

Summer 2020 Family Learning Pack



Norfolk County Council

in partnership with



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Ages 4+

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Foreword

The activities in this family learning pack have been created to help you keep busy, keep learning and to have some fun!

There are indoor activities for rainy days, outdoor for when you are feeling adventurous, but whether inside or out there are ideas to get you making, talking and discovering new things.

Activity ideas cover a range of subjects themes and age ranges. To help you pick the ones for you, ideas have been organized by age range. We have added a key to let you see at a glance whether the activity is active or calm, indoor or outdoor, creative or problem solving:



Calm



Active



Creative



Puzzles/
Problems



Explore



Talk

Age ranges act as a guide but many are suitable for children of all ages.

We have tried to keep the resources you will need to a minimum and we hope they provide some inspiration for getting the most out of everyday family activities.

This pack has been produced in partnership with UEA School Of Education and Lifelong Learning and UEA's Outreach team.

The aim of this pack is to ensure children are able to continue to learn through fun experiences during the summer. Please bear in mind that the activities in this pack will require differing levels of adult supervision. You must always consider the individuals taking part and make sure the activity can be enjoyed safely.

The University of East Anglia is committed to the local community and ensuring that those who want to, go on to study at university regardless of their background. To help with this, we've put together a whole bunch of resources on our website to inspire and empower young people, including a guide on supporting your young person transition to secondary school. We know that the transition to secondary school can be a worrying time - especially in the current climate! This resource has activities for you and your young person to work through together. There are plenty of opportunities for open discussion about expectations, concerns and questions. You can find all our resources at www.everwondered.uea.ac.uk.

Bubble Solution Fun

Making bubbles is a great science experiment – they're really easy to make and can create hours of fun outside in the sunshine!

Resources needed:

- An empty container
- 50ml washing-up liquid
- 300ml water
- Corn flour

Optional:

- Biscuit cutters
- Pipe cleaners
- Sticks
- Cotton string

Key words

Observe, solution, mixture, shape, structure, bubbles, molecules, layer, surface, soap film, volume, sphere, light, reflection

Instructions

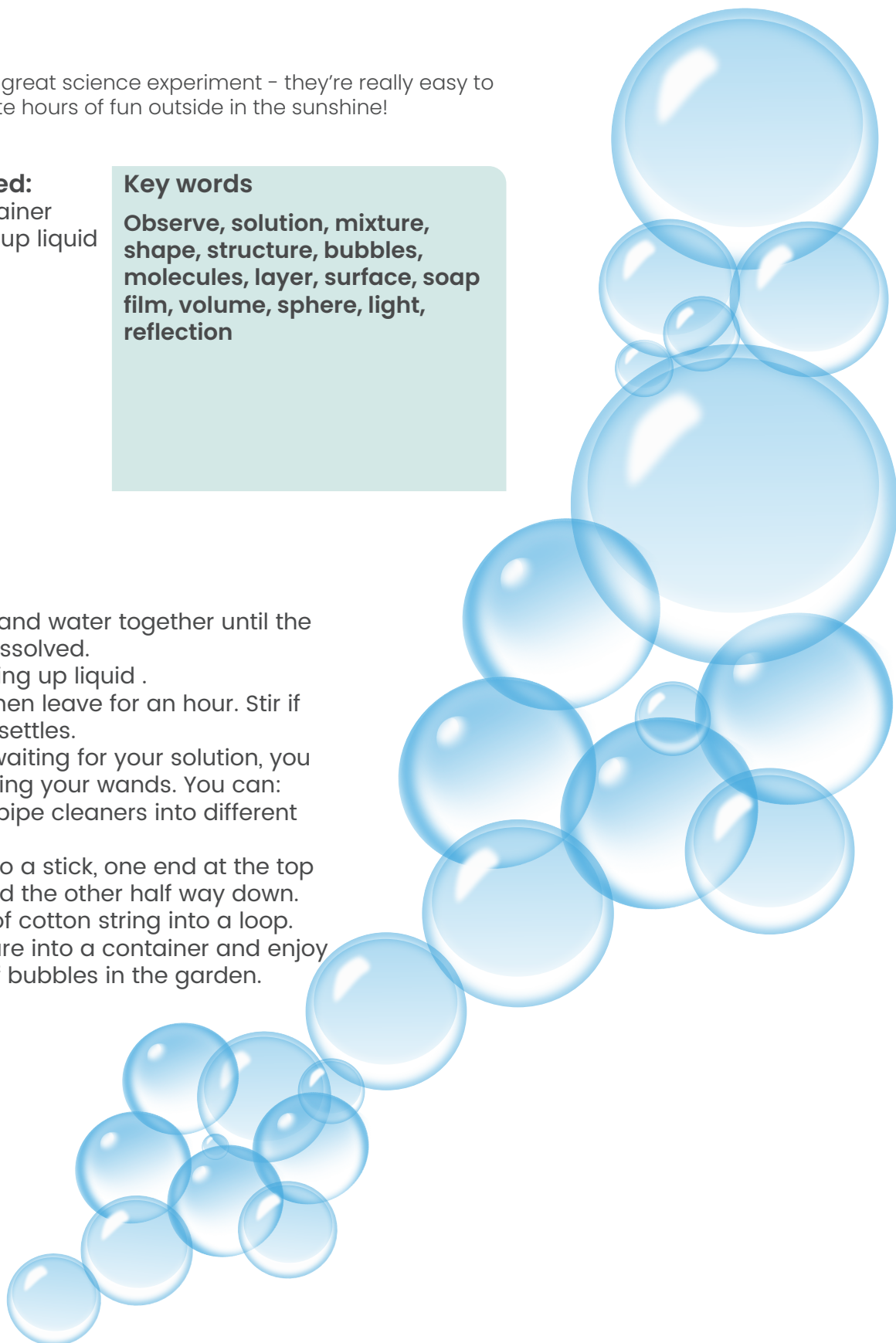
1. Stir corn flour and water together until the corn flour is dissolved.
2. Add the washing up liquid .
3. Mix well and then leave for an hour. Stir if the corn flour settles.
4. Whilst you're waiting for your solution, you can start making your wands. You can:
 - Bend some pipe cleaners into different shapes.
 - Tie a string to a stick, one end at the top of the stick and the other half way down.
 - Tie a piece of cotton string into a loop.
5. Pour the mixture into a container and enjoy making lots of bubbles in the garden.

Things to talk about:

- Do the bubbles have a certain shape?
- Take a closer look at the water, what do you notice about it?
- Have you tried blowing a bubble with normal water? What happened? Why?

Want to learn more?

Search for
Science World: Bubbles
Kids Discover: The Science Behind Bubbles



Salt Dough Characters

Make a model of your favourite book character using a quick and simple recipe. This activity gives children the opportunity to be creative and helps develop their fine motor skills. It is great for helping bring characters to life where children can role play stories and develop their own story making.

Resources needed:

- 2 cups of flour
- 1 cup of salt
- Up to a cup of water.
- You can also add good quality food colouring to dye your salt dough before drying or you can use paint!

Optional

- Oven

Instructions

The activity is shown using an oven which makes the process quicker. Alternatively, you can air dry the dough, but this will take a few days before you will be able to paint it.

1. Preheat the oven to its lowest setting and line a baking sheet with baking parchment.
2. Mix the flour and salt in a large bowl. Add the water and stir until it comes together into a ball.
3. Transfer the dough to a floured work surface and shape into your chosen model. You can roll it out and cut out shapes, numbers or letters using biscuit cutters, or make any kind of model you can think of.
4. Put your finished items on the lined baking sheet and bake for 3 hrs or until solid at 100 degrees Celsius.
5. Leave to cool and then paint.
6. Re-enact your favourite books!

Key words

Modelling, recipe, characters, Celsius



Things to talk about:

- What details are important to the character you are making?
- Why do you think it is important we need to let the dough cool down before we paint it?

Want to learn more?

Try other salt dough ideas - here is a list of fantastic ideas:

www.redtedart.com/30-salt-dough-crafts-kids/

Junk Modelling

Design and Create your own junk model using items around your house. Children will learn about design and problem solving, whilst developing their motor skills and enhancing their creativity.

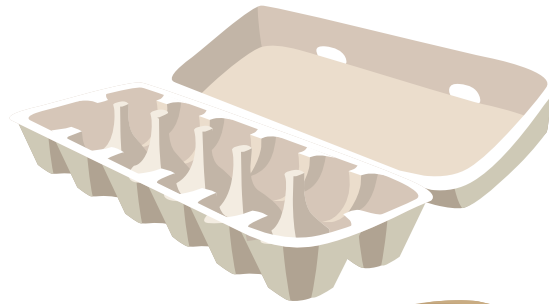
Resources needed:

- Cardboard boxes, kitchen rolls, toilet rolls, egg cartons, cereal boxes, milk cartons etc
- Scissors
- Sellotape or Glue
- Coloured pens, paper, paint, or other craft materials to decorate your model



Instructions

1. Think of something you would like to create, for example an animal, rocket, robot or building.
2. Design your model (think about the materials you are going to use, how the materials are going to be stuck together and the colours you will use).
3. Collect your materials (make sure they are dry and safe to use) and start making your model.
4. Once you've finished building your model, use craft materials to decorate and let it dry.



Things to talk about:

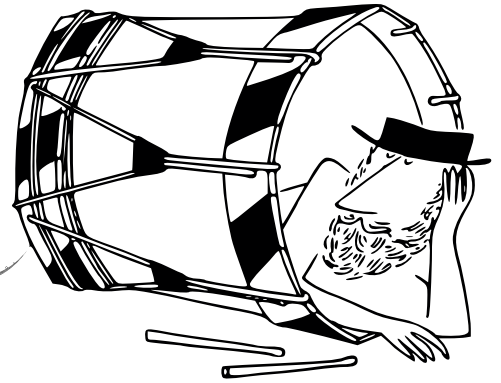
- What shapes and colours have you used to build your model and why?
- What did you enjoy? What did you find difficult when building your model?

Want to learn more?

- Can you make your model move? for example, if you made a car, can you make the wheels move? Or if you made a dragon, can you make its wings or mouth move up and down?
- How could you make your model move? What would you need to add or change to your model?
- Watch this video to help you make an egg carton dragon
www.youtube.com/watch?v=1fRVW0Bynkw

Exploring Body Percussion

This activity is a fun way to get creative with music and our bodies which doesn't need any setting up or resources. This is something that you can have a go at whenever and wherever!

