

# Science Challenge



## Ice Fishing

Learn how to use salt and a piece of string to catch ice in this fun and easy science activity: <https://www.youtube.com/watch?v=JQGVA9sY6AI>

### Materials:

- Small paper cups, bowl or an ice cube tray
- Glass of water
- String (yarn/wool or kite sting works great)
- Small stick
- Salt



Image from: <https://pixabay.com/images/id-404966/>

### Instructions:

1. Fill the cup or tray up with water and place it in the freezer – to make ice cubes. *You can also use ice cubes from your freezer and skip this step.*
2. When the water is frozen, remove the ice from the cup or tray.
3. Put the ice in the glass or bowl of water. The cube will bob up and down in the water and then float on the top.
4. Place one end of the string from the fishing pole on top of the ice cube and sprinkle salt on the ice where the string is touching. Watch as the water melts slightly and refreezes.
5. After about 10 seconds, carefully lift the ice cube out of the water with the fishing pole. You caught a fish (ice)!

**Ordinary water freezes at 0° C. When you add salt to water, it lowers the water's freezing temperature - it has to get colder than 0° C to freeze.**

How much colder depends on how much salt is mixed in with the water. The salt you sprinkle on the ice cube lowers its freezing temperature and, since the ice cube can't get any colder than it already is, it starts to melt. A little pool of water forms on top of the ice cube and the string sinks into it. As the ice cube melts, it dilutes the salt/water mixture in the little pool; the freezing point starts to go back up again. The ice refreezes, trapping the string. As soon as the ice cube hardens, you can raise it by lifting the string. All this happens very quickly, of course.

Activity from: sciencefun.org



# Technology Challenge



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

## Safely Searching the Internet

The Internet is full of wonderful things. It's an amazing invention! People all over the world put things on the Internet to share with others. Because of this, we need to make sure we stay safe online.

One way of keeping ourselves safe is using special child-friendly sites to search the internet. These include:

- [www.safesearchkids.com](http://www.safesearchkids.com)
- [www.swiggle.org.uk](http://www.swiggle.org.uk)
- [www.kiddle.co](http://www.kiddle.co)



Image from: <https://unsplash.com/photos/SVmUgfl-Fjg>

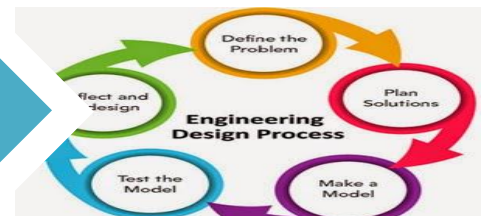
**With an adult can you use the internet to find out some facts about polar bears?**

**You might want to think about:**

- Where are they found?
- What do they eat and how do they hunt?
- How big are they?

**Can you find some good pictures of polar bears? Choose your favourite and use it to create your own picture of a polar bear using materials you have around the house.**

# Engineering Challenge

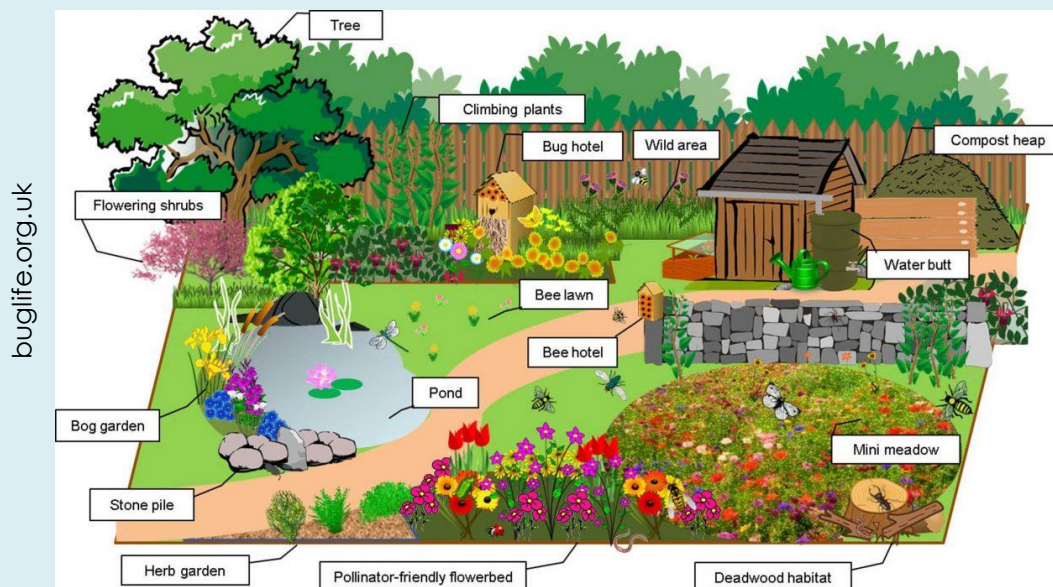


This Photo by Unknown Author is licensed under [CC BY-NC-ND](https://creativecommons.org/licenses/by-nc-nd/4.0/)

## Animals and Climate Change

Climate change is affecting all living things on earth. We can make changes to the way we live and the way we use the earth's resources. But what do animals do when the world around them changes? Watch the video in the link below...

