why does this work?

Rubbing the balloon on a wool jumper or hair charges it with static electricity. This attracts the tissue paper making it jump up to the balloon where it will stay until the charge wears off.

Challenge

Try again using thicker paper, does the tissue paper still stick to the balloon?

If you rub the balloon on your hair for longer does the tissue paper stick for longer?

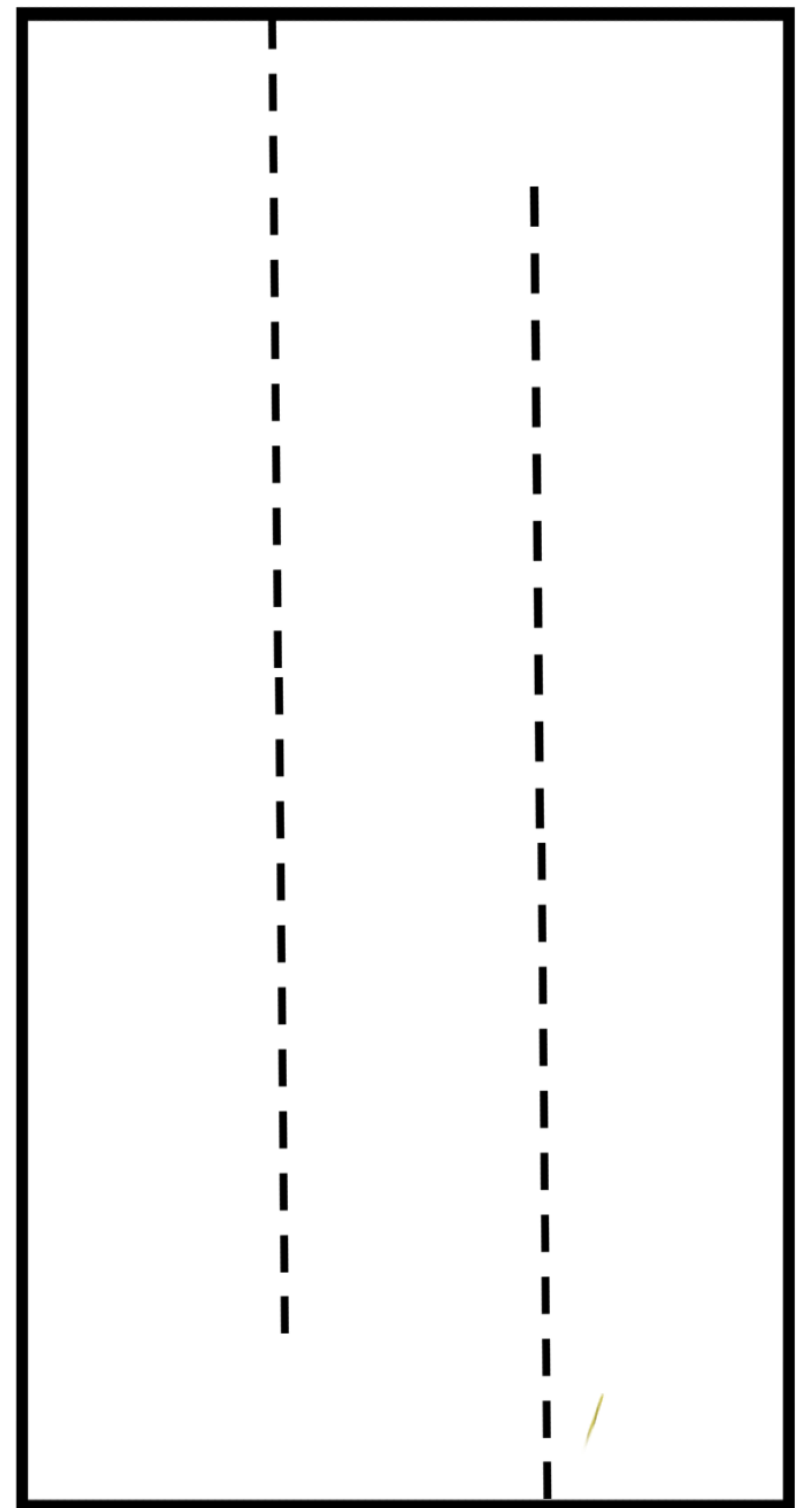
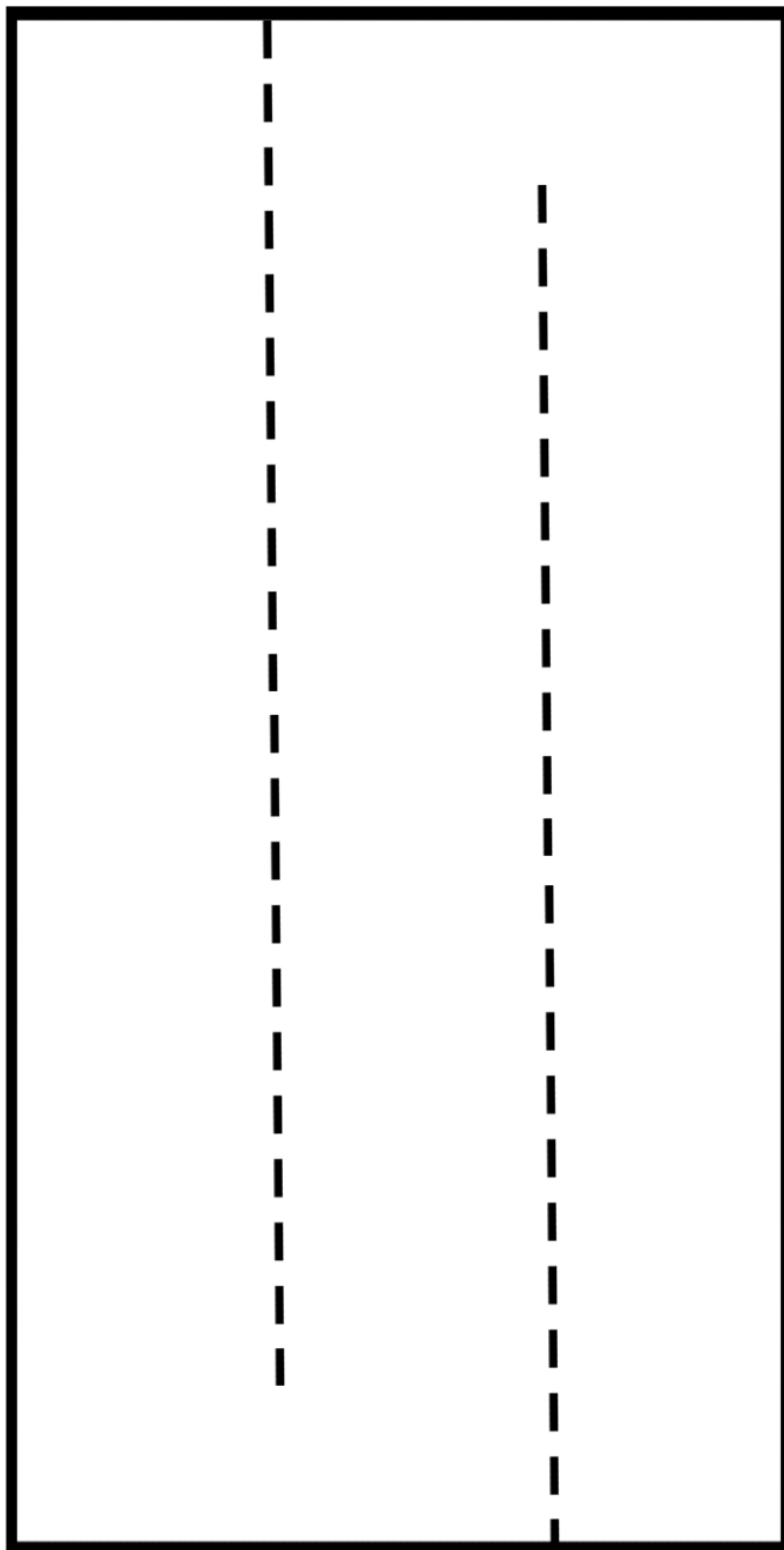
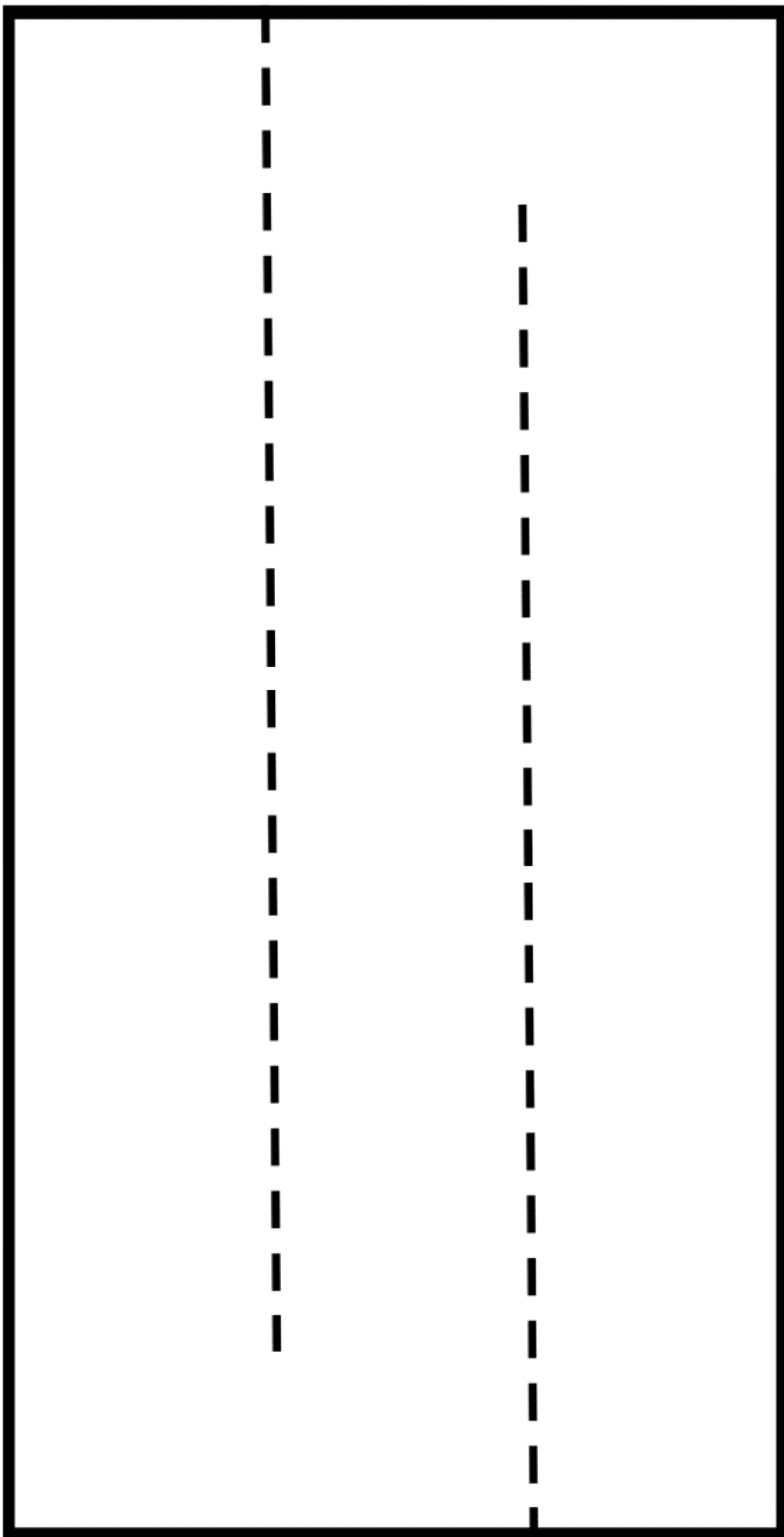
Science Sparks TM