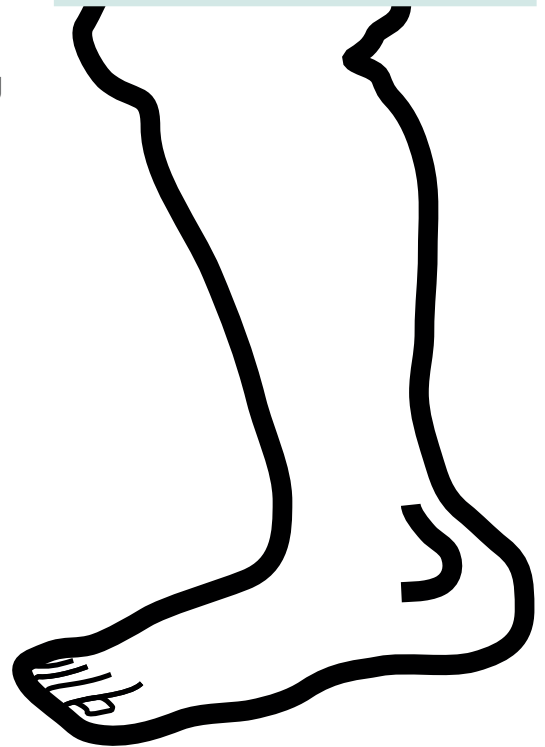
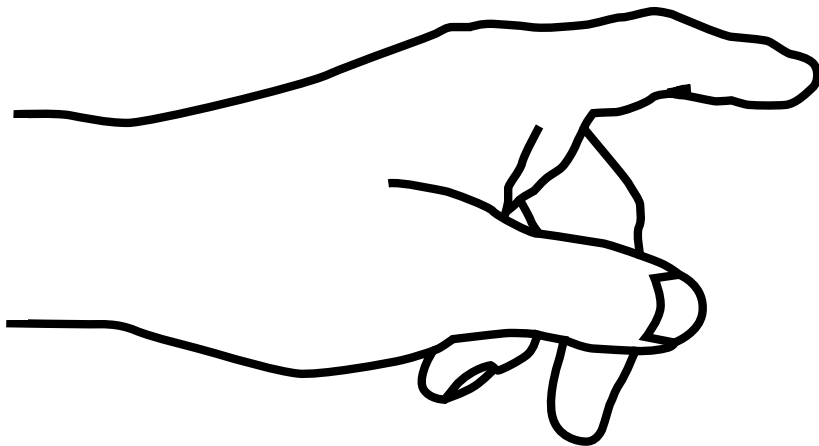


Instructions

- Begin by exploring different sounds that your bodies can make. This could include clapping your hands, stamping your feet, tapping your shoulders, clicking your fingers, popping your cheeks.
- Be as creative as you like and have a go at composing different rhythms with your body percussion. Can you copy each other's rhythms in your family? Can you play quickly, quietly or loudly?
- You may like to have a go at choosing a nursery rhyme, pop song or any piece of music and create the different rhythms with your body. You could have a go at choosing a different sound for each line of the song or even a different combination of sounds for each line. Let your creativity flow!

Key words

body percussion, rhythm, beat, loudly, quietly, quickly, slowly, gently, compose



Things to talk about:

- Can you identify the difference between the beat of a song and the rhythm?
- How does the song make you feel?
- What is your favourite body percussion sound?
- Can you clap / tap the rhythm of your name to match the syllables?
- Perform your new body percussion song to your family!

Want to learn more?

Watch the following video on you tube to learn more about body percussion and to help get you started...

Ollie teaches Body Percussion

Words Are Everywhere!

This activity encourages children to read all around them. It supports their love of reading by showing how words are everywhere!

Resources needed:

- Paper
- Pencil

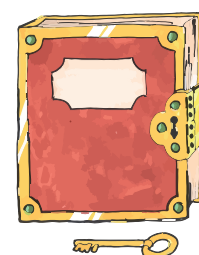
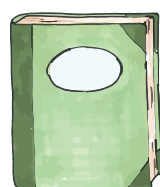
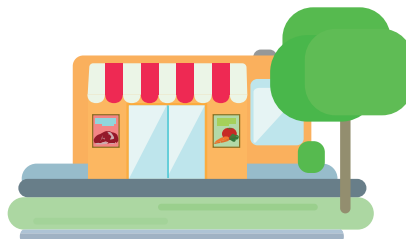
Instructions

Challenge your child to keep a note of everything they read in a day. Encourage them to think of different things (media) they read:

- Their book
- Instructions
- Road signs
- Adverts on TV
- Text in computer games
- Text in TV shows or films (e.g. on buildings or character's clothes)
- Logos
- Shop names
- Text messages
- Maps

Can they note down the location and time of each thing they read?

Can they turn their notes into a timeline of the day or even a map?



Things to talk about:

- Why is it important to read?
- Do we just read when reading books?
- What is your favourite thing to read?
- Why are some things easier to read than others?
- Do we need to read the text beneath logos or do we just read the logo?

Water Writing

An exciting way to practise writing numbers and holding a pen. This can be done indoors on paper or some cardboard, or you can get outside and start writing!

Resources needed:

- Water
- A paintbrush (optional)

Instructions

- Fill a container with some water
- Find a spot outside. A concrete path or wall works well - the smoother the better!
- Using a paintbrush (or your finger) you can use the water to paint the surface.
- Practise forming numbers and letters (they might even disappear if it's a warm day!)
- You can write all kinds of things - try drawing a picture, or playing noughts and crosses!



Things to talk about:

- Does the area change colour when you write on it with water? (lighter/darker?)
- How long do the numbers or letters last?
- Discuss formation of numbers if necessary- see the link opposite

Want to learn more?

Some rhymes to help children with number formation can be found here:

www.teachingmama.org/number-formation-rhymes/

Rainbow Scavenger Hunt

Explore your local area to find all the colours of the rainbow- they could be natural objects or things from about the house. This activity also works really well outside

Resources needed - not necessary but helpful:

- small bag/box
- paper
- glue/tape.



Instructions

- Take a little box or bag and explore your local area (this is great fun outside if you can!) to see if you can collect an object for every colour of the rainbow.
- Once you have found every colour- you could see if you could create some rainbow art on the floor!
- If you would like- you could take the objects home and stick them to some paper to create a piece of artwork.

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Things to talk about:

- When finding natural objects- remember not to pick wildflowers or leaves off trees (we need to look after our environment!)
- Be careful of stinging nettles!
- Talk about the different things you find- look up things you'd like to identify!

Want to learn more?

You can find some great nature-spotter sheets here:

www.plantlife.org.uk/uk/discover-wild-plants-nature/spotter-sheets

Balloon Rockets

A simple and fun science experiment – make balloons zoom like a rocket! Learn about forces including action and reaction.

Resources needed:

- 1 balloon (round or long)
- 1 long piece of string
- 1 plastic straw
- Tape



Key words

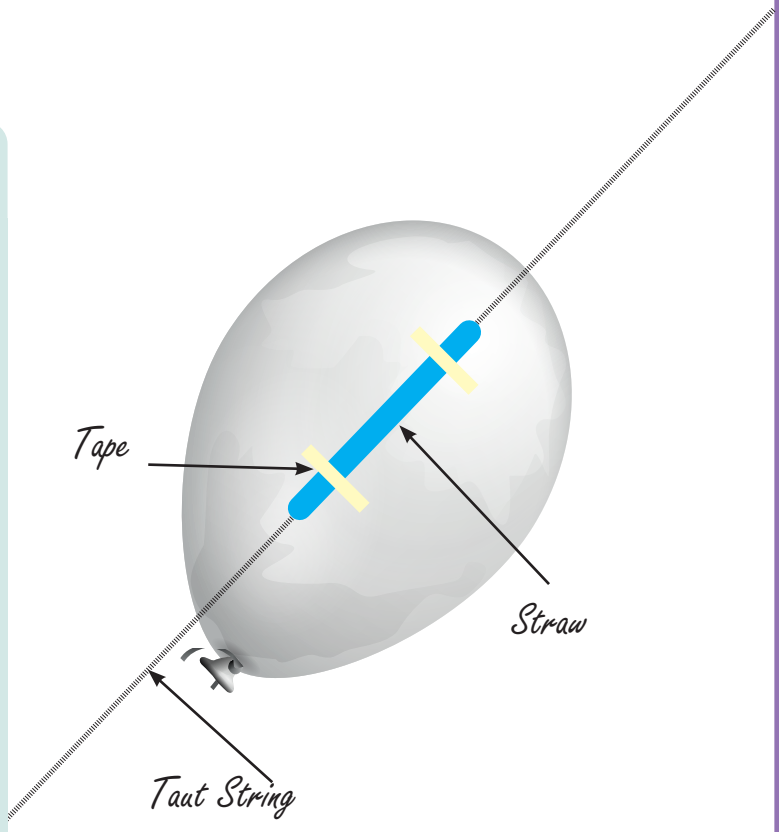
rocket, force, action, reaction, thrust, air, energy, pressure, gas, forward motion

Instructions

1. Tie one end of the string to a door handle, chair or other support.
2. Thread the string through a straw.
3. Pull the string tight and tie it to another support in the room.
4. Blow up the balloon but do not tie it. Pinch the end of the balloon and tape it to the straw.
5. Let go and watch the rocket zoom!

Things to talk about:

- How does it work? To propel a rocket, **force** is needed, force is the amount of push or pull on an object. When the balloon is blown up, it is filled with **gas** (air) particles which create pressure on the inside of the balloon. There is more air **pressure** inside of the balloon than there is outside of the balloon. When the balloon is released, gas quickly escapes and creates a forward motion called '**thrust**'. Thrust is a pushing force created by energy. In this experiment the thrust comes from the **energy** of the balloon forcing gas out. The gas rushing out of the balloon rocket is the **action** and the movement of the object is the **reaction**.
- Fact: Sir Isaac Newton describes this effect in his 'Third Law of Motion' – "For every action there is always an equal and opposite reaction."
- Would a different size/shaped balloon, using a different string or the angle of the string effect how fast or far the rocket travels? Why? Why not?

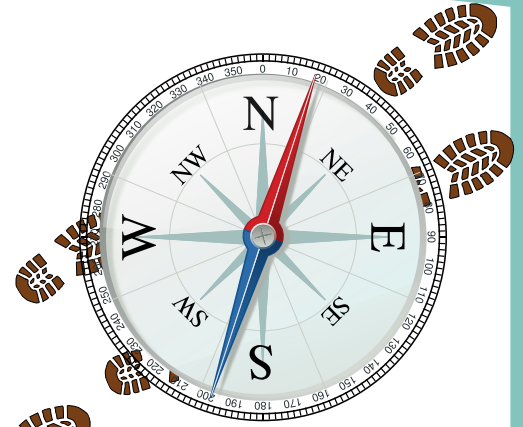


Exploring Where I Live

Finding out more about where we live helps us to understand more about our environment. Get out and about in your local area and see it in a whole new light!

Resources needed:

- Pen and paper
- Camera/mobile phone



Key words

environment, local surroundings, habitats

Instructions

- Find out which way is North, South, East and West (hint – if your grown up has a mobile phone it may have a compass on it which will tell you which way North is, or you can use a compass) or you can look carefully and notice where the Sun comes up (you might have to get up early!). The Sun comes up in the East, is in the South at around midday, and sets in the West.
- Go for a walk for a couple of streets and draw a map of a small area around your house and mark North on it.
- Mark/ draw homes, schools, trees, post boxes, shops, roads, parks, road signs etc on your map
- When you go for your walk, you could take photographs or draw some of the features you see. You could record the names of roads in different ways either by writing them down, taking a photograph or by taking a rubbing' You could also take rubbings of post boxes – what differences do you notice between them? Do some have the initials ER and some have GR? Find out what these stand for.

