

Y4 Homework - Science

Experiment 1: freezing different liquids

You will need:

- an ice cube tray
- some liquids to freeze

Warning: DO NOT use any household cleaning products or anything else that could be harmful!

You will need to put a few different liquids into an ice cube tray and pop it in the freezer for **24 hours**. Then take it out and observe what happened! Make sure you **do some predictions first**.



You can watch [my explanation video](#) which explains how to do the experiment. Have a go yourself, and then you can watch [my results video](#) (7 mins) to see what happened when I did it.

Experiment 2: boat/raft challenge (floating coins)

You can do this challenge with foil or paper (or try both). Basically, you need to **design a boat / raft and see how many coins it can hold before it sinks**.

What design do you think will hold the most coins? It might not sound amazing, but I found it really interesting (I did the foil version first and then the paper version). (2 mins)



You don't need much 'equipment' to do them, and they don't take long:

Challenge 1: foil	Challenge 2: paper
Explanation video here (2 mins)	Explanation video here (90 seconds)
Kitchen foil (A4 size - approximately 30cm x 21cm) Coins (lots) A sink	A piece of A4 paper Sticky tape Coins (lots) A sink
My foil raft results video (3 mins)	My paper raft results video (4 mins)

Make sure you **predict** how many coins you think it will hold before you start! After you've had a go, you can watch my results videos (watching them back, I can see I was quite excited about it).

You could **write up** what happens with some **photos/drawings**, or you could record a **results video**!

Date set: Friday 24th January

Complete by: Friday 14th February

Bonus Challenge

All you need is: a pack of **marshmallows** and a pack of **spaghetti**.

You can watch my short (3 mins) explanation video [here](#) (it's from lockdown 2021). Also, you can read [this](#) for more information.

Your task: **build the tallest tower you can using only spaghetti and marshmallows!**

You can try it on your own or with help from siblings or parents. It is much easier tackling this challenge as a team.

You measure the height from the ground to the highest marshmallow. After you've had a go, have a look at my attempt [here](#) (measurement on page 2). It's not bad, but it's definitely beatable!