Adult supervision required. You are responsible for your own safety.

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HELICOPTER SEEDS



Supplies needed:

Scissors
Paperclip
Paper

Instructions

Carefully cut out the three rectangle shapes above.
Cut down the scissor lines and fasten the two ends together with a paperclip.



More fun

Experiment with bigger and smaller spinners and different types of paper.

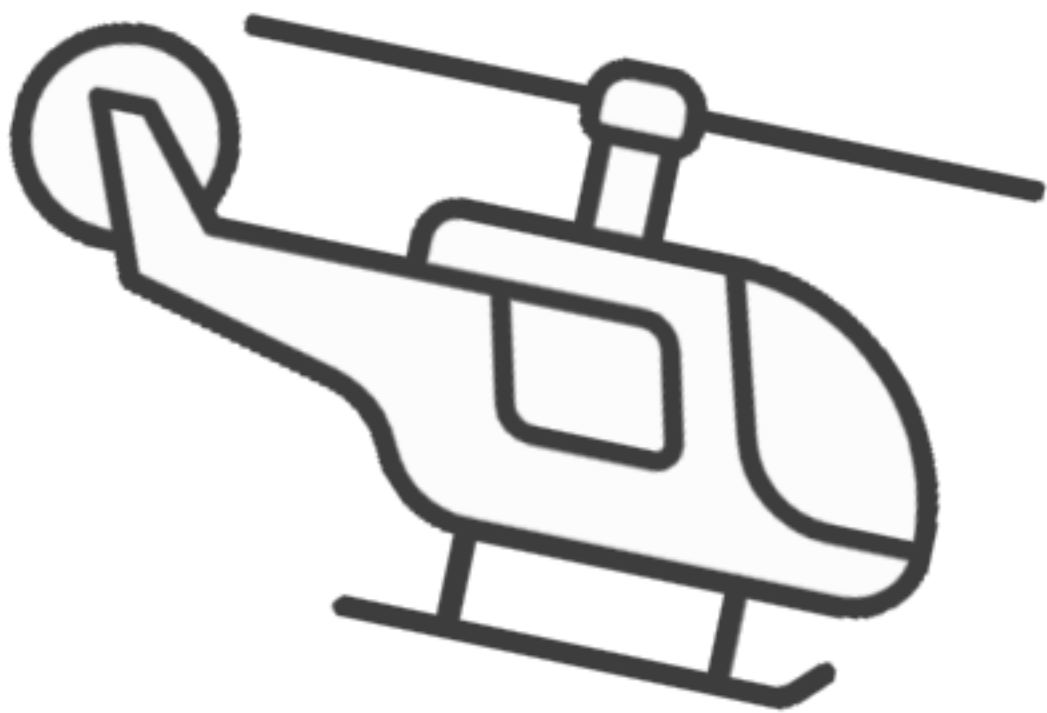
Investigate how far each helicopter moves from the point where it is dropped.

