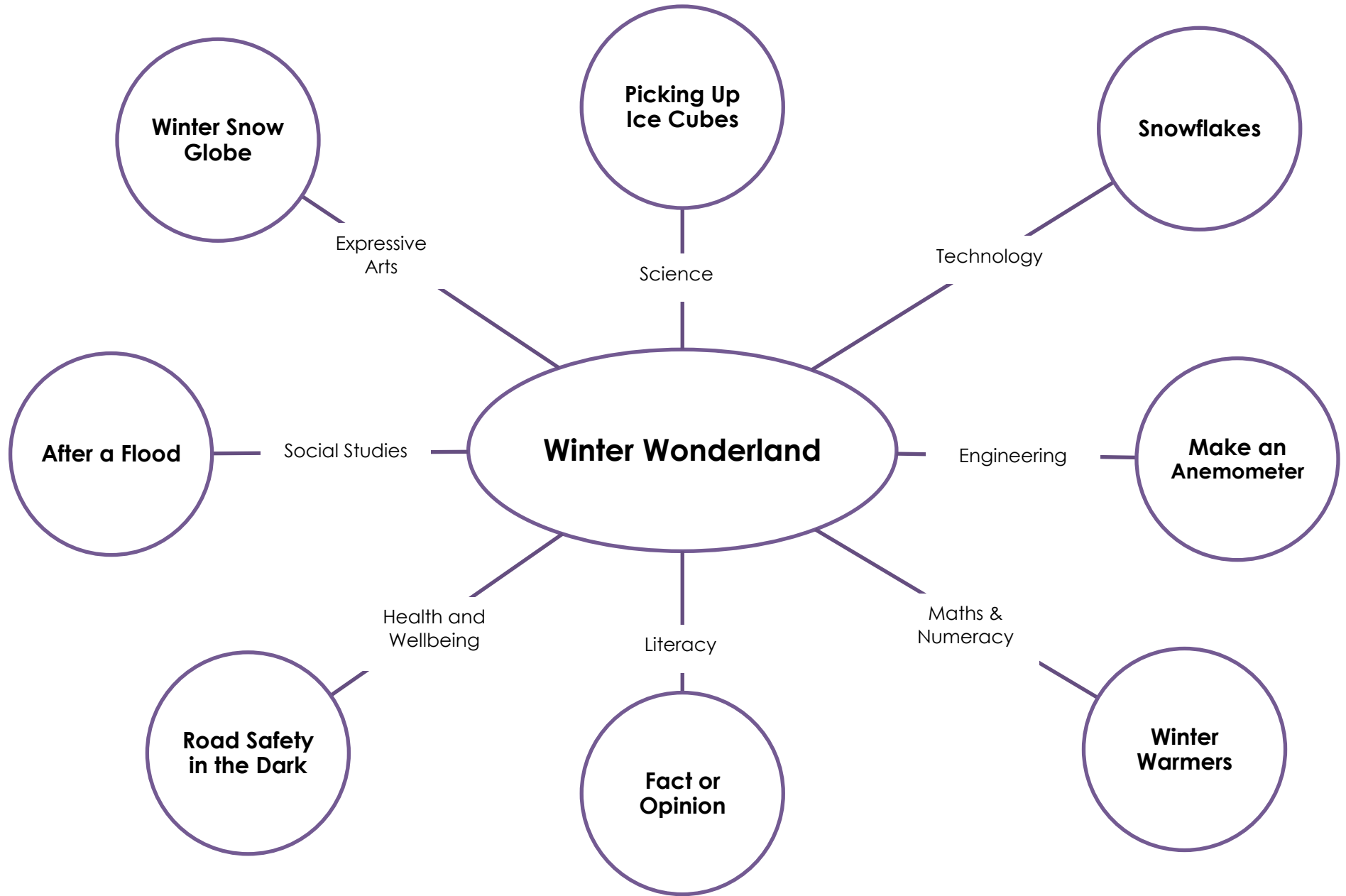


# Learning from Home



# Science Challenge



## Picking Up Ice Cubes

**\*Check with an adult to make sure you have some ice cubes made in advance\***

**Can you pick up an ice cube using only a piece of thread?**

### You will need:

- ice cube
- thread
- salt
- glass of water filled up nearly to the top



### Method:

1. Drop the ice cube into the glass of water.
2. Have a go at picking up the ice cube using only the thread. You could try making a loop around it or come up with some other way. Could you do it?
3. Now lay the thread on top of the ice cube with the ends dangling over the side of the glass.
4. Sprinkle salt on top of the ice cube and thread. Leave it for a few minutes.
5. Take both ends of the thread and pick them up.
6. Lift up the ends of the thread and hold them up high. What happens to the ice cube?



