

Kit list



To carry out these explorations you will need:

- Ø An ice balloon, (leave a balloon filled with water in the freezer for 2 days)
- Ø Scissors
- Ø Table salt, rock salt or both
- Ø Food colouring (optional)
- Ø Spare ice balloons (optional)

Time: 20 minutes (plus follow up observations throughout the day)



Working Together at home and school

To develop the important skill of explaining experiences to others, teachers often encourage children to talk about things they do at home. Give children objects and photographs to take to school to support both the teacher and child with these conversations. If your child has difficulties with communication, it can be helpful to let the teacher know about any news as this will make it easier for them to support your child.

Important words to understand:

Children will need to hear and start to use the words **melt**, **melted** and **melting**, and **freeze**, **freezing** and **frozen**. Support the use of words to describe the ice such as **cold**, **slippery**, **smooth**, **wet**, **cracked** etc. Children may also hear you use the words solid and **liquid**.

Getting messy

Melting ice is inevitably wet! Take the same precautions as you would for water play such as plastic aprons and floor coverings. Keep the ice in a large bowl or tray to catch any drips.

Watch out!



Be aware that skin can stick to very cold ice and if your freezer is particularly cold wait a couple of minutes after taking the balloon out before starting the activity. Mop up any spills promptly to avoid the risk of slipping.

Salt and Ice

- Ø This activity works well during a spell of icy weather.
- Ø Start by giving the child a balloon filled with air and the ice balloon to compare. If you think children might drop the ice balloon, due to slipperiness or coldness, ensure that they hold it over a tray.
- Ø Encourage them to notice and talk about the differences including how much colder and heavier the ice balloon is. They may also be interested to notice that the ice balloon is wet (although they are too young to fully understand condensation at this age).
- Ø If the rubber is still intact after the freezing process help your child to cut it away from the ice balloon.
- Ø Together look closely at the ice balloon. You will notice marks, cracks, and patterns within the ice.
- Ø Ask your child to pour a small amount of salt on top of the ice balloon and notice what happens.
- Ø A few drops of food colouring can highlight the patterns within the ice and show how the ice around the salt is melting more quickly than the rest of the ice balloon.
- Ø If you have more than one ice balloon it would be interesting to leave one without salt. Even after the initial exploration has ended children could be encouraged to observe what is happening and to compare the two balloons.

We are scientists!

Children frequently enjoy science activities without understanding the relevance of science to their daily lives. Help them to link their investigations with salt and ice by drawing their attention to when this phenomenon is used in their daily lives. For example, if they see road gritters in action or spot roadside grit bins. Even more pertinent might be if they see the school groundsman spreading salt on the playground at the start of a frosty school day.

IndusTRY IN SCHOOL!

Homework

If there is no freezer in school, ask children to bring ice from home while these investigations are taking place. This is likely to lead to children discussing the phenomenon of water freezing and water melting at home as well as school which is a useful way to reinforce their learning. There will also be problem solving opportunities as they discuss with their families how to transport a lump of ice safely and without it melting too much.

Top tips for child-initiated play

Teachers can enhance the quality of child led learning if they spend time observing how children choose to interact and play with materials such as ice. They can then plan adult guided activities in the parts of the classroom that children choose to spend most time such as construction, role play or outside. They can also build on what they have seen children do, for example, if children become excited by how easily lumps of ice slide across a surface, they could plan an activity where children explore the friction of different materials.

Career Links

A role play area where children can explore the idea of being scientists and engineers is one way of helping children to start to see themselves having a future STEM career. However, this will be even more powerful if children can do real science in this area. During this topic adding lumps of ice and salt to the science role play area will enable them to continue their explorations in role as a scientist.

Questions for thinking

- Ø I wonder what will happen if we put sugar or flour on the ice?
- Ø Where has the ice gone?
- Ø Where has this water come from?
- Ø How can we make the ice melt even faster?

I wonder why the puddles were icy on the way to school today.



TAKING IT FURTHER

Follow up activity:

Capitalise on frosty weather by making 'ice-mobiles'. These are made by freezing small found objects such as feathers, berries, and leaves in small shallow trays of water (takeaway tubs work well). There will be lots of problem solving as the beautiful arrangements tend to float away as soon as water is added. Children will also need to work out how to attach a string if they are going to hang them up.

