FortWhyte Alive
HUMAN. NATURE.

MAKE YOUR OWN FROST

Students will investigate what frost is and what causes it to form as fall approaches. Prior to activity make sure to discuss seasonal changes and the differences between snow and frost.

MATERIALS

You will need a clean empty tin can, crushed ice, water, salt, and some paper towel.

THE ACTIVITY

1. Fill the tin can about half full with ice and add some salt and water.
2. Place it on a wet paper towel.
3. Wait and watch the frost form.

Applications: Science.

The air around us can hold a lot of water which is called water vapour. You can't see it but it's usually there (especially in a kitchen). We can often see this water vapour when it condenses on windows, cars, grass and cobwebs. We call this dew. Cold surfaces generally make the water vapour condense because colder air can't hold as much water so what it can't hold turns into droplets on surfaces. If the surface is very cold (below the freezing point of water) the condensed water vapor freezes, this is what we see as frost.

In our experiment we filled a can with crushed ice and a bit of water. This makes the water and the can sit at around the freezing point of water (zero degrees Celsius). However we need to get it even colder and we do this by adding salt. Salt lowers the melting point of ice (and we might investigate this process later on), but by doing so it means that the surface of the can is actually below freezing point. This makes the water vapour in the air (and you can make sure there is some by putting the can on a wet paper towel) condense and freeze on the can.

If you are interested in sharing your project's results, or would like more ideas on teaching outside at your school, please contact FortWhyte Alive by email at education@fortwhyte.org.