### The science:

Saltwater freezes at a lower temperature than normal tap water. The salt melts some of the ice so that the thread goes slightly inside the ice cube. The water then freezes again over the thread, trapping it inside the cube. So, when you lift up the thread, the cube comes with it.

Images from Pinterest

# Technology Challenge



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## Snowflakes

### Did you know that all snowflakes are different?

While snowflakes appear to be white as they fall from the sky or as they gather on the ground as snowfall, they are actually totally clear.



The ice though, is not **transparent** like a sheet of glass in a window but rather it is **translucent**, meaning that while light gets through, you can't see any objects or shapes through it.

To watch a short video about snowflakes click here: <https://www.youtube.com/watch?v=rbW6MsXfPYU>

### To make your own snowflake you will need:

Paper - cut into a square (The smaller the paper the harder it will be)  
Scissors

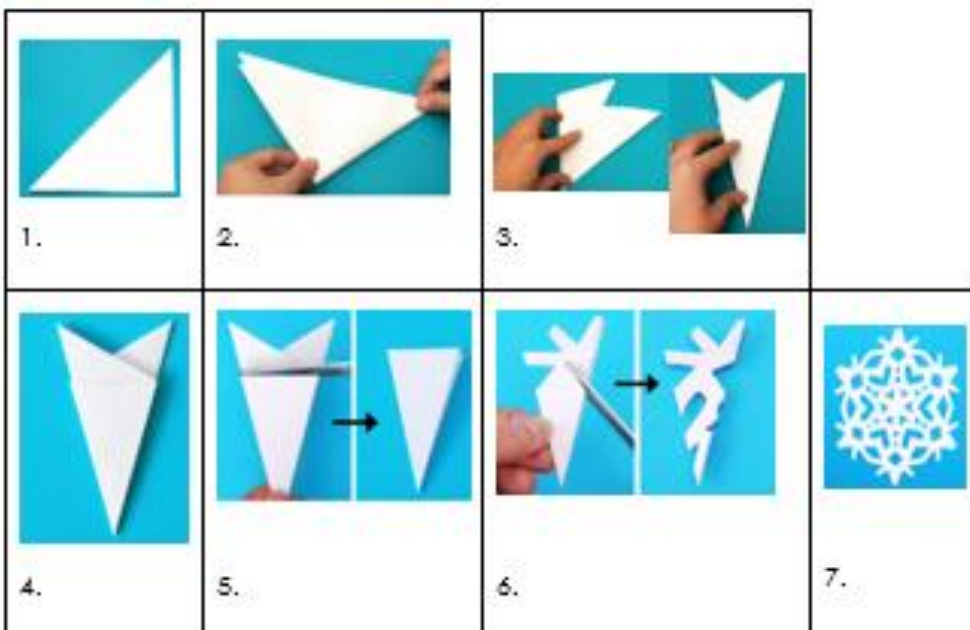
**Adult supervision is required**



### Instructions:

1. Fold the paper in half along a diagonal line to make a triangle.
2. Fold this triangle in half to make a smaller triangle.
3. Next, fold the triangle into three equal sections, folding the two outer sections to the front.
4. Flip the shape over so that you can see the flat horizontal edge is facing the front.
5. Use your scissors to cut along the horizontal edge.

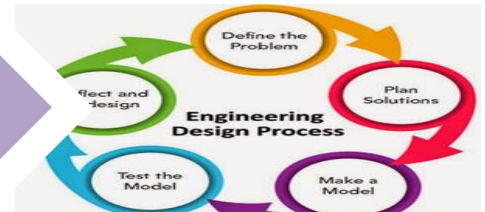
6. Very carefully hold on to your paper and start to cut random shapes out of the edges.
7. Carefully unfold the paper to reveal your paper snowflake.



Instructions and pictures from [www.firstpalette.com](http://www.firstpalette.com)

Photos from: [www.metoffice.gov.uk](http://www.metoffice.gov.uk)

# Engineering Challenge



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## Make an Anemometer

An anemometer is used to measure wind speed.

### Things You Need:

4 small paper cups

Pencil with a new eraser

4 plastic drinking straws

Straight pin

Scissors

Tape

Timer

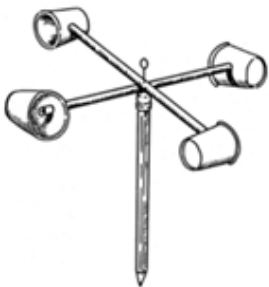


### Instructions:

1. Cut off the "bendy" part of the straw and arrange the 4 plastic drinking straws to form a cross and tape them together at the centre.
2. Take 1 plastic cup and design the cup anyway you want. This will be the one you use for counting when the anemometer spins so make sure it stands out.
3. Tape the top side of one drinking cup to the end of each straw, so the open ends of the cups all face the same direction.
4. Push a straight pin through the centre of the straws into an eraser on the end of a pencil. This provides the axle.
5. Blow on the anemometer or turn an electric fan on low to make sure that it spins easily. How many times the anemometer will spin in one minute?