Things to talk about:

- What objects did you notice whilst you were out and about? Did you see any animals? Were they pet animals who are with their owner or were they wild animals (such as rabbits). Do they live outside? Are they with humans? Are they wild animals? Which ones do you like? Can you draw them and label the different parts? (legs, wings, head, eyes, ears, body, mouth, nose, fins, tails). Have all animals got the same body parts? Can you draw an animal from your imagination which has all the body parts in the list above?
- Why do people live here? What services are nearby? How do people get around?
- Imagine you were trying to describe this place to someone who lives in another part of the world (or another planet). How would you do it?



Learn from your Local War Memorial

Visiting a war memorial is a good way to learn about and share important history from the area where you live. It also gives your family a chance to think about the challenges that people face in times of war.

Resources needed:

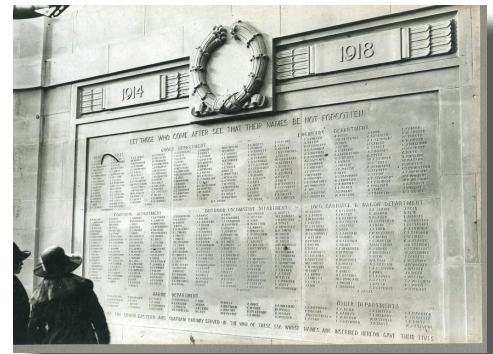
- Pen/pencil
- Paper

Key words

Memorial: something which is built to remind people of a person or an event, usually when one person or lots of people have died

Remembrance: to think about and show respect for a past event or someone who has died

1. Plan a trip with your family to your local war memorial
 - Before your visit, talk about what you expect to see when you arrive.
 - To help you, look at the pictures of the war memorial on this page. What features do you notice?
 - Do you think your war memorial will look the same or different?
2. At your war memorial, find the answers to the questions below:
 - Where is your memorial?
 - What is it like?
 - Who or what is being remembered?
 - How many names are recorded on the memorial?
 - Can you see the ages of those who died?
 - Can you find the oldest and the youngest?
 - Apart from names, are there any other words or phrases on the memorial?
 - What does it say?
3. Talk to your family about what you think of your memorial
 - How does it make you feel?



This is the Cenotaph in London. It symbolises the losses suffered during the First World War and is dedicated to 'The Glorious Dead'.

Things to do at home:

Design your own war memorial - You could draw it, paint it, or even try and build a model of it!

- What should it say?
- Who would you like to remember?
- What would it look like?
- What would it be made of?

Want to learn more?

Reading (fiction): War Horse, Private Peaceful (Michael Morpurgo); Five Children on the Western Front (Kate Saunders)

Reading (non-fiction): Frightful First World War, Woeful Second World War (Horrible Histories)

Online research: visit the Imperial War Museum's online war memorial register (iwm.org.uk/memorials)
Search for different war memorials by memorial type, name or location
Search the register for names recorded on war memorials - are any of your relatives remembered?

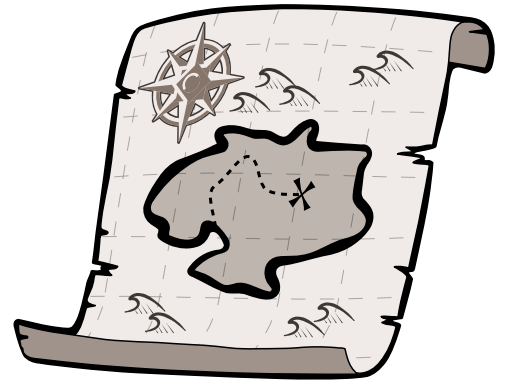
Nature Scavenger Hunt

This task is an opportunity to get out and enjoy the outdoors and the nature around you. There will be different things for you to look out for and identify whilst you are out in the garden or out for a walk.

Resources needed:

- Any outside space - a garden, park or anywhere you're out for a walk.

Look at the list of different types of plants or animals below. Whilst exploring the garden or park, see how many you can find:



A bird with black feathers



A butterfly



A plant with thorns



A bee



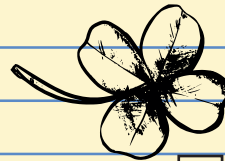
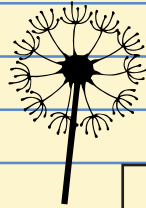
A pink flower



A mushroom



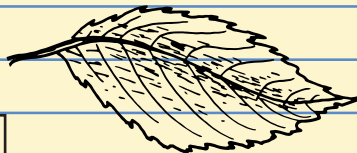
An ant



These plants:



A tree like this:



Things to talk about:

Use books or the internet to see if you can identify the species of bird, butterfly, bee and plants that you spotted during your scavenger hunt.

Want to learn more?

- Identify plants using an app on your phone:
www.plantsnap.com
- Identify birds you see in the garden
www.rspb.org.uk/birds-and-wildlife/wildlife-guides/identify-a-bird/

Animal Watching – in Spanish!

Discover which animals you can see in your local park, and practise your Spanish at the same time.



Resources needed:

- Something to write with
- A copy of the list below

Instructions

- Visit your local park and see what animals you can see. Every time you see one, check it off your list.
- When you see one, have a go at putting it into a sentence.
 e.g. **There is a dog** > Hay un perro. (hay is pronounced like 'I' in English)
 e.g. **There is a butterfly** > Hay una mariposa.

| Spanish | English | Seen? |
|---------------------|--------------------|--------------------------|
| <i>un perro</i> | <i>a dog</i> | <input type="checkbox"/> |
| <i>un gato</i> | <i>a cat</i> | <input type="checkbox"/> |
| <i>una rata</i> | <i>a rat</i> | <input type="checkbox"/> |
| <i>una araña</i> | <i>a spider</i> | <input type="checkbox"/> |
| <i>una gaviota</i> | <i>a seagull</i> | <input type="checkbox"/> |
| <i>un mirlo</i> | <i>a blackbird</i> | <input type="checkbox"/> |
| <i>un cuervo</i> | <i>a crow</i> | <input type="checkbox"/> |
| <i>una mariposa</i> | <i>a butterfly</i> | <input type="checkbox"/> |
| <i>un caracol</i> | <i>a snail</i> | <input type="checkbox"/> |
| <i>un petirrojo</i> | <i>a robin</i> | <input type="checkbox"/> |
| <i>un alionín</i> | <i>a blue tit</i> | <input type="checkbox"/> |
| <i>una paloma</i> | <i>a pigeon</i> | <input type="checkbox"/> |
| <i>un gorrión</i> | <i>a sparrow</i> | <input type="checkbox"/> |
| <i>una rana</i> | <i>a frog</i> | <input type="checkbox"/> |
| <i>un renacuajo</i> | <i>a tadpole</i> | <input type="checkbox"/> |

Multilingual Walking Bingo

A calm yet active activity which allows you to practise some vocabulary in our different languages. This can be done all together as a family.

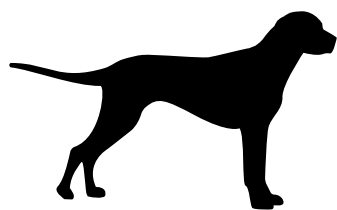
Resources needed:

- Pen
- Bingo reference (below)
- Somewhere to go for a walk



Instructions

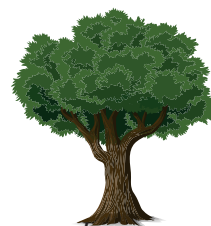
On your walk, try to spot the following things:



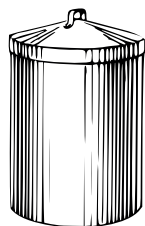
A black dog/ Un chien noir/ un perro negro / ein schwarze Hund



A white flower/ une fleur blanche/ una flor blanca/ eine weiße Blume



A tree /un arbre/ un árbol/ ein Baum



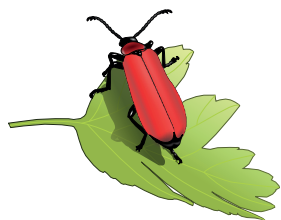
A bin / une poubelle / un contenedor/ einen Behälter



A house/ une maison/ una casa / ein Haus



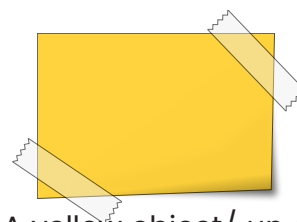
A lamppost/ un lampion/ una lámpara/ ein Laternenpfahl



An insect/ un insecte/ un insecto/ ein Insekt



A bench/ un banc / un banco / eine Bank



A yellow object/ un objet jaune/ un objeto amarillo/ ein gelbes Objekt

Things to talk about:

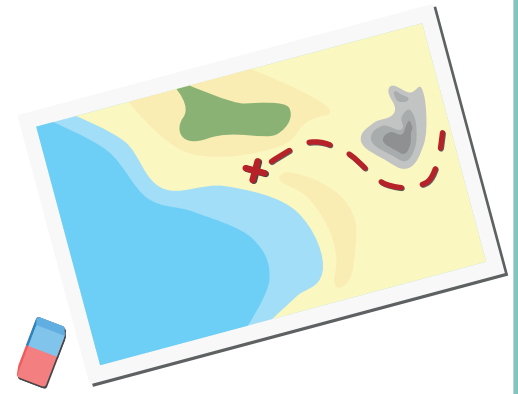
- Can you see any patterns between the languages? Think about the genders of the words.
- For your yellow object - can you find out its translation in another language?

French Photo Treasure Hunt

Take a photo of all the items on the list. The first person to have everything photographed is the winner.

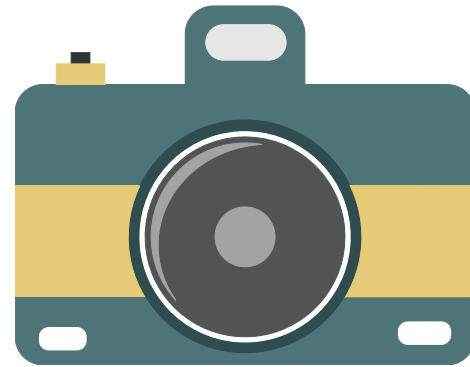
Resources needed:

- phone/camera (if you have no access to a camera you can draw your answers with a pen and paper).



Instructions

- Work out what the items below are in French, then find and take a photograph of them. The first to have all 14 photographed is the winner!
- All the words are the same or very similar in English but you can also use www.wordreference.com to help you.
- You can be as creative as you like with your photos, maybe take a selfie with each item!
- If you have post-it notes, write each French word on one post-it note and stick it to the object, remember to include accents. Look up more words for household items online and label those too.



