Ice Rescue Challenge

Today in science we are going to be thinking about changes in states of matter.

What happens to water when it gets very cold?

That's right – it **freezes** and turns to **ice**. It becomes **solid**. To become ice water needs to be at a temperature below **0 degrees centigrade**. This can happen outside in the winter or in our freezer (usually freezers are below 18 degrees centigrade!)

When something is **solid** it has a **fixed shape**. Look at the picture of the ice and water in the glasses below. Can you spot the differences between them?

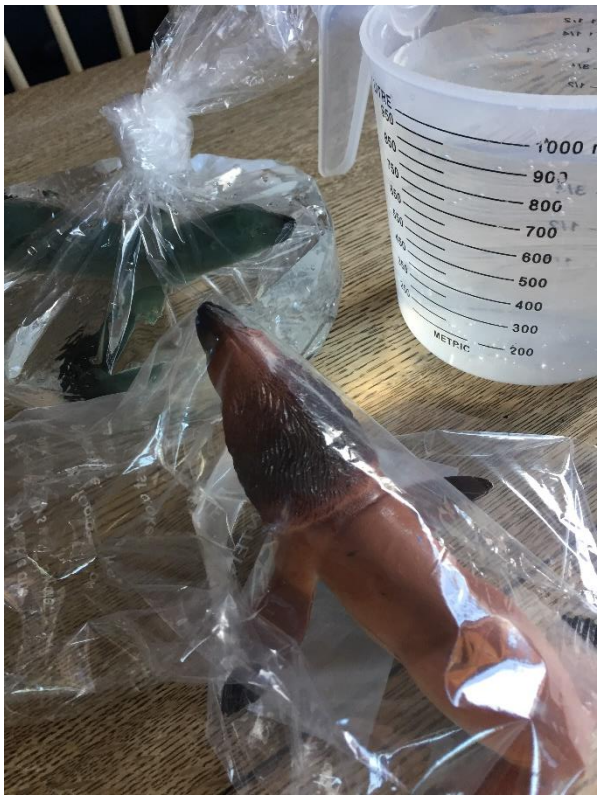
What happens to ice when we warm it up above 0 degrees centigrade?

That's right – it begins to **melt** and turns back into **liquid water**.

When something is **liquid** it can **move to take the shape of thing of the container it is in.**

Look at the picture of the stream and the icicles. What is the water doing that the icicles can't do?

Today we are going to investigate how to turn water from solid ice to liquid water.



You will need to freeze some toy animals inside bags of water/ ice cube trays to begin with.

We need to create a fair test (this means everything apart from the thing we are testing stays the same) so try and measure out the water with a jug and freeze each animal with the same amount.

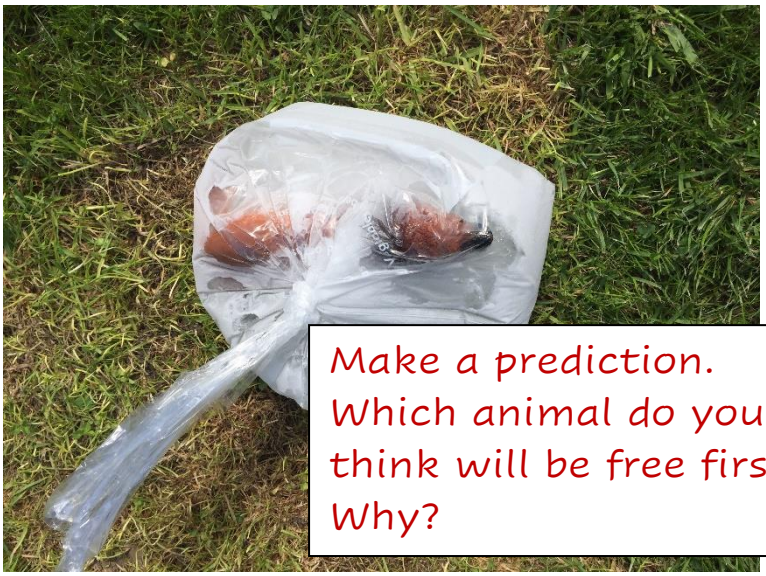
- PLEASE BE CAREFUL TOUCHING ICE AS YOUR SKIN CAN STICK TO IT AND YOU CAN HURT YOURSELF.
- DO NOT USE ANYTHING HOT WITHOUT ASKING AN ADULT FIRST.
- STAY SAFE

Whilst the water is freezing think about the different ways you could try to melt the ice and free the creatures. What is needed to melt ice? What can you try? If you are stuck some of my ideas are on the page below.

Fill in this table.

Method of melting ice.	Time it took to free the animal.

I put one of the ice blocks out in the sunshine in the garden, one in the hot shower, one in a bowl of warm water, one in a warm kitchen and wrapped one in a towel.



Make a prediction. Which animal do you think will be free first? Why?