



MELTING ICE INVESTIGATION

You will need:

- You can use ice cubes for this project, but it's nice to have larger pieces of ice for your experiment. Freeze water in shallow plastic containers such as disposable storage containers for sandwiches or leftovers. Only fill the containers part way to make relatively thin pieces of ice.
- Salt
- Food colouring or watercolour paint
- A messy tray (to catch the food colouring and melting ice)
- Pens and pencils to draw and colour with
- Teaspoons
- A pipette if you have one (an extra teaspoon or thin paintbrush if not)

This investigation aims to introduce the concept that matter (a substance), in this case water can exist in different states and visually demonstrate a change of state from solid water to liquid water through a fun process which is accelerated by the use of salt. Salt speeds up melting because it lowers the freezing point of water to well below 0 degrees and therefore speeds up the melting process. Think about how the sea doesn't freeze even if there is ice on land in our country. Salt water needs to be a much lower temperature than fresh water in order to freeze.

Next: Try some observational drawing of the melting ice with the food colouring or take some pictures. As always you can share pictures with us on our social media or by emailing atomsvonni@gmail.com.

METHOD

1. The day before your investigation freeze water in shallow plastic containers such as disposable storage containers for sandwiches or leftovers. Only fill the containers part way to make relatively thin pieces of ice.
2. Take your ice out of the freezer and remove it from the tubs and put the ice into your messy tray. (If you are struggling to get the ice out of the tub running the bottom of the container under a warm tap for a couple of seconds will help.)
3. Take a pinch of salt and sprinkle it across the surface of your ice and observe for few minutes. What happens? Are there any changes? Why do you think this is happening?
4. Now dip some food colouring or paint over the ice and see what happens. Keep watching, where does the food colouring go?
5. Now using a different piece of ice try making a pattern with your salt or maybe the initial of your name. Repeat the steps above to see your ice art.
6. Finally what happens if you put a larger amount of salt on the ice. Add some food colouring too.

KEY VOCABULARY

solid	liquid	gas	water
ice	state	changing state	
melting	temperature	salt	
accelerant	chemical reaction		
sea	salt water	fresh water	

ACTIVITY TIME: 30 MINS TO 1 HOUR