Name of scientist _____

SEED HELICOPTERS

I am trying to find out _____

I predict that



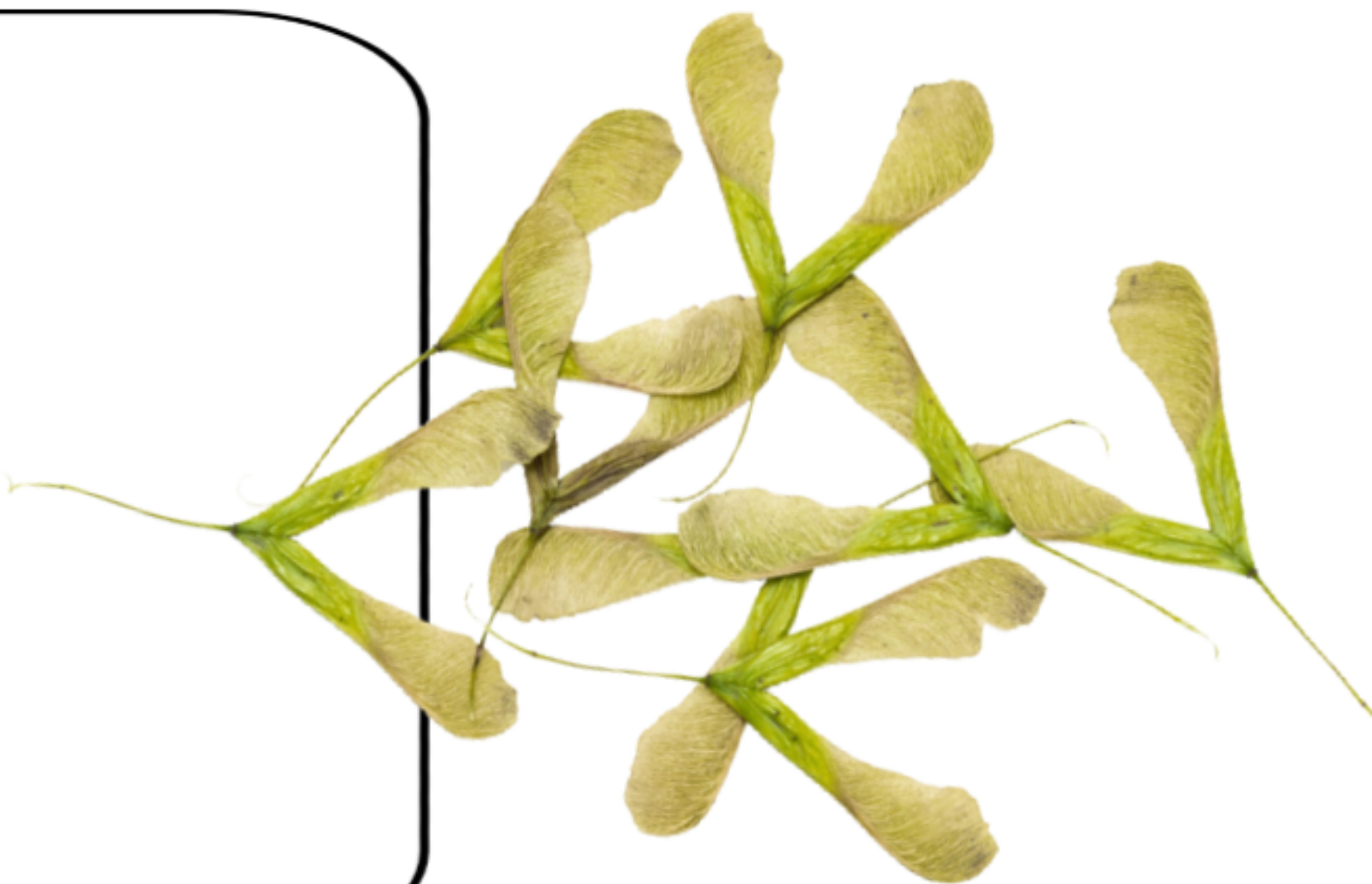
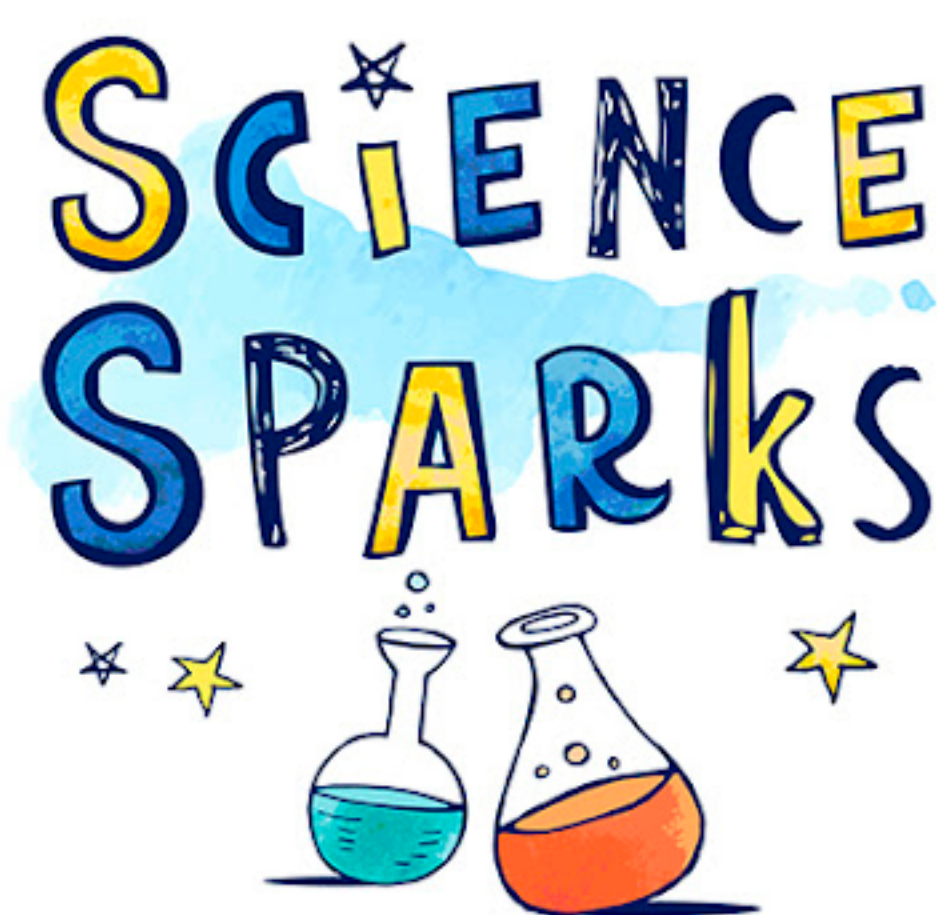
Materials

