

# Science Challenge



## Testing for Buoyancy

Collect a selection of toys and household objects which will not be damaged by being put in water. Fruit and vegetables could be used.

Put some water in a basin or bucket. A clear plastic storage box is great so that you can see through it.

Sort the items into floaters and sinkers and give some reasons for your choice. Test the objects and notice any that surprised you. If you are able to, watch this short clip-

<https://www.bbc.co.uk/bitesize/topics/zc89k7h/articles/zytqj6f>

### Challenge-

Can you make any of the objects float that would normally sink?

Things to think about-

Try putting them in the water a different way.

Try combining two objects together.

Use what you know about things filled with air.

Use what you know about shape.

### Next Steps

Do any of the objects sit suspended in the water, so they don't go right to the bottom of the tank?

Can you make a lolly stick float vertically in the water? (You could try using a bit of blu tac or paper clips to weight one end)?

Make a boat out of paper or foil and test how many coins/marbles it can hold.

Can you make it better?

Use some small bottles or containers to see what happens when you try to make them float when they are full of water.

# Technology Challenge



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## Plastics

### Resources

- Shaped hole punch(if you have one) or scissors
- A selection of plastics – bottles, bags, food packaging
- Pen
- String

### Activity/Challenge

\*Warning – please be careful cutting plastic with scissors\*

1. Have a go at using a shaped puncher or scissors to cut repeat shapes from colourful bottles or packaging.
  - They could be used to make jewellery or to decorate a product.
2. Use scissors or shape punchers to cut interesting shapes into plastics bottles to use for storage or useful products.
  - Can you design something which will be useful to you or your family in your home?



# Engineering Challenge



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## As solid as a rock?

Watch this clip explaining how earthquakes are formed:

<https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/zj89t39> and complete the quiz after it.

**Challenge:** Can you construct an earthquake proof building?

**Research:** Engineers have designed and constructed some incredible earthquake proof buildings around the world. Research some of their designs like Taipei 101, The Yokohama Landmark Tower, Burj Khalifa or The Transamerica Pyramid.

**Build:** On top of a book or tray (to act as a piece of ground), construct a model out of different materials. You could use blocks or recyclable materials. For added challenge use only paper and small pieces of sellotape!

**Test it out:** Start wobbling the book or tray gently and get a bit rougher gradually. Look at the picture of The Richter Scale and see if you can match up your earthquakes to each description. What magnitude did your building survive to?

**Improve:** After testing your building out, what improvements can you make to your design? Can you get it to survive a more intense earthquake?

**Did you know:** About 500, 000 earthquakes are detected each year – that's more than a thousand every day! However, most are too small for humans to feel.

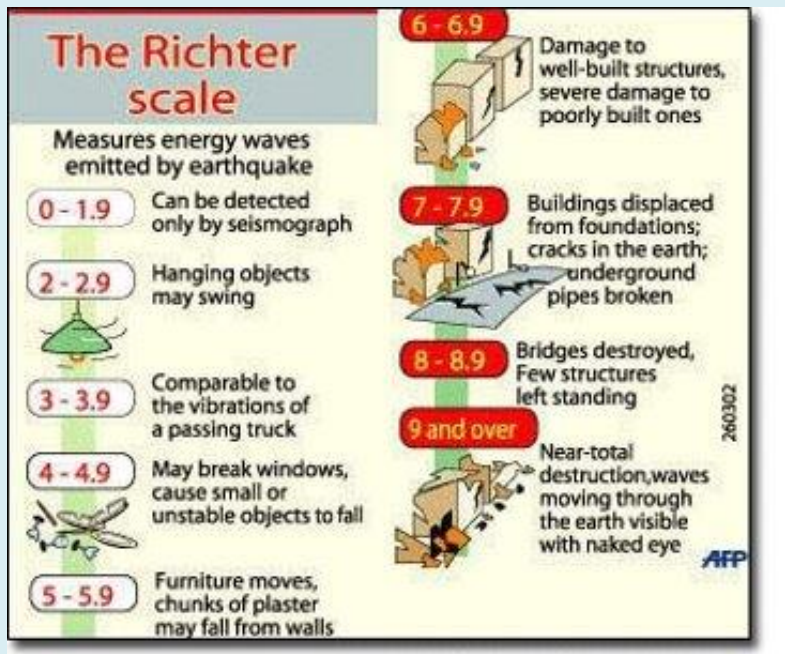
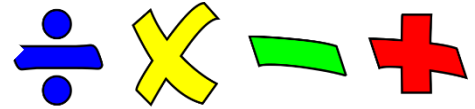


Image from: <https://www.sms-tsunami-warning.com/pages/richter-scale> - Plus lots more information can be found here.

