

Everyday experimenting
for primary schools:

Melting ice



Water can exist in three different states:

- Ice is the **solid** state of water
- The water that comes out of our taps, flows down our rivers and falls as rain is the **liquid** state of water
- The steam that comes out of our kettles is the **gas** state of water

Pure water will change into ice at 0°C and into steam at 100°C

Which do you think will melt faster - pure ice or ice with salt sprinkled on it? Let's investigate.

What you need

- 2 bowls
- 2 thermometers that can read below 0°C
- 8 ice cubes
- Salt

What you do

1. Place 4 ice cubes in each bowl (remember fair testing!)
2. Place a thermometer in each bowl, and record the temperature. What do you notice? Yes, the temperature of the ice in each bowl is the same
3. Sprinkle salt on the ice cubes in one bowl as shown
4. Observe closely what happens to the ice cubes in each bowl and the temperature reading on the thermometers



What happens?

1. The ice cubes with the salt sprinkled on them melt more quickly than those in the bowl with no salt on them
2. The temperature reading on the thermometer in the bowl with the ice cubes and salt drops below zero, while the temperature reading on the thermometer in the bowl of ice remains at zero as the ice melts

Why?

Adding salt to the ice lowers the freezing point of water, therefore the ice melts.

In the above activity we saw that sprinkling salt on ice makes it melt. During the winter salt is often spread on ice-covered roads to make them safer.