Instructions

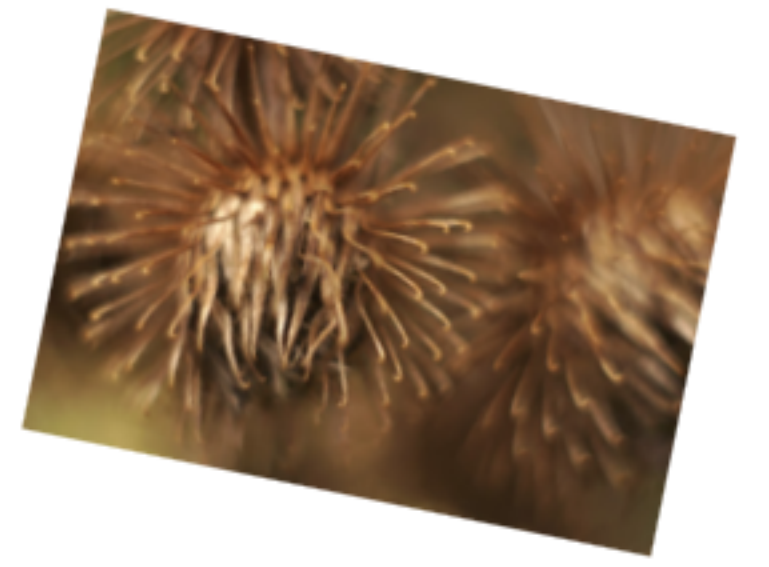
Results

My test was fair because

Next time I will.....



STICKY SEEDS



You'll need

Velcro
Double sided tape
Paper
Pom poms or a small seed
Small containers
Glue
Sellotape
Clothing to test



Instructions

Gather together a collection of materials you think you can use to make a sticky seed pod.

One idea is to wrap a pom pom or small seed in paper and then attach a sticky material (perhaps double sided tape) to the outside.

How far can you walk before it falls off?

Test different types of clothing to investigate which your sticky seed attaches to for the longest.

ONLY use clothing you don't mind getting a bit sticky

Extension Ideas

Seed dispersal is the scattering of seeds. If seeds just dropped next to the parent plant they would be competing for nutrients and light. Some plants use animals to spread thier seeds for them. This type of seed usually has sticky hooks so it can attach to an animal's fur.

Name of scientist _____

STICKY SEED POD

CHALLENGE - to make a sticky pod for a seed that will attach to at least one material for at least 30 seconds before falling off.



I will use:

sticky tape ☐

velcro ☐

paper ☐

tube ☐

box ☐

_____ ☐

_____ ☐

My design

My seed pod sticks to:

Cotton ☐

Wool ☐ _____ ☐

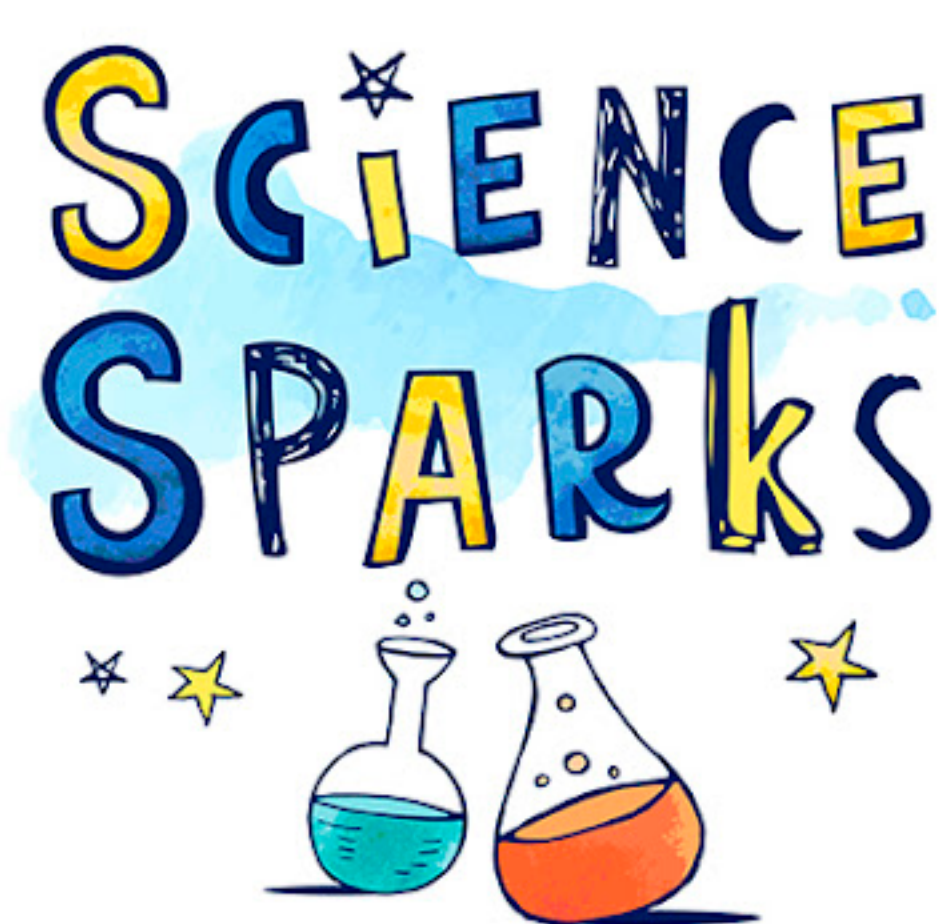
Paper ☐

Grass ☐ _____ ☐

Foil ☐

_____ ☐ _____ ☐

I can improve my design by:



EXPLODING SEEDS

You'll need

Pom-poms
Paper cup
Balloon
Tape/elastic band
Scissors



Instructions

Carefully cut the bottom off the paper cup.
Tie the end of the balloon and cut the opposite end off.
Attach the tied section of balloon to the bottom of the cup.
Use tape or an elastic band to secure in place.
Fill the cup with pom-poms, hold the cup in the air, pull back the balloon end and let go!

Try holding the cup at different angles to investigate how far you can make the pom-pom seeds spread.

Extension Ideas

Seed dispersal is the scattering of seeds. If seeds just dropped next to the parent plant they would be competing for nutrients and light, so it's better if seeds are spread out allowing them to grow with less competition from other plants. Exploding seed pods are just one seed dispersal mechanism. Seeds can also be spread by the wind, water and animals.

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AUTUMN STEM

CHALLENGES



JUMPING LEAVES

You'll need

Balloon

Tissue paper, cut into leaf
shapes

Woolly jumper or hair



Rub the balloon on your hair or a woolly
jumper and hold over the tissue paper
leaves.

They should jump up and stick to the
balloon!

Experiment with different
size leaves and types of paper

HOW TALL?

Choose a tree.

Bend over and check if you can see the top
of the tree through your legs.

If you can't see the top, move away until you
can.

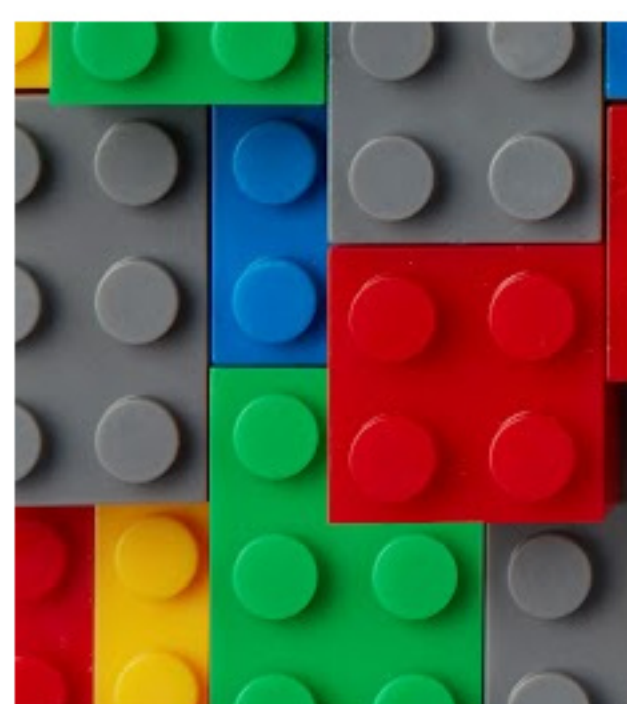
When you can first see the top of the tree is
the point at which you are as far away from
the tree as it is tall!



BUILD AN AUTUMN TREE

Use a collection of toy bricks or
wooden blocks to build a tree full of
colourful leaves.

Change the tree so it looks like it
would in winter.



HOW MANY COLOURS?

Create an empty frame from
cardboard.

Take the frame outside and look
around. How many different autumn
colours can you fit into your frame?



Stick leaves onto the hedgehog to give him spikes