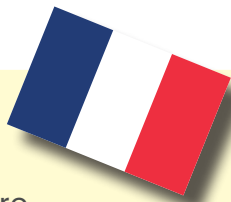
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| <i>Une table</i> | <input type="checkbox"/> | <i>Un sachet de thé</i> | <input type="checkbox"/> |
| <i>Un bol</i> | <input type="checkbox"/> | <i>Une chaise</i> | <input type="checkbox"/> |
| <i>Un magazine</i> | <input type="checkbox"/> | <i>Une télévision</i> | <input type="checkbox"/> |
| <i>Un tee-shirt</i> | <input type="checkbox"/> | <i>Un coussin</i> | <input type="checkbox"/> |
| <i>Un réfrigérateur</i> | <input type="checkbox"/> | <i>Un pull-over</i> | <input type="checkbox"/> |
| <i>Une lampe</i> | <input type="checkbox"/> | <i>Un miroir</i> | <input type="checkbox"/> |
| <i>Une télécommande</i> | <input type="checkbox"/> | <i>Un téléphone</i> | <input type="checkbox"/> |

Fantastic French Crêpes

Have a go at baking some French pancakes for you and the people you live with!

Resources needed:

- bowl
- frying pan
- plate
- knife and fork to eat with!
- Ingredients for your crêpes (see below for list)



Ingrédients :

- 250 g farine
- ½ litre lait
- 2 cuillères à soupe sucre
- 4 œufs
- 1 pincée sel
- 50g beurre

Method :

1. Mettez la farine dans un saladier avec le sel et le sucre.
2. Faites un puits au milieu et versez-y les œufs.
3. Commencez à mélanger doucement. Quand le mélange devient épais, ajoutez le lait petit à petit.
4. Quand tout le lait est mélangé, ajoutez ensuite le beurre, mélangez bien.
5. Faites cuire les crêpes dans une poêle chaude (légèrement huilée si votre poêle n'est pas anti-adhésive). Versez une petite louche de pâte dans la poêle.
6. Laissez cuire environ une minute de ce côté et la crêpe est prête.
7. Répétez jusqu'à épuisement de la pâte.



Ingredients:

- 250g (self-raising) flour
- ½ litre milk
- 2 tablespoons sugar
- 4 eggs
- 1 pinch salt
- 50g butter

Method:

1. Put the flour in a bowl with the salt and the sugar.
2. Make a well in the middle of the mixture and pour in the (beaten) eggs.
3. Start to gently mix it together. When it becomes thick, add the milk little by little as you stir.
4. When the milk is mixed in, add the butter next and mix well.
5. Cook the crepes in a hot pan (lightly oil the pan if it's not anti-stick). Pour some of the batter into the pan and move the pan so it spreads to the edges.
6. Let it cook for one minute on each side and the crepe is ready. To turn it over you can flip it!
7. Repeat until all the batter is gone.

Things to talk about:

- Crêpes are eaten in France on La Chandeleur (February 2nd) which is a holy day.
- What could you eat with your crêpe? Did you know that Nutella is French?
- To find out more information and another recipe in English:
www.frenchtoday.com/blog/french-food-wine/les-crepes-de-la-chandeleur-recipe/

Make Your Own Bird Feeder

Build your own bird feeder to attract local birds to your garden over the summer. It is important children make objects with a purpose. This activity also gives children a chance to reflect on their design and creation.

Resources needed:

- Milk or Juice carton
- Bird seed (or cereal)
- String
- Things to decorate the birdfeeder with
- Scissors
- Hole punch



Key words

bird-feeder, different types of bird (finch, warbler, thrush, starling etc.) parts of birds (wings, beak, tail)

Instructions

- Clean and dry an empty milk carton.
- Cut a hole big enough for a bird to fit.
- Punch a hole in the top of the feeder and thread a string through.
- Tie at the top and secure.
- Let your child decorate however they like - try paint or crayons.
- Once the bird feeder is dry, fill with birdseed and hang.

If you don't have access to birdseed, you can make a bird-feeder out of cereal:

- Take a long length of string and tie a knot at the end that's big enough so the cereal can't drop through.
- Ask your child to put circle-shaped cereal, such as Cheerios, onto the string.
- Once the string is full, tie the ends together and secure it to a tree.
- You can also make bird feeders from string, a fir cone, bird seed and lard. The children can get their hands into the mixture squishing the lard and the bird seed together and then pressing it into the fir cone. Tie the string to the fir cone and hang from the tree.
- After you've finished, look at your bird feeder. What two things do you really like? What would you change for next time?



Things to talk about:

- Why do we want birds to come to our garden?
- Why are birds important to us and the world?
- What types of bird do you think we might see?
- What won't we see? Why?

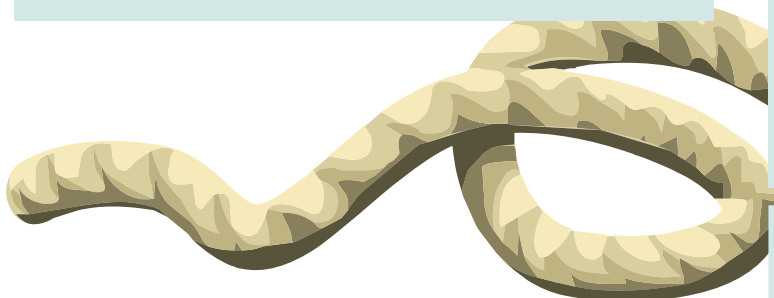
Want to learn more?

Take part in the Great British Birdwatch by using these resources

<https://www.rspb.org.uk/fun-and-learning/for-teachers/schools-birdwatch/resources/>

Can they count how many birds come to the garden? Could you create a tally chart to record the different types?

Why not try a bird-watching diary where people can write down what birds they see, what the birds do, and the date?



Tie Dying with Avocado

Make some cool clothing with natural dyes - or breathe some life into old t-shirts with this fun activity.

Resources needed:

- A white t-shirt
- Elastic rubber bands
- 2-3 avocado pits
- Large pan
- Water

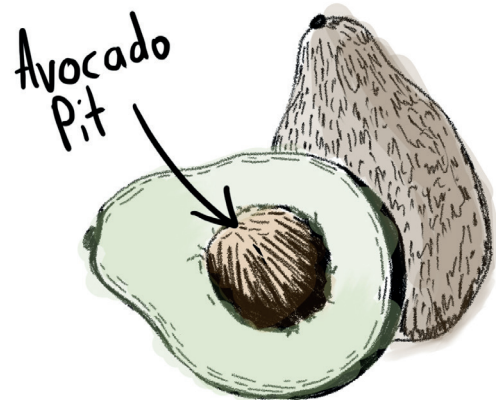


Did you know that avocados contain pigments called tannin - something also found in tea? Natural dyeing uses a pigment extracted from plants, such as avocados, to dye fabrics.

Before we made dyes in the lab, we used to use plant pigments to colour materials. Natural dyes are also much better for you and our planet, avoiding lots of sources of pollution.

Instructions

1. Make bobbles on your t-shirt using elastic bands. Twist, wrap or bunch the material - it's up to you!
2. Fill a large pan steel pot two-thirds full with water.
3. Add 2 or 3 avocado pits (the more pits, the darker the colour will be). Bring the water to a low boil and then reduce to a simmer.
4. Simmer until the water turns bright red, approximately 30 to 60 minutes.
5. Remove the pits with tongs (be careful!) and add the t-shirt, maintaining a low simmer.
6. After 10 minutes, the dye will be securely bonded to the fabric, and the t-shirt should be a light, sun-dried shade of peach. Leave them longer to intensify the colour.
7. When you have the colour you want, use tongs to remove your t-shirt to a sink to rinse in warm water with soap. Hang them to dry out of direct sunlight.



Want to learn more?

You could try turning your designs into Face Masks - see the link below for help on how to do this:

<https://www.bbc.co.uk/news/uk-52609777>

There are also plenty of "how to" videos on YouTube about how to come up with tie dye designs!

Parachute Perfection!

Learn about air resistance whilst making an awesome parachute! Design one that can fall slowly to the ground before putting it to the test, making modifications as you go.

Resources needed:

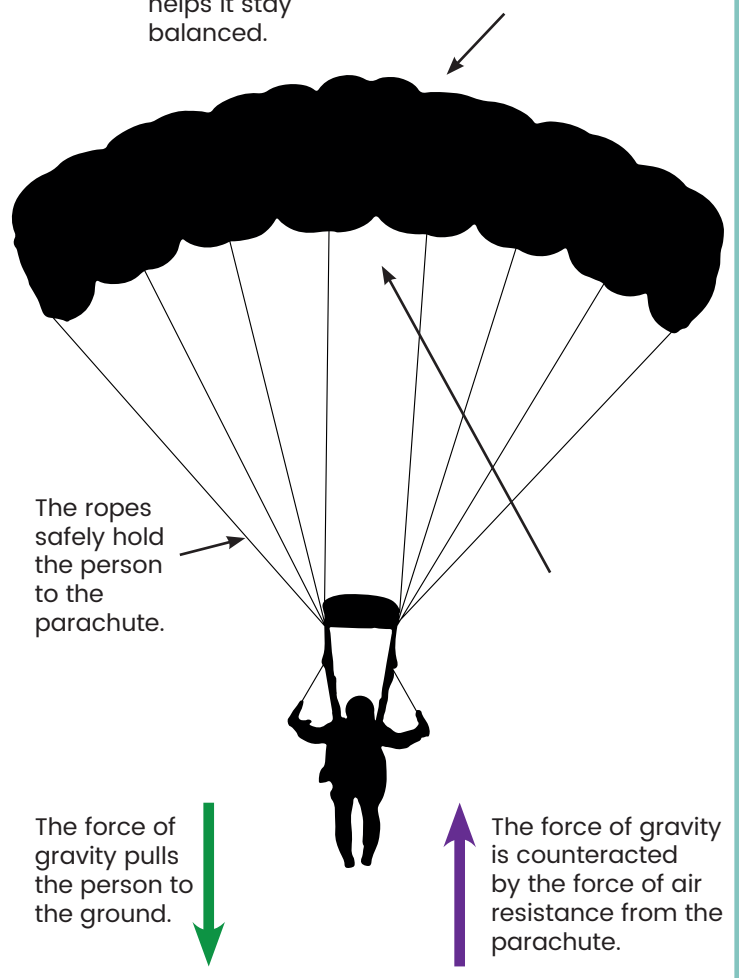
- A plastic bag or light material
- Scissors
- String
- A small object to act as the weight - a little action figure would be perfect



Instructions:

- Cut out a large square from your plastic bag or material.
- Trim the edges so it looks like an octagon (an eight-sided shape).
- Cut a small hole near the edge of each side.
- Attach 8 pieces of string of the same length to each of the holes.
- Tie the pieces of string to the object you are using as a weight.
- Use a chair or find a high spot to drop your parachute and test how well it worked, remember that you want it to drop as slow as possible.
- **SAFETY FIRST:** ask someone in your household to support you - we don't want any broken limbs!

The rounded shape of the parachute helps it stay balanced.



