

# Science Challenge



## Ice Garden

Make an ice garden.

Collect some items from outdoors such as petals, leaves, twigs and small stones. If this is not possible use toys and small objects which will not be damaged by being in water and frozen such as lego blocks, dice, paperclips, coins. Put a small amount of water in a small plastic tub which can fit in your freezer. Place your items in the water. Some will float and some will sink (you can make predictions first!) Freeze this water. When it is solid add another layer of water to cover over all of the items and freeze again.



Turn out the frozen garden on to a plate or tray and over time observe what happens when it melts. If you are able you could take close up photos and put them together into a slide show.



As a family challenge, investigate how to melt ice fast.

Give everyone an ice cube and see who can find the quickest method of melting their ice cube.

Next, you could see who can keep their ice cube from melting for the longest- without putting it back in the freezer!

# Technology Challenge



[This Photo](#) by Unknown Author is licensed under [CC BY](#)

## Newspaper Challenge

### Materials needed

- Newspaper
- Masking Tape / Sellotape
- Scissors

### Challenge

Can you build a structure such as a bridge, a building, a shelter or a famous landmark using only rolled up newspaper?

First roll up the newspaper sheets tightly. If you roll along the diagonal you get a longer, tighter roll. Depending on what you're making it might be a good idea to create rolls of different sizes. You could do all the paper rolling first, but you could roll a few, then build and then roll more as you go.

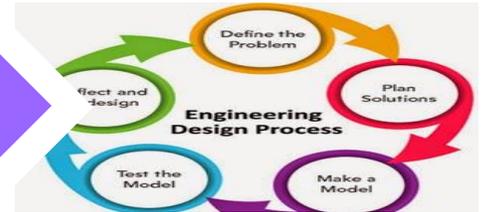
Use the tape to hold the paper roll in place.

Once you have a collection of newspaper rolls, get creative!



Once you've finished, test the design. Is it strong? Is it stable? Think how it could be improved.

# Engineering Challenge



This Photo by Unknown Author is licensed under [CC BY-NC-ND](https://creativecommons.org/licenses/by-nc-nd/4.0/)

## Wicked Water Slides!

**Have you ever been on a water slide or seen one in action?** You can think of a water slide as being a bit like a rollercoaster – only wet and with no safety belt or track! The **force of gravity pulls riders** from the top to the bottom. The **water pushes the rider along**, a bit like a river **and also reduces friction** between you and the slide so you can **move smoothly**. Water slides need to be tested and designed carefully to make sure people can travel down them safely. **What kinds of things do you think would make a water slide safe?**



**Challenge:** Design and construct your own model water slide. You are aiming to **safely get riders from the top to the bottom without bumping into each other or flying off the ride!** For riders you could use beads, marbles or LEGO mini-figures. Make sure you test your design outside or in a bath tub!

### Rules:

1. Your water slide should have a **collecting pool** to catch riders at the bottom of the slide
2. You need to **make a way for riders to get from the ground to the top** of the slide (e.g. a ladder or stairs)
3. It should include **1-2 twists, turns or bumps**
4. When you let the riders go, you need to make sure they **don't bump into** each other
5. Sides should be built to make sure **riders do not fly off the ride!**
6. **Maximum height of the ride is 50cm**

**Possible resources:** cardboard tubes, straws, tin-foil, cello tape, empty boxes, paper cups, plastic bottles, cling-film and a bottle or jug of water with blue food colouring (for your water flow.)

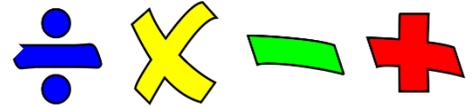
**Testing:** Copy the table below and use it to **test and record data about your water slide three times**. If you have any bumps or flying riders, make changes and improve your design before testing again.

	Did your riders bump into each other?	Did any riders fly off the sides?	Changes made to my first design.
Test 1			
Test 2			
Test 3			



**Extension:** Use a stopwatch and **time how long it takes for each rider to get from the top to the bottom** of the water slide. If you **change the weight of the rider**, do they travel faster or slower? Why do you think this might be?

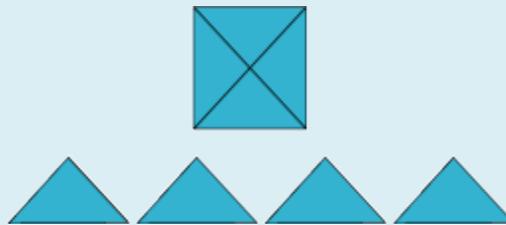
# Maths & Numeracy Challenge



[This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)

## 4 Triangles Puzzle

If you cut a square diagonally from corner to corner you get four right-angled isosceles triangles.



Carefully draw and cut out the shapes from a cardboard cereal packet or piece of paper.

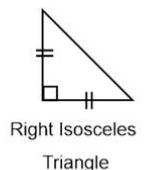
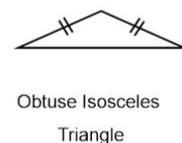
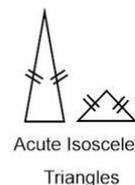
How many different shapes can you make by fitting the four triangles back together?

