# 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 video** which explains how to do the experiment. Have a go yourself first. Then you can watch **my results video** (to be added soon) 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).

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)<br>Coins (lots)<br>A sink | A piece of A4 paper<br>Sticky tape<br>Coins (lots)<br>A sink |

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** (to be added soon).

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

**Date set: Friday 3rd March**
**Complete by: Friday 24th March**

**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. I will share pictures of my attempt soon (it can be beaten!).