# Maths & Numeracy Challenge



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A timetable is a table or schedule of information which shows the times of something occurring.

As a warm up task - Can you identify the required journeys on the [train timetable activity online](#)?

## Challenge:

In your jotter/on a piece of paper make the table below.

Choose 6 locations (maybe friends' houses or completely imaginary places) and add them down the left hand column, below home.

Using the time differences between the different locations in journey one can you fill in the rest of the timetable?

Locations	Journey 1	Journey 2	Journey 3	Journey 4	Journey 5
Home	09:15	10:40	11:25	11:50	13:35
	09:10				
	09:45				
	10:05				
	10:30				
	10:45				
	10:55				

Now finally, make a map showing the route.



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# Literacy Challenge



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## Talking and Listening using different textures and sizes.

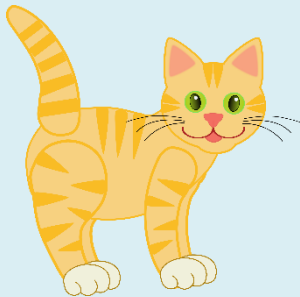
The Minister's Cat is a memory and vocabulary game where the players take turns to come up with an adjective describing a cat.

They say, "The minister's cat is a fluffy cat."

Then the next person would say "The minister's cat is a giant cat"

It can be done in alphabetical order when the first person has to make their word begin with A, the next person with B, then C etc.

When you are getting good at playing The Minister's Cat try to limit the types of words you can use. I suggest only use words which are textures, such as- soft, fluffy, bumpy, lumpy or sizes, such as- huge, tiny, massive etc.



Calligrams are words which are written using lettering which suggests what the word means-

Big

Small

...are two very simple examples.

Using some of the words you came up with in your minister's cat game draw calligrams for some texture and size words.



# Health & Wellbeing Challenge

And relax...

**Mindfulness** is about focusing on the present, noticing your physical and emotional responses as well as your connection to other people in your surroundings. Try out these mindful activities to slow down and focus on your senses and surroundings.

## Getting fresh air and being active

It's good to be mindful of your surroundings and to get fresh air and exercise! Go on an alphabet hunt in your garden or local park. Try to find something beginning with each letter of the alphabet. Create a table or list to keep track of your finds.

## Being mindful through music

Get a piece of plain paper and a pencil, put on a piece of classical music (if you haven't listened to any before – give it a try!) and take your pencil for a walk. Change the speed, direction and style of your line to match how the music makes you feel. Some nice classical pieces to try are;

[Debussy – Clair De Lune](#)

[Schubert - Serenade](#)

[Chopin – Nocturne op.9 No.2](#)

After you have listened to the piece of music you will have a very unusual line drawing. Reflect on how the music made you feel – what colours do you associate with that feeling? What did the music make you think about? **Turn your line into a piece of abstract art**, using colours that match your feelings and see if you can visualise an image made out of the shapes you have.



# Social Studies Challenge



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## Create Your Own Country

### CREATE YOUR OWN COUNTRY

Think about your favourite place or country that you have visited. What makes it your favourite place? The weather, activities, landmarks, is it by the sea?

#### Task

Create and map out your own country, from start to finish, as a way to learn about geography. You will need to...

- name it
- decide its size and location (what continent will it be on... or will it be an island? What country does it border?)
- decide what language is spoken there
- figure out its cities, towns, landmarks, and natural features (does it have mountains, deserts, plenty of lakes for fishing? Is the capital named after your favorite pet?)

You can also think about...

- what resources it exports and to whom?
- what does it produce and what's grown there?
- how its government is structured? (does it have a king and queen, a parliament, a president?)
- what currency is used?
- what holidays people celebrate there?
- what foods are grown there and what is served?



<https://www.worldatlas.com/atlas/world>

# Expressive Arts Challenge



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## Dance Designing



<https://www.mothergoosetime.co>

Let's make a Dance routine to get the blood pumping and to have fun.

- Pick your favourite song - or someone else's.
- Choose 10 of the dance moves from the poster above – 3 from the upper body, 3 from the lower body, 2 from the core and 2 from the head sections
- Number them 1 to 10.
  1. Roll 2 dice (or a [virtual one](#)) to select a dance move (roll 11 someone else chooses, roll 12 free choice)
  2. Roll 1 dice again to indicate the number of times you repeat the move
  3. Note them down to keep track of your sequence
- Repeat the above steps until you have 12 moves in your sequence. String it all together and practice.

Optional – Ask someone to video you doing your Dance Routine