### [Climate Change and Animals](#)



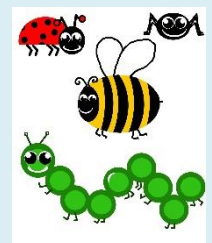
What can we do to help? Firstly, we can look after the wildlife that live in our own environment. In the diagram above there are lots of ideas of things that we can do to help insects in our gardens.

### Your task:

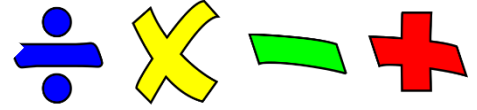
Look at the diagram and choose some of the bug helping ideas that you can try in your own space. You collect stones for a stone pile or build a deadwood habitat.

Could you be a little more adventurous and build a bug hotel??

Check on your work regularly to see what bugs you are helping.



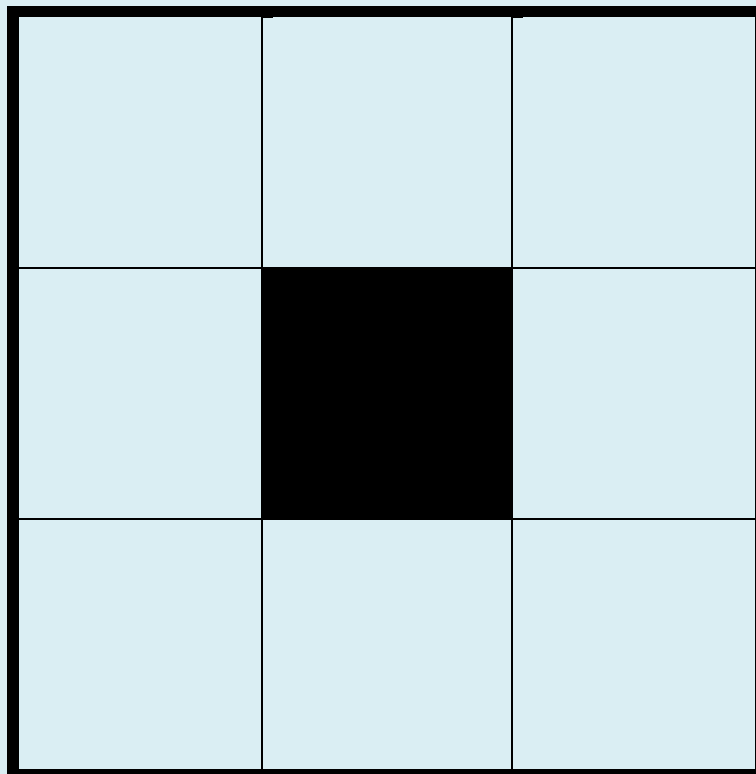
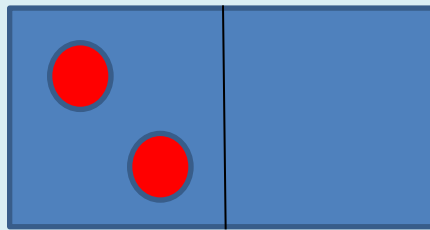
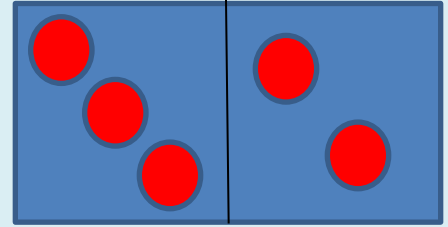
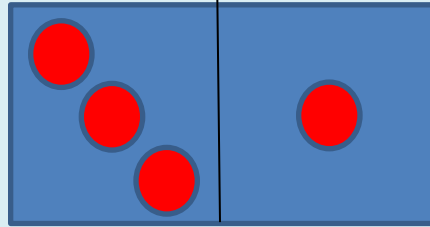
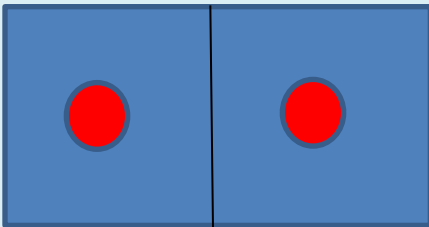
# Maths & Numeracy Challenge



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

## Adding Dominoes

Can you use the dominoes to fill the grid so that each side adds up to 5?



