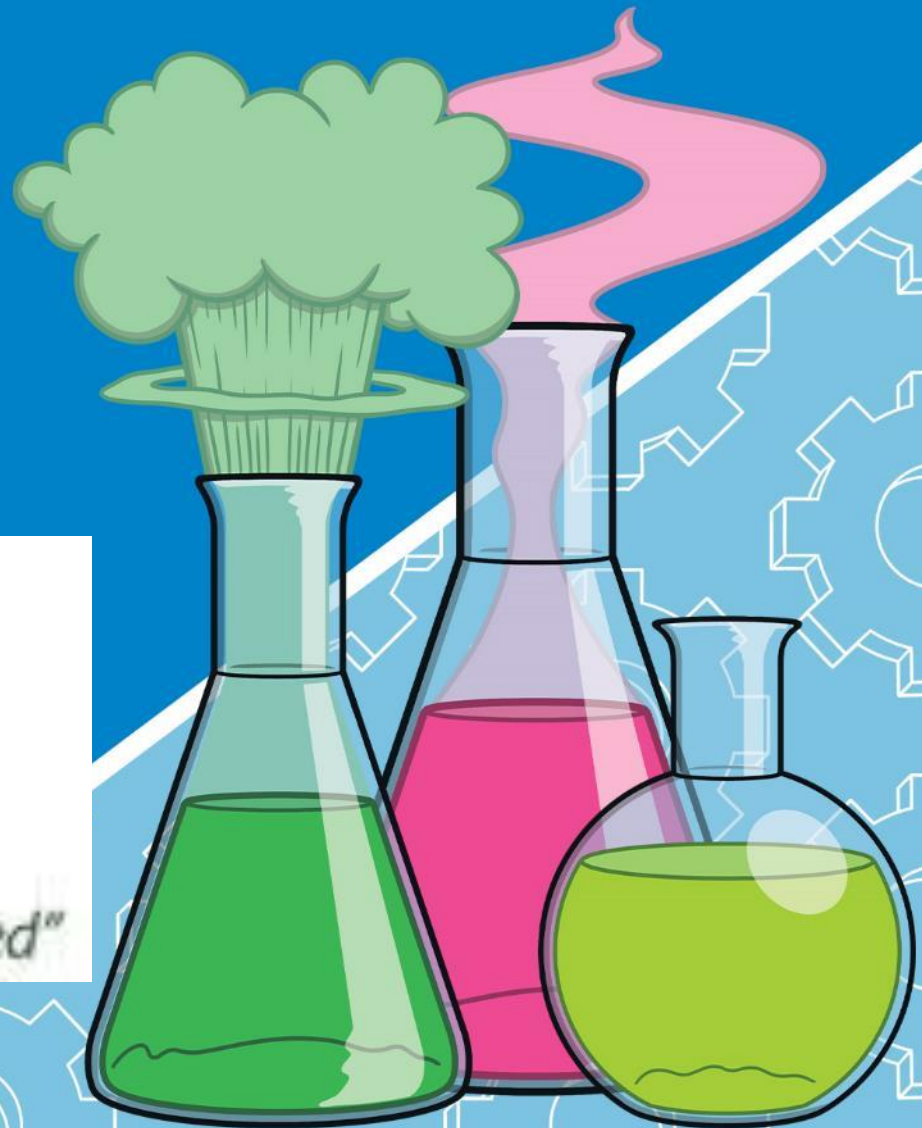


Connaught Science Activities – Summer term 2021



"Caring, Confident, Committed"



Science Investigations

At home, choose one or two science experiments to complete. You may have done some of these at school already!



Good suggestions for home would be the egg drop, 'How long can you make a piece of paper stay in the air for?' and 'Can you support a heavy book with a single piece of paper?'

Recording your investigations

You may wish to draw out what you did for your experiment as a diagram. You can also write a short paragraph explaining what you did or what you discovered.



But most importantly, have fun! See if a grown up can take pictures to send in to your teacher!