- You may only fit long sides to long sides and short sides to short sides.
- The whole length of the side must be joined.

You might like to record what you do.

Draw round about your triangles to record your answers and to make sure you don't make a new shape twice. Once you have tried this with the triangles, can you explore with different shapes?

Isosceles Triangle: Any triangle having at least two congruent sides.



# Literacy Challenge



This Photo by Unknown Author is licensed under [CC BY-SA-NC](https://creativecommons.org/licenses/by-sa/4.0/)

## Superhero Cartoon



### Superhero cartoon

Create your own Superhero.

When making up your character think about- colours, costume, features, powers, equipment.

Now give your Superhero some action!

Draw a three-part comic strip like this-

1	2	3
---	---	---

Put your hero into a situation and create a cartoon strip of how your hero saves the day. You could include some speech bubbles, thought bubbles or sounds.

Instead of a superhero, think of a joke you know. Can you make it into a three-part cartoon strip?

An Online cartoon strip creator can be found here –

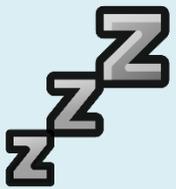
<https://www.storyboardthat.com/storyboard-creator>



# Health & Wellbeing Challenge

## Sleep is important!

**Have you ever had a bad night's sleep before?** How did you feel the next day? Did you behave any differently to normal? Did you look any different?



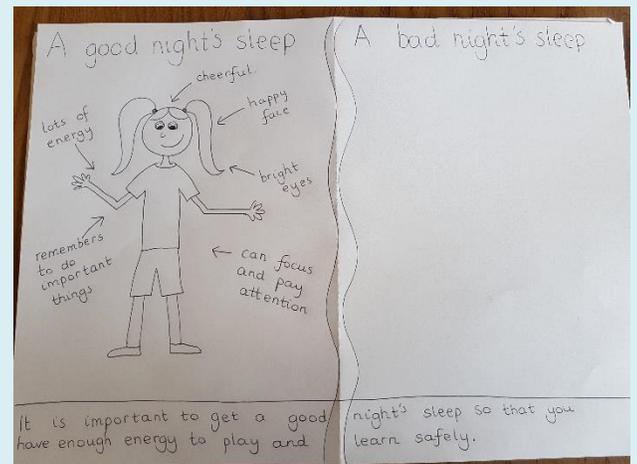
**Watch this clip from Talkie Time** called 'Rodd's bad day.' There is writing for you or a family member to read aloud to take part throughout the episode. Rodd plays a memory game, if you want to join in with Rodd you can 'show him' the items. To play the first game you will need scissors, a pencil sharpener, rubber, apple and a lunch box. For the second – scissors, a watch, a water bottle, pencil and sock are needed. **How did not getting enough sleep affect Rodd?**

**Did you know that children between the ages of 6 and 12 years need between 9 and 11 hours of sleep each night?**

**This webpage has some useful tips** to help you **get your body ready for sleep.** There are also some **puzzles and games** to help you learn more about sleep.

**Task:** Get a piece of A4 paper, turn it landscape and split it in half. Using what you've learned, on one side **draw a picture of you after a good night's sleep** and on the other side **draw a picture of you after a bad night's sleep.** At the bottom of the page, **write a sentence** to explain why it is important to get a good night's sleep.

**Super stretcher:** add labels to each picture to **highlight the main differences** between the two pictures.



# Social Studies Challenge



This Photo by Unknown Author is licensed under [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/)

## Personal Timeline

A helpful way to learn facts and important information about people is to create a timeline.

A timeline shows all the important events that have happened and in the order they happened.



Can you create a timeline of all the important events in your life in the same way that this person has in the picture?

- You can start with the day you were born and go all the way up to today!
- You might want to include when you said your first word, learned to crawl or ride your bike or when you first started school.
- You can use photos, with permission, or you can draw a picture for each event.
- Try to write a sentence or two about the event also.

# Expressive Arts Challenge



This Photo by Unknown Author is licensed under [CC BY-NC-ND](https://creativecommons.org/licenses/by-nc-nd/4.0/)

## Action Song

This is an action song available from NYCOS which might be familiar to you. You can access a demonstration of the song here:

<https://youtu.be/oby1CGERYJo>

If you can't access it and don't know the song try saying it as a rhythmic poem. It will work just as well.



Ding Dong, Hot Dog  
Ding Dong!  
I've got the rhythm in my head  
Hot dog!  
I've got the rhythm in my head  
Ding Dong!  
I've got the rhythm in my head  
Ding Dong, Ding Dong, Ding Dong  
Hot dog!

Try and add these actions when you sing/say these words-  
Ding = Cross arms to tap shoulders  
Dong = Clap  
Hot = Jump to cross legs  
Dog = Jump to uncross legs



BE CREATIVE:

Can you think of different actions to replace Ding Dong and Hot Dog!