What's happening:

Hopefully your parachute will descend slowly to the ground, giving your weight a comfortable landing. When you release the parachute the weight pulls down on the strings and opens up a large surface area of material that uses air resistance to slow it down. The larger the surface area, the more air resistance and the slower the parachute will drop. Cutting a small hole in the middle of the parachute will allow air to slowly pass through it rather than spilling out over one side and should help the parachute fall straighter.

What do you think?

What factors do you need to think about when designing a great parachute?

Shadow Puppet Theatre

Create your own shadow puppet theatre! Let children's imagination run wild by creating their own stories and designing their own puppet characters.

Resources needed:

- empty cardboard box, cereal box or shoe box
- baking parchment or tissue paper
- scissors
- sellotape or masking tape
- pencil,
- straws or wooden skewers
- torch or lamp
- black card/paper
- split-pins (for moving-limb puppets)

Instructions

1. Ask a grown up to cut a large square hole in both sides of the box.
2. Cut out a large square of baking parchment/ tissue paper to fit over the hole and stick down the edges with masking tape.
3. Decorate your puppet theatre!
4. Draw your puppets on black card and cut them out. If you want your puppets to move, you can draw the head, body, legs separately and then attach them together using split pins.
5. Now make your puppets come to life- take a wooden skewer stick and put masking tape over the top to cover of the pointy edge (creating a tab). Then, take another bit of masking tape and stick the tab (with wooden skewer attached) to the puppet.
6. Turn on your lamp or torch, turn off the lights so it is dark.
7. Now you can begin your puppet show! You can sing songs, use musical instruments, or make sounds using things you can find around the house ...like tapping a spoon on a drinking glass, make a rainmaker with pasta or lentils in an empty tube... to make your show even more exciting!

Fascinating Fact:

Shadow puppetry is the oldest type of puppetry in the world, starting thousands of years ago in China and India!



Key words

theatre, storytelling, , performance, audience, shadow, puppetry, translucent, transparent,

Things to talk about:

- What's going to happen in your story? Will it have a happy ending? Is there anything exciting that happens?
- Where is your story set? Are there fairies and elves living in an enchanted forest? Monsters and dragons? Is there a prince or princess living in a castle- or is your story about mermaids and sea creatures under the sea?

Things to notice:

- How is a shadow formed? (*for a shadow to form, an object must block light. A transparent object will not make a shadow, as light passes straight through it.*)
- What happens to a shadow at different times in the day? (*the sun makes the longest shadows at the beginning & end of the day when the sun is lowest in the sky. The sun makes the shortest shadows at midday, when its highest in the sky.*)
- Exploring shadows- Create different effects with a light source to help demonstrate how the properties of a shadow change depending on the position and intensity of a light source and the distance from the puppet.

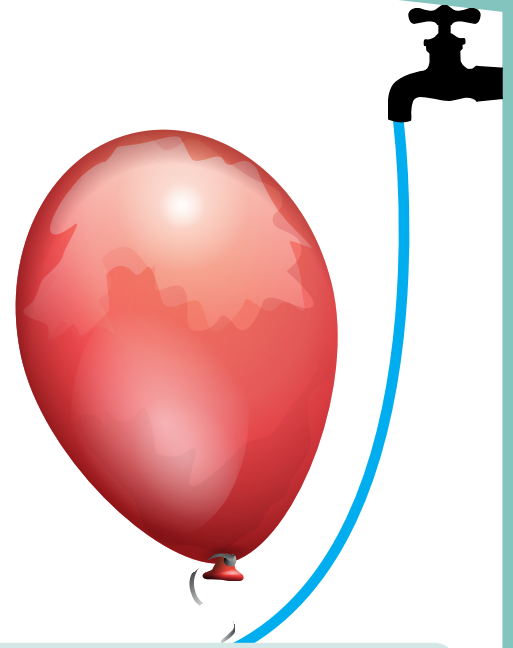
Bending Water with Static

Here's an easy science experiment that's great for helping children learn about static electricity. Try bending water with static electricity produced by combing your hair or rubbing it with an inflated balloon. Can it really be done? Give it a try and find out!

Resources needed:

- A plastic comb (or an inflated balloon)
- A narrow stream of water from a tap
- Dry hair

1. Turn on the water so it is falling from the tap in a narrow stream (just a few millimetres across but not droplets).
2. Run the comb through your hair just as you normally would when brushing it (do this around 10 times). If you are using a balloon, then rub it back and forth against your hair for a few seconds.
3. Slowly move the comb or balloon towards the stream of water (without touching it) while watching closely to see what happens.



Key words

static, charge, electron, negative, positive, neutral, attract

Things to talk about:

The static electricity you built up by combing your hair or rubbing it against the balloon attracted the stream of water, bending it towards the comb or balloon like magic!

Negatively charged particles called electrons jump from your hair to the comb as they rub together, the comb now has extra electrons and is negatively charged. The water features both positive and negatively charged particles and is neutral. Positive and negative charges are attracted to each other so when you move the negatively charged comb (or balloon) towards the stream, it attracts the water's positively charged particles and the stream bends!



Making Musical Instruments

Whether you are into classical music or the latest chart hit, see if you can play your favourite tune on your very own home-made xylophone.

Resources needed:

- (up to) 8 drinking glasses
- Pencil or pen

Instructions

- Collect up to 8 drinking glasses (preferably the same size)
- Fill each glass with different amounts of water, for example you could use 100ml, 200ml, 300ml etc.
- Use the pen or pencil to gently hit the side of the glass and it will make a sound.

HINT: you can colour the water with food colouring to help you remember which note is which!



Things to talk about:

Look carefully at the surface of the water when you tap the glass. Can you see it move?

This is because you are hitting the glass and it is making the particles vibrate. These vibrations travel through particles in the air to your ears, where they are converted into a sound.

Compare the amount of water in the glass. Does it make a different sound?

Different amounts of water will vibrate at different speeds and this will convert into a different pitch of note.

Want to learn more?

- Why not see if you can make a whole scale of notes. If you have a piano or keyboard, can you make the sounds from your glasses match the notes? Or try an online tuner to see the name of the notes you have made.
- Can you investigate which notes sound good together and which notes clash?

Blindfolded Taste Test

How much does sight affect our taste buds? Become a scientist and conduct an experiment to find out if seeing our food and drink makes a difference in figuring out the flavour

Resources needed:

- 3 (or more) different flavours of food or drink (for example: three flavours of squash, or flavours of crisps, or perhaps types of drink).
- Paper, pen, ruler, pencil
- Blindfold (could be a scarf or a sleep mask, as long as you can't see through it!)
- A willing assistant/test subject to help you
- Bowls/cups to put the flavours in.

Key words

Variable – what we are changing or measuring in our experiment

Hypothesis – scientific word for our predictions of what might happen.

Control experiment – shows us what would happen normally without our variable added.

Instructions

Part 0: Hypothesis. On your piece of paper, write out your hypothesis – what do you think will happen? Will the blindfold make it easier or harder to guess the flavour? Will you guess more or less correctly?



Part 1: Control experiment:

Get your assistant to put the flavours into separate bowls/glasses without you seeing. OR do this without your test subject seeing. Label these as 'A/B/C' etc. Make sure you remember which flavour is which. Draw out a table and write out their guesses for each flavour:

| Letter of flavour | A | B | C |
|-------------------|---|---|---|
| Actual flavour | | | |
| Guessed flavour | | | |

How many did they get right? Record this down below the table!

Part 2: Variable experiment:

Now for the good bit! You/your test subject should be blindfolded, then the one who is not blindfolded should adjust the lettering of the flavours – so no cheating can occur! Draw out another table and write out their new guesses for each flavour:



| Letter of flavour | A | B | C |
|-------------------|---|---|---|
| Actual flavour | | | |
| Guessed flavour | | | |

Part 3: Results

How did you do? Was your hypothesis correct?
Did the blindfold have any effect?
Why do you think that is?

Write a brief sentence on your results – “My hypothesis was correct/incorrect. I guessed more correct answers when I was unblindfolded/blindfolded. I think this is because...”

Want to learn more?

- Have a go at designing an experiment of your own!
- What is another hypothesis that you might want to test? Try and use the format above and use it for your own experiments!

Icon by Freepik from www.flaticon.com

Find a Story

Challenge your storytelling abilities with these beginnings and endings, based around Latin American and Spanish culture.



Resources needed:

- Someone to tell the story to!
- Dice (optional)
- Pen and paper (optional).

Instructions

Below are six story beginnings and endings. There are two ways to play:

1. Choose one story beginning and one story ending (such as beginning 1 and ending 4). You have to tell the story, starting with the beginning and finishing with the ending.
2. Roll a dice twice: the first roll chooses the beginning and the second roll chooses the ending.

The beginning and the ending give you some information about the character and the story, so read these carefully. As you tell your story, think about how you can reach the ending: what needs to happen to get to that point?

You can make the story as funny, adventurous, scary or mysterious as you like! You can also write the story on paper then illustrate it to really bring it to life.

| Roll | Beginning | Ending |
|------|---|--|
| 1 | Once upon a time, in a city called Mexico City, lived a boy called Paco. Paco was an adventurous child but he had a big fear... | ...After all that, [character name] sat down with a thump. 'There's no way I'm ever doing that again!' they said. |
| 2 | In a small village, just outside Barcelona, was the kennel of a small dog who went by the name Blanca. Blanca was a pretty dog, but she was very sad because... | ...[character name] felt a sudden pang of guilt. 'What have I done?' they wondered aloud. |
| 3 | María loved food: paella, manchego cheese, and especially churros! However, she had a problem... | ...And there it was: home! [character name] let out a sigh of relief, smiled and said, 'there's no place like home!' |
| 4 | Buenos Aires was a busy city, full of bright lights and rushing feet, especially for a mouse. But Juanito was no ordinary mouse... | ...[character name] rubbed the golden coin and in a puff of smoke, they were transported back to their home. 'Well, that was an adventure!' they exclaimed. |
| 5 | Alicia was confused: she went to sleep in her bed and woke up in the mountains of the Sierra Nevada. 'What on Earth has happened?' she thought... | ...[character name] ran faster than they'd ever run before, and before long arrived in a familiar area. They paused and looked around. They knew they were safe...for now. |
| 6 | Deep in the jungles of Costa Rica, high up in the canopy, lived a very shy squirrel monkey called Mono. One day, Mono decided to go on an adventure so... | ...[character name] blinked and they were back at home. 'Wow, what a strange dream!' they murmured. |

Mini Olympics

Feeling competitive? Why not participate in your own home mini Olympics without any specialised equipment!