### How to use:

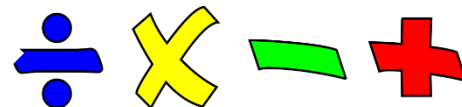
1. Mount or hold the anemometer in a place that has **full access to the wind from all directions**. (Or you could ask someone at home to hold the anemometer while you count the spins, but this could be tricky for you if it is spinning very fast.)
2. Count the number of times your anemometer turns fully in 1 minute, keeping your eyes on your decorated cup. The higher the wind speed the faster it will turn!



**NOTE:** When using this anemometer, 10 turns per minute means the wind speed is about one mile per hour. (20 turns per minute = 2 miles per hour etc.)

Activity and images from TES

# Maths & Numeracy Challenge

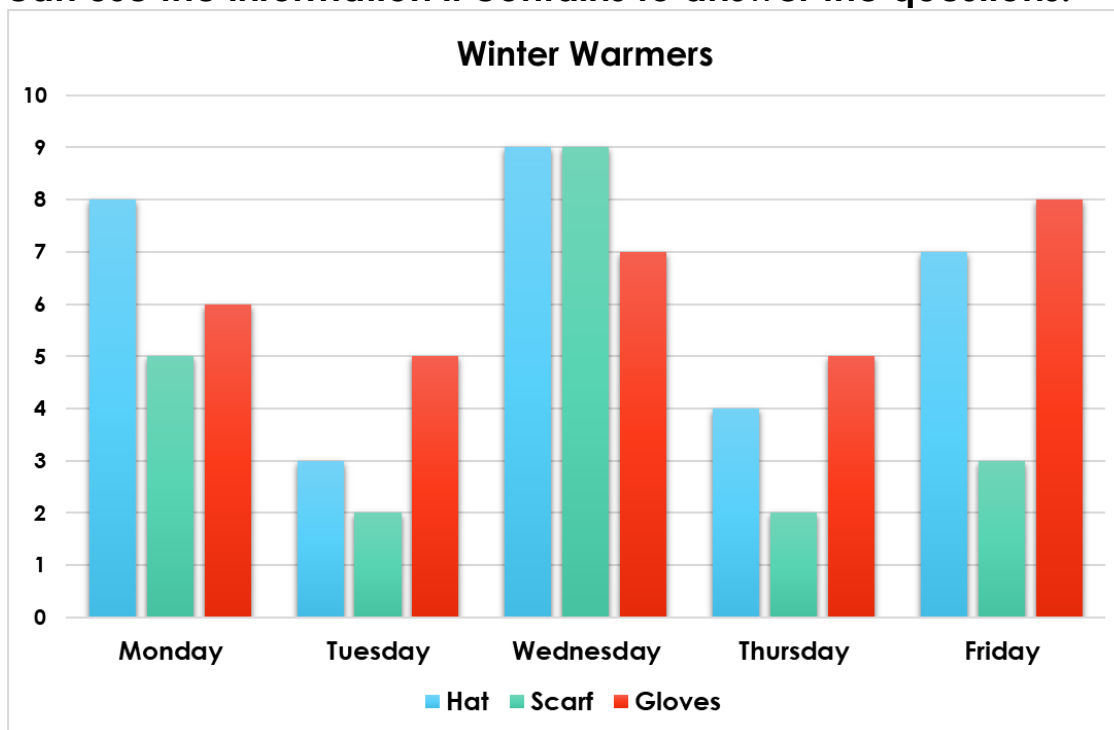


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## Winter Warmers

This bar chart shows the number of boys and girls who wore a hat, gloves and scarf to school last week.

See if you can use the information it contains to answer the questions.



### Questions

1. How many children wore a scarf on Tuesday?
2. How many children wore a hat on Friday?
3. On which day did 5 children wear a scarf?
4. One more child wore gloves compared to the number who wore a hat on which day?
5. On which day did the same number of children wear hats and scarves?
6. 10 children wore scarves altogether over which 3 days? Is there more than 1 answer?

### Extension:

Try to make up your own question based on the chart - ask a grown up at home. Can they find the answer?

# Literacy Challenge



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## Fact or Opinion

**Facts** – tell us about things which are known to be true.  
**Opinions** – tell us what somebody thinks or believes.



Read each statement below carefully and decide if it is fact or an opinion.

Write 'Fact' or 'Opinion' next to each one in the space provided.



Statement	Fact or Opinion
1. There are four seasons in a year.	
2. Winter comes after Autumn.	
3. Mint is the best flavour of ice cream.	
4. Winter is the coldest season of the year.	
5. Everybody gets the cold in Winter.	
6. All dogs love long walks in Winter.	
7. December is the best month of the year.	
8. We all love a hot chocolate on a cold day.	