Egg Drop Science Experiment

You will need:

A box of raw eggs

Newspaper

A roll of paper towel

Straws

Old socks

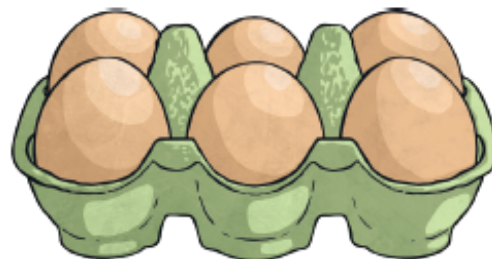
Balloons

String

Fabric

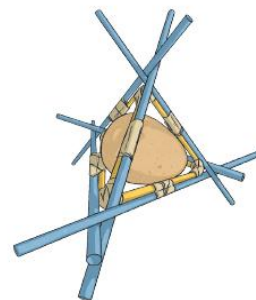
Scissors

Masking tape



In this experiment, you are going to investigate if you can drop an egg without breaking it.

1. With your partner, think about four ways you could test your egg.
2. Use the prompt sheet to help you to plan your investigation.
3. Consider how you are going to make the experiment a fair test.
4. Record your predictions on the record sheet.
5. Test your egg to see if you can stop it from breaking.
6. Record your results on the record sheet. Were your predictions correct?

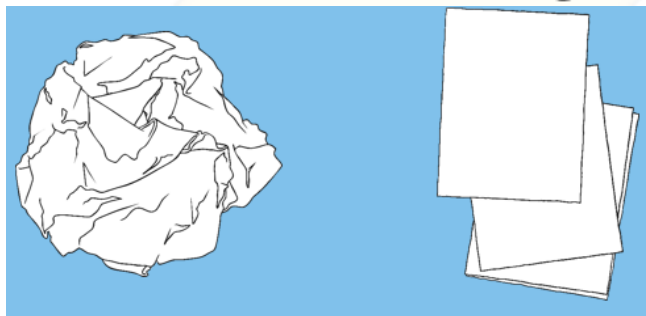


How long can you make a piece of paper stay in the air for?

Drop a piece of flat paper and a piece of scrunched up paper.

Time how long they take to reach the floor and record it.

What do you notice?



You will need:

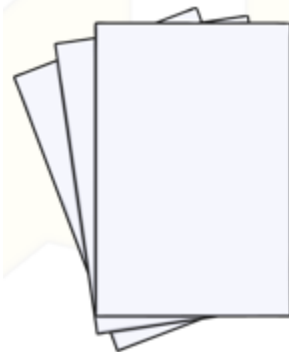
Several sheets of blank A4 paper

A3 paper

Paper clips

Scissors

Stopwatch



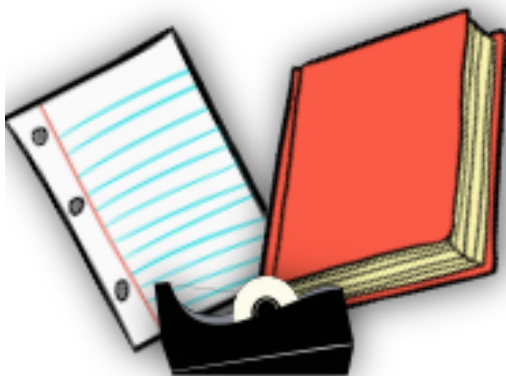
Can you support a heavy book with a single sheet of paper?

Materials:

- one sheet of paper
- 5 cm tape
- heavy book
- clock with seconds

Challenge:

Create a structure that will hold a heavy book off the table for 30 seconds. You may only use one sheet of paper and 5 cm of tape.



Extension Ideas:

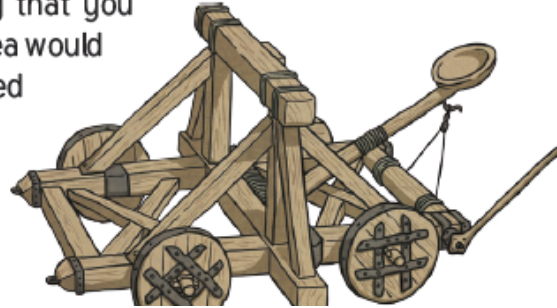
- What is the tallest structure you can build that will support the book?
- How many books can your structure support?



Crazy Catapults.

Introduction

When you think of a catapult, what is the first thing that you imagine? Medieval siege weapon? A slingshot? Each idea would be correct. Neolithic man used them to hunt, David used his to triumph over Goliath and mighty fortresses have been reduced to rubble using them. Simple catapults can make an object travel or can be used to hit a target. How will you use yours?



You will need:

1 cup, 1 plastic spoon, 6 sticks or wooden lolly sticks, 4 elastic bands, tape, string.