# Literacy Challenge



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

## Winston of Churchill – One Bear's Battle Against Global Warming

### Activity 1 – Listen to the story

Winston the bear lives in Churchill, Manitoba, the polar bear capital of the world. Much like a certain other famous Winston, when Winston the bear speaks, others listen. He rallies the polar bear community together, and urges them to join his campaign against global warming.

- Follow this link to watch and listen: **(Please have an adult check this first)**  
[https://www.youtube.com/watch?v=2\\_p7iY1cdf0](https://www.youtube.com/watch?v=2_p7iY1cdf0)
- **Have a chat with an adult about these questions:**
- Can you remember what happened in the story?
- What was the problem Winston and the polar bears had?
- What does Winston want us to do?
- Can you think how we can help Winston?
- What will happen if we do this?
- What could happen if we don't?

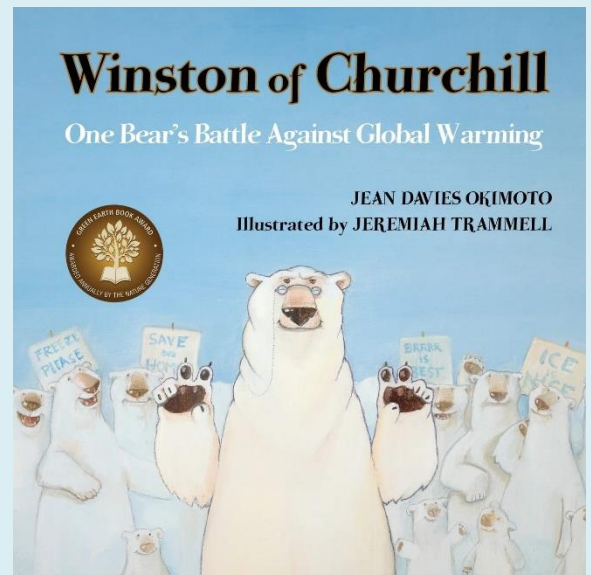


Image from: amazon.co.uk

### Activity 2 – The letter 'P'

The word **polar** begins with the letter **p**.

**How many things can you find** around the house that begin with the letter **p**?

On a piece of paper, **draw pictures** of all the things you have found. If you can, **write the words** for what they are next to them.

# Health & Wellbeing Challenge



## Food Miles

### What are Food Miles?

All food makes a journey from where it is grown or produced to your plate. How far food has travelled is known as its food miles. We should be aiming for as few miles as possible.

Choosing foods with fewer food miles helps reduce pollution and protect our planet.

### Healthy snacks such as strawberries and oranges can help explain food miles:

- Strawberries grown and sold at a local farm have travelled very few food miles before they reach our plate.
- However, oranges grown in Spain and then transported to our supermarkets by plane and lorry have travelled a lot further.
- The local strawberries produce a smaller number of food miles than the oranges that travelled from another country.



Image from: BBC Bitesize

### Challenge:

With the help of an adult, can you investigate where some of the food in your house has come from?

- The labels on packets of fruit and vegetable are a good place to start.
- Which food has travelled the furthest?
- Can you find out more about the countries where the food has come from?

# Social Studies Challenge



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

## Pollution in the Oceans

Our oceans are filling up with rubbish that we throw away from our homes. Some of the items are man-made, which means that someone has had to design it and make it out of other things, like the plastic lego you can see below. Other things are natural, which means they occur without any human help. The cat's fur in the picture is an example of this. Man-made things often take a long time to break down and disappear, so they float around in our oceans and cause lots of problems for marine life and birds.



### Your Task:

Can you look at each of the pictures and decide if they are man-made or natural? Put them into two separate groups. Which ones do you think will cause most pollution in our oceans? Why?

Pictures from twinkl.com

# Expressive Arts Challenge



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

## Junk Animals

The animals on earth are affected by climate change just as much as we are. Sometimes even more! The rubbish and waste we create also causes lots of pollution which can spoil the habitats animals live in. So instead of creating more junk, let's use the junk to make animals!!

Look at these two junk models...

Images from [freekidscraft.com](https://www.freekidscraft.com)



These have been made using plastic bottles, scrap paper, empty toilet roll or kitchen roll and any other (clean) rubbish and waste products that could be found around the house.

1. Collect as many different types of (clean) rubbish from around your home as you can find.
2. Look at what you have and decide which animal you could make from it.
3. If you can't think of an animal, design your own.
4. Be as imaginative as you can and start to put the pieces together to make your junk animal.
5. If you need to cut or stick things, you can always ask an adult for help.