Now make up sentences of your own relating to Winter. Write two which are facts and two which are your opinion.

Share them with a grown up at home – see if they can they tell which are fact and which are opinion.

Images from clipart-library.com



# Health & Wellbeing Challenge

## Road Safety in the Dark

When you travel to and from school it is important to do so safely, following \* **The Green Cross Code** and using your common sense.

Click here to play a game about road safety:

[https://www.think.gov.uk/games/take\\_the\\_lead/take\\_the\\_lead.html](https://www.think.gov.uk/games/take_the_lead/take_the_lead.html)

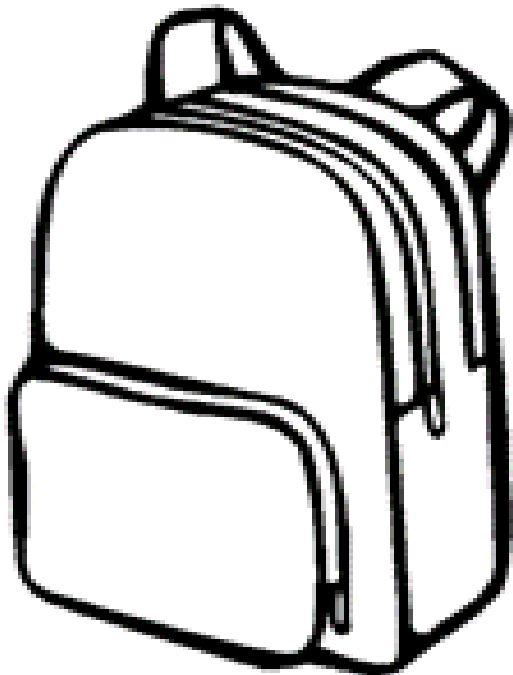


It is much harder to see when it is dark than when it is light. In Winter it gets dark much earlier and there is less light in the mornings. This means it could still be dark when you travel to school, and it could be starting to get dark again when you make your journey home. This means it is even more important that you make an effort to stay safe.

**Watch this clip** from **BBC Bitesize** which shows Wee Willie Winkie investigating what to wear before going out on a dark night. <https://www.bbc.co.uk/bitesize/clips/zs3ygk7>

1. What do you think happened that night which caused Willie's accident?
2. How could reflective clothing help keep you safe if you are out in the dark?

If you can't be seen by drivers, then this could be very dangerous. Wearing bright colours and reflective materials helps other people to see you in the dark. However, they will only work when a source of light, such as a torch, streetlamp or car headlight, reflects off them. This is another reason why you should avoid shortcuts and stick to main routes when out in the dark, as they tend to be better lit.



**Activity:** Decorate this school backpack to make it easily seen in the dark. Think about the using bright colours and adding reflective strips, clips or toggles.

Click here for a useful PDF full of information about road safety and the Highway Code:

<https://www.think.gov.uk/wp-content/uploads/2020/07/Tales-of-the-Road.pdf>



Ideas and image from [www.think.gov.uk](http://www.think.gov.uk)

# Social Studies Challenge



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## After a Flood

Winter weather in Scotland tends to be more extreme than that seen in other seasons. Many houses and businesses were flooded in our region recently after a storm. Think about how you might have felt if your home had been flooded and some of your things were damaged or destroyed.

**List 3 things that could be broken or damaged after a flood in your home.**

1.

2.

3.

**How might your house change?**



**What would you miss most?**

**How could you protect it?**

**List 3 things that are important to you that wouldn't be damaged by a flood**

Activity and image adapted from: [www.sepa.org.uk](https://www.sepa.org.uk)



# Expressive Arts Challenge



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## Winter Snow Globe

### You will need:

- 2 paper plates, one with the centre cut out
- 1 clear ziploc (resealable) food bag
- Plain white paper
- Colouring pens /pencils
- Scissors
- Stapler
- Confetti, paper from inside a hole punch or small shiny sequins, glitter, ribbon etc.



Adult supervision may be required with this activity

### Instructions:

1. Cut out the inside circle of one of the paper plates as seen in the photographs.  
**(Plate 1)**
2. Now carefully use the inside circle of this to draw a template on your piece of paper – this will be the area you decorate with your winter scene.
3. You could draw a snow man, winter trees, a robin redbreast or you can choose your own idea.
4. Next you may want to add some light decoration to the outside of plate 1 – perhaps some glitter or sequins.
5. Cut around the circle on your paper and place your drawing inside the Ziploc bag. Add some of your confetti and / or other items. Seal up the bag.
6. Now place your ziploc bag on top of plate **2**, making sure any edges are tucked away neatly out of sight.
7. Place plate 1 on the top as shown in the pictures.
8. Now staple carefully around the edges to put everything together.
9. Well done, your snow globe is complete!



Idea and images from PINTEREST (Under paid Over Blessed)