Objects for target practice, objects for catapulting.

Key Questions

- What equipment will you choose and why?
- How will you join the equipment to make your catapult strong?
- How can you alter or improve your design to solve the problem?

Design a catapult to **knock over a group of objects**, **hit a target** or **fire the furthest**. Decide on which type of target you are using and then see who can design the most effective catapult.

Apple oxidation



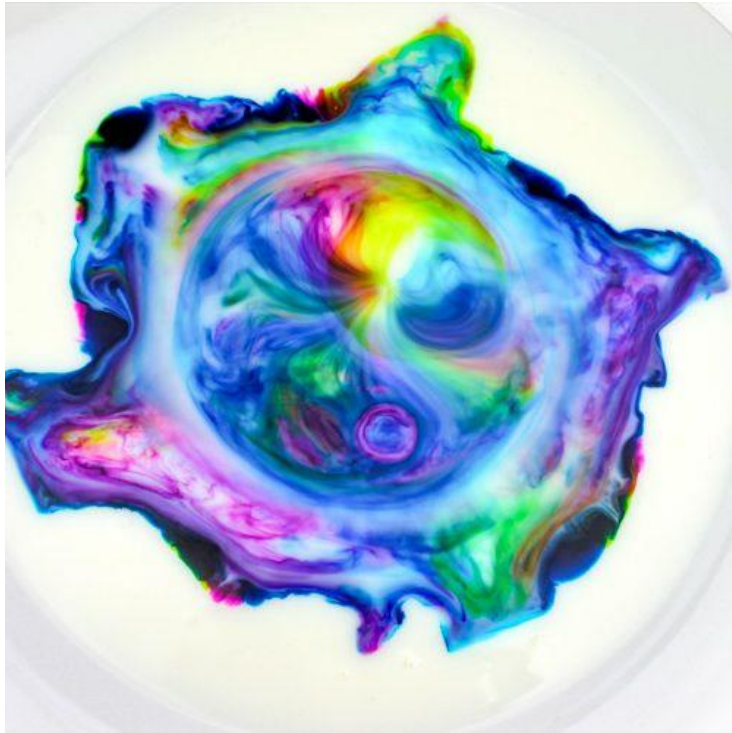
What works best for keeping an apple from turning brown? Test to find out! Slice up an apple, and let each slice soak in a different liquid. Then take them out, lay them on a tray, and check the brownness after three minutes, six minutes, and so on. Not only does this test the properties of different liquids, it also helps students practice the scientific method if they create prediction about which liquids would be most effective.

Walking water



You'll need six containers of water for this one: three with clear water, one with red food coloring, one with blue coloring, and one with yellow coloring. Arrange them in a circle, alternating colored and clear containers, and make bridges between the containers with folded paper towels. Your kids will be amazed to see the colored water "walk" over the bridges and into the clear containers, mixing colors, and giving them a first-hand look at the magic of capillarity.

Magic milk



Put a few drops of food coloring in a shallow bowl of milk, and they'll stay that way — as self-contained blobs. But add a little dish soap to a toothpick or a Q-tip and touch the food coloring, and the colors will swirl around on their own like magic. It all has to do with surface tension: At first, the food coloring stays on the surface, but the soap causes a chemical reaction that breaks the surface tension.

Mouldy Bread



Mold experiments are always grossly fascinating, and you can see how different additives (salt, vinegar, etc.) affect the growing of mold on bread. For a twist on this experiment that might lead to more hygienic habits, you can also see how mold grows on bread that's been touched by hands that have been washed with soap and water, cleansed with hand sanitizer, or not washed at all.

Lava lamp



Oil and water with food coloring don't mix, teaching kids about density. For fun, add an antacid tablet, and bubbles start to flow all around like a groovy lava lamp.

Balloon-powered Car



This project focuses mostly on the engineering side of STEM. You need some household items (toothpicks, bottle caps, coins) and an empty juicebox to construct the car — and then you can inflate the balloon through the straw and watch it go!

Self-inflating balloon



A twist on a vinegar-and-baking-soda experiment, if you put baking soda in an empty bottle and vinegar in a balloon, when you attach the balloon over the mouth of the bottle and let the vinegar pour in, the resulting gas will be enough to inflate the balloon on its own.

Colourful Cabbage



You can show them how plants get water from their roots to their leaves — literally — by putting cabbage (or celery, but cabbage is more colorful) in food coloring.