Resources needed:

- Socks
- Toilet roll tube
- Toilet rolls
- Sticks
- Tape measure
- Timer (or phone app)
- **Space to safely carry out the events below**

Key words

Shot put, javelin, long jump and hurdles

Shot Put

- Grab a pair of socks and a tape measure.
- Stand facing the laid-out tape measure.
- Hold the socks on your neck between your ear and your chin.
- When you are ready, push and release the socks, fully extending your arm.
- How far can you throw?



| | |
|---------------|---------------|
| Boys | Girls |
| Bronze - 4.5m | Bronze - 4.1m |
| Silver - 6.2m | Silver - 5.6m |
| Gold - 8.2m | Gold - 6.3m |

Javelin

- Grab a long stick or toilet roll tube and tape measure
- Stand facing the laid-out tape measure.
- Grip the stick in the middle, and hold it behind your head with a straight arm.
- When you are ready, brush past your ear and release the stick.
- How far can you throw?



| | |
|--------------|--------------|
| Boys | Girls |
| Bronze - 11m | Bronze - 9m |
| Silver - 18m | Silver - 13m |
| Gold - 25m | Gold - 16m |

Long Jump

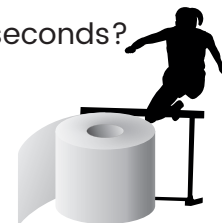
- Lay out the tape measure
- Stand facing the laid-out tape measure.
- Bend your knees and swing your arms.
- When you are ready, jump forward and swing your arms as high and as far as you can.
- Want to jump further? Add a run up.
- How far can you jump?



| | |
|----------------|----------------|
| Boys | Girls |
| Bronze - 3m | Bronze - 2.75m |
| Silver - 3.75m | Silver - 3.25m |
| Gold - 4m | Gold - 3.85m |

Hurdles

- Grab a toilet roll and a timer.
- Stand on one side of the toilet roll.
- When you are ready, start the timer and jump over each side as many times as you can in 13 seconds.
- Too easy? Stack toilet rolls for a higher jump.
- How many can you do in 13 seconds?



Things to talk about:

KS3 - Research other events that take place in the Olympics. What other events could you host using items you have at home?

KS4 - What components of fitness are required for each event? What sort of training could be done to improve performance?

Why not...

...create your own Olympic rings, design your own Olympic mascot and make your medals?

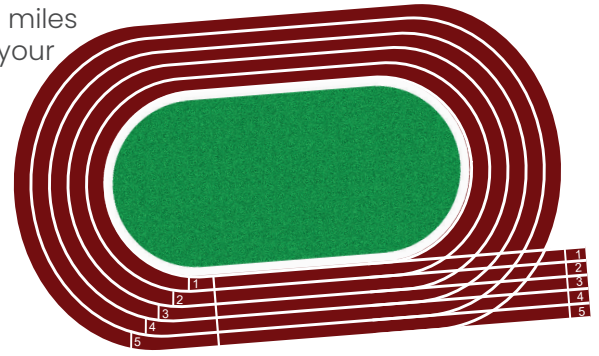
Shot Put Pictogram by Diegobiavati is licensed under CC BY-SA 4.0
Javelin by Micah Lawrence is licensed under CC BY 3.0

Design and Run Your Own Race!

The London Marathon was first held on 29 March 1981, and is 26.2 miles long, or 42 km. It has been postponed this year, but you can run your own race at home, either indoors or outdoors!

Resources needed:

- Pen and paper
- Ruler
- Timer (or timer app)
- Start and Finish markers



Instructions

Measuring the course

1. Use a ruler to measure the length of one of your feet in centimetres.
2. Mark out a Start point and a Finish point for the race course – this might be a straight line, or you could even make a lap.
3. Place one foot in front of the other and walk slowly from the Start to the Finish – how many lengths of your feet are equal to the length of the course?
4. Using your answer to 3), how long is the course in centimetres? How long is it in metres? (Remember, 1m = 100cm)

The Race

Make sure to stretch first!

Get someone to time you as run from the Start to the Finish.

Key words

Time, distance, units, speed

| | |
|--------------------------------------|--|
| Length of your foot (cm) | |
| Course length in number of your feet | |
| Length of course (cm) | |
| Length of course (m) | |
| Time to run course | |

Want to learn more?

You can calculate your average speed using the equation opposite:

1. What was your average speed?
2. How does your time/speed compare to your brother's/sister's/parent's/carer's?
3. Can you run the course again and beat your time? What is your personal best?
4. Prediction – how long would it take you to run 26 laps of the course?

$$\text{Speed} = \frac{\text{distance}}{\text{time}}$$

Did you know?

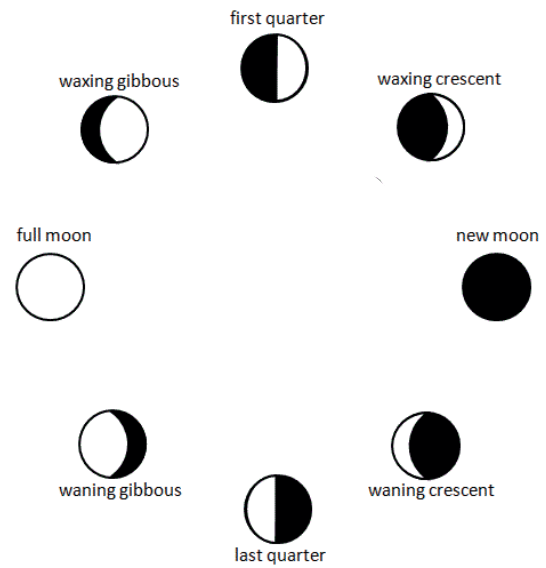
When Usain Bolt set his 9.58s 100m world record in 2009, his average speed was **10.44m/s!**

Make a Moon Journal

Why does the moon appear to be a different shape on different nights of the month? In this activity you will be recording the different shapes of the moon and investigating why these shapes happen.

Instructions

- Use the table below to draw the shape of the moon every night for one month. Use one box for each night until you have completed your moon journal for one month.
- Alternatively, draw the shape of the moon on the first night and then use the moon phases picture, or your own research to fill in the rest of the table. Then throughout the month you can check if you were right!



Andonee - Diagram of Moon Phases

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |

Things to talk about:

- Research the different phases of the moon or familiarise yourself with the phases above.
- Can you identify the 8 different phases of the moon in your drawings?
- Why does the moon appear as a different shape throughout the month?

Want to learn more?

- KS4 – information about the solar system www.bbc.co.uk/bitesize/guides/zq6cw/revision/1
- KS4 – More information on the phases of the moon www.space.fm/astromy/earthmoonsun/phases.html
- KS2/KS3 – More information on the phases of the moon www.natgeokids.com/uk/discover/science/space/the-phases-of-the-moon/

Sundials and Shadows: Telling the Time with the Sun

How was it possible before the invention of watches to work out what the time was? Can you make a 'natural' clock?

Resources needed:

- Paper plate (or paper cut into circle)
- Scissors
- Sellotape
- Bendy straw
- Compass (or compass phone app)
- Pen

Instructions

- In the middle of the plate make a small hole with the scissors.
- Put the straw through the hole, taping the bent part under the plate and the straight part pointing upwards.
- Find a sunny spot in the garden to place the plate and using a compass find north. Angle the straw slightly towards north.
- At 12:00 pm mark a line where the shadow forms. Label as 12.
- Repeat for each hour that there is light.
- Complete the clock the following morning you should be able to mark 12-14 lines on the clock.

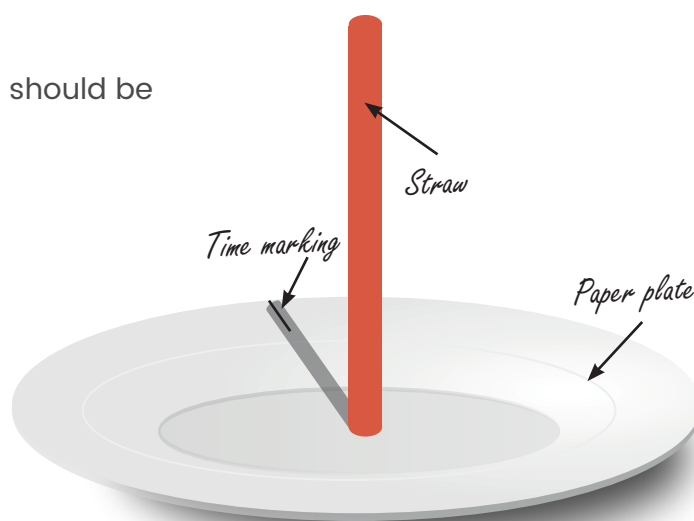


Key words

Light – The sun is a source of natural light which allows objects to be seen.

Shadow – A dark area created when the source of light is blocked.

Opaque – A material that blocks light passing through.



Things to talk about:

- Why does the straw cause a shadow? *The light shines onto the plate and this is why we are able to see it. The straw is opaque and does not let light through and casts a shadow.*
- Find out the meaning of the words **Translucent** and **Transparent**. What materials have this property? Would they make a good sundial?
- Where do you think the lines would be to indicate half past, quarter past etc..? Can you work out the angles between the lines? Are they even?

Want to learn more?

- On some clocks there are not numbers but symbols called Roman Numerals. Use the clock to write the numbers 1-12 in Roman Numerals.
- Can you find out how to write the numbers all the way to 100? Can you go even higher?

Clouds and Weather Prediction

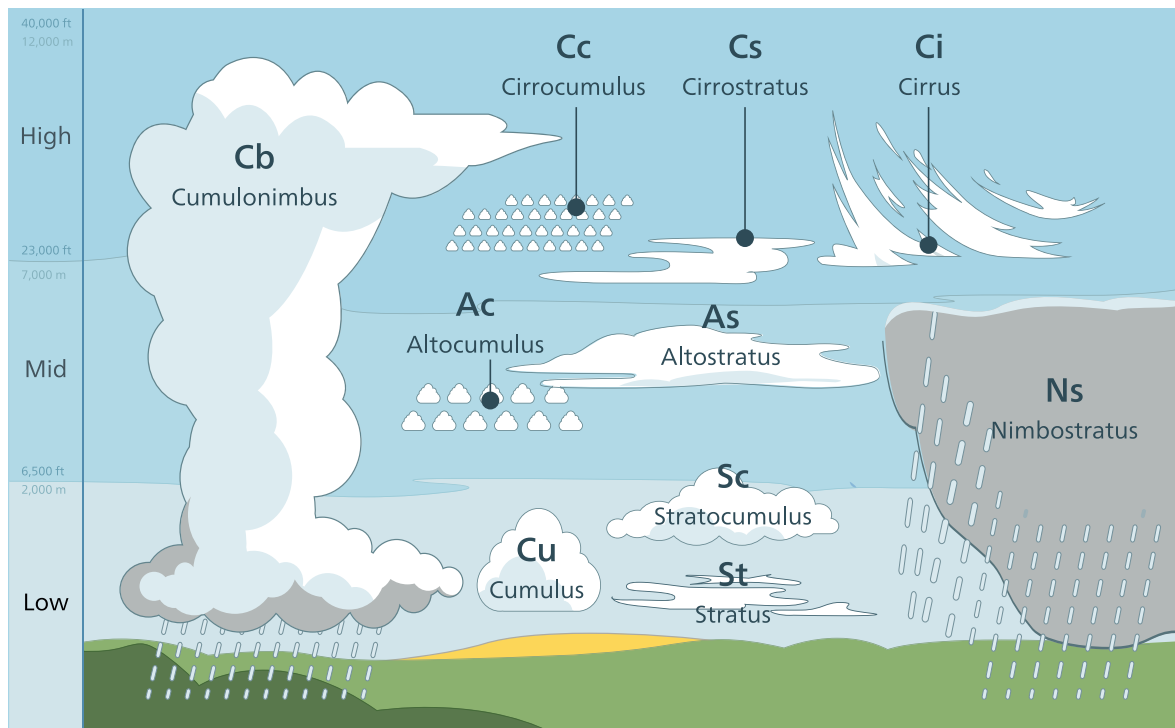
Look to the skies to predict the weather, and learn about clouds along the way with this calming activity.

Resources needed:

- Pen and Paper
- A way to measure temperature (thermometer or weather website)
- Plenty of time!

Things to talk about:

Clouds are formed from water vapor that condenses then clusters together in droplets. Clouds are categorised according to height and shape. The different categories of clouds are then given names based on Latin words, eg nimbus clouds bring rain, stratus clouds appear as layers.



Valentin de Bruyn / Cotton

| Observation 1/2/3 | | | | Time: | |
|-------------------|------------|-----------------------|-------------------------------------|-------------|---------------|
| Drawing | Cloud Type | Level (height) | Colour | Temperature | Rain (yes/no) |
| | | Low Medium High | White Light Grey Dark Grey | | |

Draw out three tables like the one above, and observe the clouds over a period of 3-6 hours. Try to predict what the weather will be later that day.

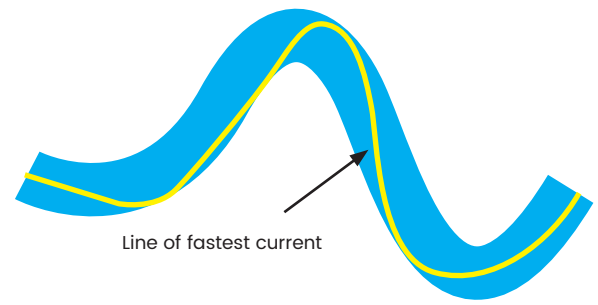
Things to try:

Complete the cloud observations and predict the weather for the next few hours using the information you have gained. Check on a weather report to check if your prediction is correct and to add in extra details.

- Name the types of low-level clouds.
- Name two types of clouds that are between 23,000 and 6,500 feet in the air.
- Research one type of cloud and write about what weather this cloud usually brings.

Geography tactics to win Poohsticks!

This activity is designed to explain why a river bends/meanders and how it changes downstream. This activity will allow children to spot features of a river and put their new learning to the test in a competitive challenge. Rivers is a topic that pupils may go onto study in more detail at GCSE level, so it is a great introduction to get children thinking about the changes along a river.



Key words

River, meander, erosion, fastest flow, sediment, river cliff, river bank, river bed

Resources needed:

- Sticks... or anything that floats if you're willing to jump in and collect it!

Head down to a local river where there is a clear bend and it is safe to throw a stick into the water. This works even better if you can drop them from a bridge. The activity is split into 3 sections...and gives you the opportunity to beat the family at Poohsticks!

- 1) Start off with a game of Poohsticks. All drop a stick into the river at the same point and see whose stick travels the fastest to a set finish line!
- 2) Once you have finished arguing whose stick reached the finish line first, it is time to start learning about the features of a river and why a river bends (known as a meander in geography).

First of all, get your child to point out where the outer bend of the river is.

- Ask them what the difference is between the outer bend and inner bend (if they have not pointed it out, show them how the outer bend has been eroded or worn away by the force of the water).
- Some key words to teach here are that the edge of a river is called the river bank and the eroded outer bend of a river is called a river cliff (it should look like a mini cliff).
- Next, ask you child to point out the inner bend and ask them what differences there are compared to the outer bend. Hopefully you will be able to see that it is a little shallower here with more sediment such as sand and small pebbles dropped at the bottom of the river. There will be less erosion.
- Ask your child why the inner bend might be less eroded and have lots of sediment dropped at the bottom of the river (called the river bed), whilst the outer bend is deeper and has been eroded more.
- Guide them towards the answer that the reason the outer bend has been eroded is because the water finds the fastest route to travel down the river which is a straight line – which creates a zig zag movement (shown in the diagram above). This means that the water on the inner bend is slower and has less energy so all the sediment is dropped here.
- Show them the diagram to help explain what you mean.
- As this continues and the outer bend gets more eroded, this creates an even bigger bend in the river... known in geography as a meander!

- 3) Based on this new knowledge, have another game of Poohsticks! Where is the best place to drop your sticks? Near the outer bend or inner bend? Get your child to justify their decision and have a few goes until you find the perfect drop location!

Protect Your Town!

This activity is designed to explain how the coastline is at threat from erosion and why sea defences are there to protect towns along our coastline. This activity will give children the opportunity to be creative based on what they have learnt. Coastal management is something they will go on to look at in more detail at GCSE level so it is a great introduction to get them thinking about the coastline.



Key words

coastline, erosion, Longshore drift, defences, groyne, sea wall, rock armour

Resources needed:

- An apple or orange, buckets, and spades for building a sand town.

Head down to the beach and look around for an area where you can see the cliffs have been eroded. Try to pick a spot where there are sea defences that you can point out. This activity will be in 5 sections and should take around 2 hours (you should enjoy the final stage!).

1) Point out the eroded cliffs and explain that when it is high tide or stormy weather, the waves will crash against the cliffs. The power of the waves will cause the cliffs to collapse or crumble which we call erosion. *Questions to ask: What will happen to the cliffs when the waves hit them? What could we do to protect the cliffs from the waves? Can you find evidence on the beach where high tide reaches? (look out for the line of seaweed as evidence)

2) Explain how sediments (like sand and small rocks) are transported along the coastline by the dominant wind direction. For example, if the strongest winds are heading in an easterly direction, the water will transport sediment in an easterly direction. This process of the water transporting sediment along the coastline is called Longshore Drift. Once you have explained this, carry out the longshore drift test!

*Longshore Drift test: Throw an apple or orange out to sea far enough so it will not get washed up onto the beach. Follow the direction it goes – this tells you which way longshore drift is travelling and how quickly it moves things! Ensure there are no dogs around who will jump in to collect your floatation device for you!

3) Now that you have looked at the erosion of cliffs and how sediment is moved along the coastline, look around the beach and identify any coastal defences you can see. These could be concrete sea walls, wooden groynes, rock armour, gabion cages etc. Once they have identified them, ask them to think about why the defences are here? Below are some explanations for each defence and how much they cost... (if you are not sure what they look like just type them into Google beforehand).

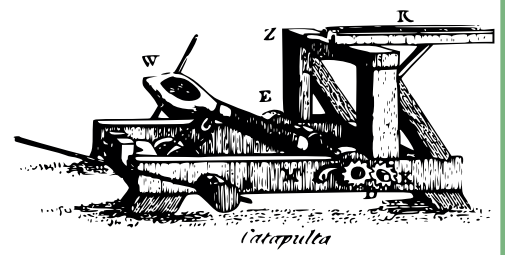
| | What does it do? | How much does it cost? |
|--------------------------|--|---|
| Concrete Sea wall | It reflects the energy of the waves before they hit the cliffs. | Approx. £5000 per metre because they're made from concrete. |
| Wooden Groynes | Designed to trap sediment that is transported by longshore drift. This build up of sand will protect the cliffs from the waves. | Approx. £1000 per metre because the wood is imported from the Amazon. |
| Rock Armour | Large granite boulder that are placed on the beach to absorb the energy of the waves. | Approx. £1000-£3000 per boulder because it's imported from Norway. |
| Gabion Cages | Small metal cages filled with rocks (trendy to have in the garden!). Placed in front of cliffs to absorb the energy of the waves. | Approx. £50 per cage – but they only last a few years. |

4) Based on what they have learnt, get your child to build a town out of sand (get geographical with what things they might need in a town) and get them to build coastal defences to protect it from the sea. Get creative – using logs and woods for groynes and rocks and stones for sea walls. Ask them questions as to what types of defences they are building and why.

5) Finally,...wait for the tide to come in see how long the defences protect the town OR get a huge bucket of water and throw it at the town to see if it survives!

Lolly Stick Launch Catapults

Create a catapult and design an experiment to find out which catapult fires best!



Resources needed for each catapult:

- 5 lolly sticks
- 3 rubber bands
- Something to fire, for example marshmallows, a small tinfoil ball, M&Ms
- A ruler or tape measure

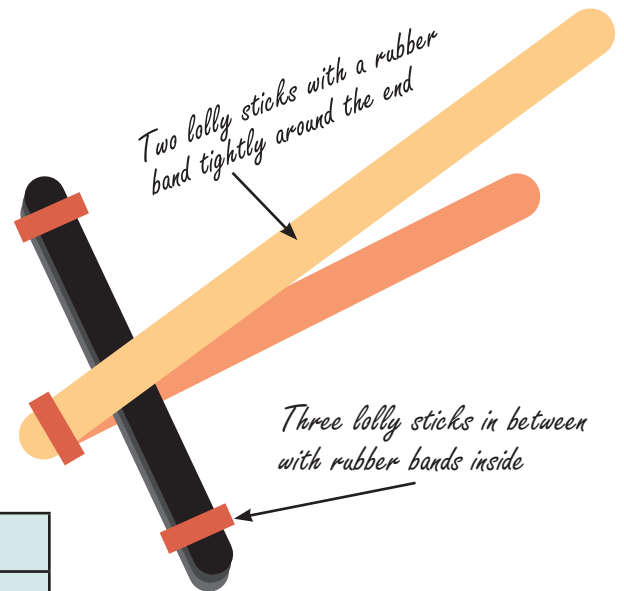
Key words

Elastic potential energy- this is energy stored due to stretching of an elastic object- in this experiment it is the elastic band

Kinetic energy- this is the energy the firing object has causing it to move

Instructions

- Design a minimum of two catapults using sticks and rubber bands, using the diagram opposite.
- Set up your firing range in a clear open space.
- Fire the same object from each catapult multiple times.
- Which fires furthest?
- Can you change your catapult to make it fire further?
- Retest your catapult!



| Test Fire | Catapult 1 | Catapult 2 |
|-----------|------------|------------|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

Challenge!

Using the key words, explain to an adult what is happening to cause the object to move

Things to talk about:

- Which catapult threw the object further? Why?
- Which object will fly the furthest? (marshmallows, M&Ms) Why?
- What happens when you move your firing object closer to the elastic bands?

Why not try:

- Decorating your catapults
- Competing with friends- who can fire the furthest?

Build an Air Cannon

Everything is made up of particles, even the air around us. Can you find a way to use the air to make it strong enough to knock down a tower of cups?

Resources needed:

- Old plastic drinks bottle, can or pringles tube
- Balloon,
- Disposable cups (or something similarly light to knock over)
- Scissors
- Knife
- Sellotape.

Key words

Particles – A small piece of matter.

Force – Strength or Energy due to physical action or movement

Instructions

1. Clean out an empty can, plastic bottle or pringles tube.
2. Cut off the bottom end of the bottle/can/tube with a knife. **Ask an adult to help you!**
3. Cut off the top of a balloon (the bit you blow into).
4. Stretch the balloon over the bottom of the bottle/can/tube and secure with the sellotape.
5. Point the open end of the bottle/can/tube away from you and pull back on the balloon.
6. Let go and watch what happens!



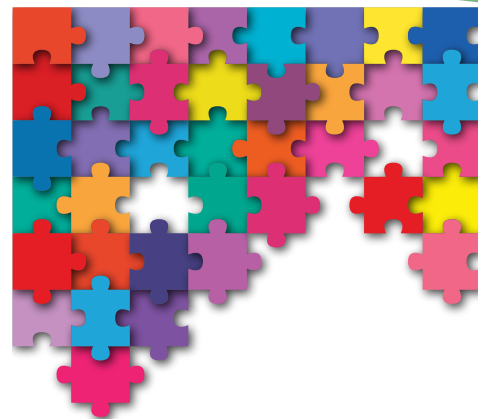
Things to talk about:

- Talk about forces – How big a force can you make? How many cups can you knock over? *When you pull back on the balloon and let go, the particles of air in front of the balloon get pushed forward very quickly, creating a large force. These air particles travel out of the tube and travel to the cups. The force created will knock over the cups. All this happens at such a small scale that you cannot even see it!*
- Compare the size of the bottle – does a bigger bottle/can/tube create a bigger force. Could you investigate by using different size bottles and see which one can knock over the most cups?

Want to learn more?

- YouTube have some excellent videos showing bigger scale cannons here: www.youtube.com/watch?v=LNvluleaRmA
- Why not have a competition with your friends and see how many cups you can knock over?
- Find out the furthest distance you can be from the cups whilst still being able to knock them over.

Who Has the Best Memory?



Give both your language skills and your memory a work-out in this fun and challenging game.

Resources needed:

- Scissors
- Pen
- Blank paper

Instructions

1. Draw two grids (4x4) similar to the one opposite.
2. Write down the words in English in one grid, and the words in German, Spanish or French in the other grid. To make it easier to pair the English with the foreign language, you could put a dot on the back of one set of cards.
3. Now cut both grids into squares, cutting along the lines.
4. Mix all the squares and place them on the table or the floor. The writing should face downwards, so that you cannot see it.
5. The first player turns over two cards. If you've used a dot on the back of one set, turn over one with a dot and one without. Otherwise, there will be two English words, two words in a foreign language or one English word and one word in a foreign language. The player reads the words out loud, so that everyone hears them.
6. The player then turns the squares over again, so that the words are hidden. Make sure to remember the words and their position.
7. The next player turns over two cards and read the words out loud. If it is not a pair (one English word and its translation), it is the next player's turn.
8. If a player turns over two cards that are a pair, the player wins this pair and can take the cards. If a player finds a pair, they will get another turn.
9. The player with the most pairs at the end wins.

| | | | |
|--|---|---|---|
| <p>the apple</p> <p>der Apfel la pomme la manzana</p> | <p>the banana</p> <p>die Banane la banane el plátano</p> | <p>the raspberry</p> <p>die Himbeere la framboise la frambuesa</p> | <p>the strawberry</p> <p>die Erdbeere la fraise la fresa</p> |
| <p>the pear</p> <p>die Birne la poire la pera</p> | <p>the orange</p> <p>die Orange l'orange la naranja</p> | <p>the peach</p> <p>der Pfirsich la pêche el durazno</p> | <p>the cherry</p> <p>die Kirsche la cerise la cereza</p> |
| <p>the lemon</p> <p>die Zitrone le citron el limón</p> | <p>the pineapple</p> <p>die Ananas l'ananas la piña</p> | <p>the tomato</p> <p>die Tomate la tomate el tomate</p> | <p>the pea</p> <p>die Erbse le petit pois la arveja</p> |
| <p>the cucumber</p> <p>die Gurke le concombre el pepino</p> | <p>the pumpkin</p> <p>der Kürbis la citrouille la calabaza</p> | <p>the onion</p> <p>die Zwiebel l'oignon la cebolla</p> | <p>the carrot</p> <p>die Karotte la carotte la zanahoria</p> |

Too difficult?

To help you remember the words, draw a picture of the fruit below the English word and below the translation.

Too easy?

To increase the challenge, you can add more squares. Just use a dictionary and add more words.

Don't like fruit & vegetables?

You can make this game with other words! Just write down the English word on one square and the translation on the other.

Family Worry Box

Everybody can feel worried or scared. It is so important we take the time to talk about our feelings. This activity supports emotional literacy by letting everyone in the family talk about how they are feeling.

Resources needed:

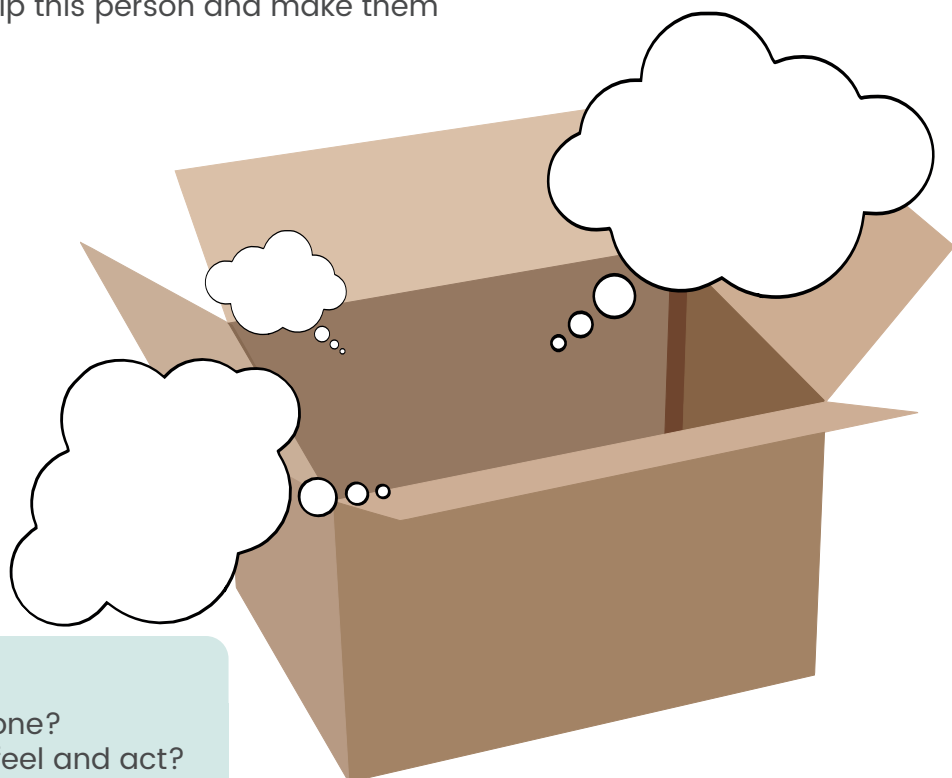
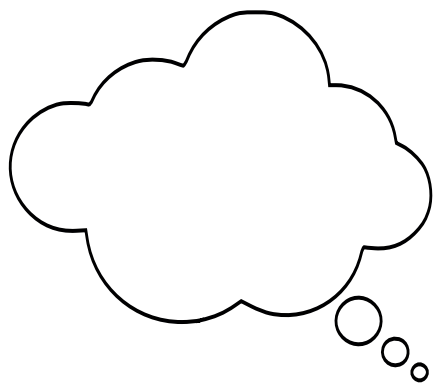
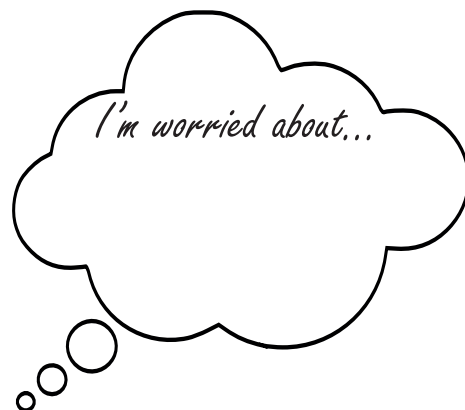
- Shoe box/cereal box... really any type of box will do!
- Paper (or you can make worry bubbles similar to the ones below)
- Pens

Key words

feeling words, for example anxious, scared, worried.

Instructions

1. Find an empty, unused box (cereal box, shoe box for example).
2. Decorate it together as a family.
3. Make a Worry Box Sign and label the box.
4. Draw some worry bubbles and put them next to the box so people can add things at any time.
5. People can add things to the box with words to explain what they are worried about e.g. I am worried about going back to school, or drawings to explain their worries. For older children, you could use the characters from the movie 'Inside Out' to support them in understanding different emotions.
6. When you're all together, choose a worry from the worry box and talk about it. It can work best not to write names on the worries.
7. Discuss what we can do to help this person and make them feel better?



Things to talk about:

- Why would this worry someone?
- How might this make them feel and act?
- Do others share this worry?
- How might we make this person feel better?
- What help can we give?

Where Are We Going Next?

For all students starting at a new school in September! Have fun creating a map of your new journey to school. Along the way you'll have a chance to talk about how to get ready.

Resources needed:

- Paper
- Pens
- Optional: colouring pencils/pens, or craft materials.

Instructions

Create a map of the journey you'll be making in September. Follow the steps below to gather your information and key directions, then enjoy getting creative.

Step 1 – talk about the journey together. You might like to make a list – where does the journey begin? How will you travel? What places will you go past? Who might you see along the way? You could look at your school website for pictures of what your destination looks like.

Step 2 – think about the instructions for your map. What important things do you need to remember? e.g. turn left out of the park, or get to the bus stop by 8.00am

Step 3 – get creative! Time to put all those details and directions down on paper. It's up to you how you do it. You could draw the whole route like a treasure map or choose key things to look out for on the way. Will you draw the journey home as well?

Step 4 – try it out! This might be an activity for another day, but why not try out your journey during the summer holidays, so that you know what expect on that exciting first day?



Key words

Secondary school – the school you go to after you finish primary school, usually at the age of 11. Sometimes it's also called high school.

Things to talk about:

- What are your favourite things to do at school?
- What things might you take with you each day to secondary school?
- How do you feel about going to a different school?
- Do you have any questions about what your school will be like? How could we find some answers together?

Want to learn more?

Saying goodbye to primary school and making a new start is a big challenge for young people, but can also be a worrying time! To help you both get ready for this new adventure, UEA Outreach have created an interactive and engaging resource for you to complete together at home. It's fun, free and full of activities to get you talking together about expectations, concerns and questions. It includes creative challenges, skills building, talking points and more! You might already have received a copy from your school – it's called **Future Stars: My journey to secondary school**. If not, then visit everwondered.uea.ac.uk to download your copy. To introduce your young person to this resource, check out our animated video before completing your booklet.

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