

In School Activity Ideas

These activities require readily available materials and may be carried out before a visit to Questacon or as follow-up activities. They should be trialled before using in class and safety aspects given due consideration.

Natural Forces

Mini Tornado

- Create a mini-tornado with two PET soft-drink bottles. Fill one to $\frac{3}{4}$ with coloured water and join them top-to-top (Joining devices available from the Questacon shop, or similar retail outlets. Otherwise tape a small washer between the two bottles to narrow the gap.) Give them a swirl and watch a mini-tornado form as the water moves from one bottle to the other.

Mini Volcano

- Create a mini-volcano with a soup-can. Mould plasticine around the soup-can to simulate a mountain. Half to $\frac{3}{4}$ fill the can with vinegar and add red food dye. Finally add a spoonful of bicarbonate of soda. Discuss the difference between this and a real volcano.

Mini Storm Cloud

- Thoroughly wet the inside of a very large jar. Light a match, blow it out and drop it into the jar. Quickly place a thin latex glove over the top of the jar so that the glove is dangling into the jar. Put an elastic band around the top of the jar so that it completely seals it. Pull the glove out of the jar, while keeping the jar still sealed. What do you see? What change in the jar caused the cloud to form?

Being in a Natural Disaster

Emergency Plan

- Formulate an emergency plan for:
 - Cyclone
 - Bushfire
 - Earthquake
 - Landslide
 - Flood
 - Severe storm

Where in your local area could you be safe from each disaster? What would you need in a survival kit? Are there any protective measures in common to each disaster?

Being There

- Collect pictures of a natural disaster from the newspaper or the Internet. Write the diary of someone caught in the disaster.

The 6 o'clock News

- Select an Australian natural disaster. Find out as much as you can about it. What caused it? Was there any warning before it happened? Were there any ways to prevent it, or at least reduce the impact of it? Re-enact the disaster with the class. Film it and file a report for the 'evening news'. Write a newspaper report describing the disaster.

Convection

Dizzy Snake

- Draw a spiral on a square piece of paper. Cut along the spiral line then with a cotton thread, dangle the spiral from its centre above a lit candle. Compare it with a spiral dangled above an unlit candle. Explain what is happening.

Propeller Head

- Using tracing paper or another very thin paper, trace and cut out the propeller shape. Crease it along the dotted line then balance it on the tip of a pencil. Rub your hands until they are warm then hold the pencil near the tip. What happens to the propeller?

Thyme on Your Hands

- Fill a deep transparent oven-proof dish with vegetable oil and stir a tablespoon of dried thyme through it. Note the change in the oil once it is placed over two candles for a while. Watch one flake of thyme. Where does it start? Where does it move to?

High-rise Bubbles

- On a really cold winter's day (if you have any), warm up some bubble mix and go outside to blow bubbles. Try waving the bubble wand to capture cold air. What is the difference between blowing hot breath into the bubbles and capturing cold air in the bubbles? Why do the hot bubbles float up?

Rocks

Rock Rummage

- Hide a rock collection with pairs of similar rocks in the sand pit. Explain that a landslide has covered all the rocks that were previously on the surface. Sift through the sand to find the rocks and classify them into pairs. Discuss what features determine which rocks are pairs.

A Complete Fizzer

- Bring in assorted rocks from home. Compare the rocks and classify them into groups on the basis of their physical features (ie. softness, colour). Give each group a name. Place a rock from each group into individual glasses of warm white vinegar. What happens to the rocks? Which ones fizz?

Rock and Hole

- Dig a hole in the school grounds. Every 10 cm collect a small jar of dirt. Save anything else you find too. Compare the dirt from different depths. Does it look different? Does it feel different? Try comparing dirt from the same depths but different locations. Return the dirt to the hole. Does it fit? Try stomping on it. Discuss compacting of soil.

Water

Wash Out

- Gather an assortment of objects of all sizes and shapes and line them up outside. Switch on a hose and squirt the objects. Which ones move? Which ones stay still? In a flood, what kind of things would get swept away?

Freeze a Cloud

- Investigate the atmospheric moisture that forms clouds. Put some ice in a jar and screw the lid on tightly. Dry the jar with a towel and make sure it doesn't leak. Inspect the jar after a couple of minutes. Where did the water come from? Explore how the water gets into the air by placing some drops of water on the lid of the jar

and putting it somewhere warm. After half an hour look at the lid. Where did the water go?

Rain Gauge

- Create a rain-gauge with a transparent plastic cup. Fill the bottom with marbles and water up to 2 cm, so that it won't blow away, and mark this line with permanent marker as zero. Put it outside and look at the gauge at the same time every day during a rainy week and record the changes.

Wind

Not Drowning, Waving

- Arrange an electric fan so it is blowing across a shallow pan of water. Watch as little waves form on the surface of the water. Does the water bunch up at the far end of the pan? Does the water slosh out of the pan? Discuss the connection between the wind and the waves.

Anemometer

- Make a wind-meter. On a stiff piece of cardboard draw a circle. Mark the right half of the circle with intervals of 10 degrees, starting at the bottom. Through the centre of the circle thread a piece of wire. Attach a piece of paper, the length of the radius of the circle, to a drinking straw and place this over the wire. If the cardboard is held pointing into the direction of the wind, the paper on the straw will move to indicate the wind-strength. ([Graphics??](#))

Weather-Vane

- Make a weather-vane with a pencil and a paper plate. Attach some paper triangles to either end of a drinking straw, and stab a pin through the centre of the straw. Insert this pin into the eraser on the end of a pencil. Draw a cross on a paper plate and mark the compass points. Stab the pencil through the centre of the plate and the compass. Make sure the pencil is eraser end up. Set up the weather-vane outside by anchoring the tip of the pencil with plasticine and orienting the plate so that the "N" points North. ([graphics??](#))

Treasure Hunt

- Create a treasure hunt. Chose an ***Awesome Earth*** topic, such as earthquakes and ask the students to find out what causes them. Give them a map with hiding places marked on it. In each of the hiding places put a piece of paper with information about related topics. For example: "The earth's surface is made up of many different pieces, which are called tectonic plates. Now do you know what causes earthquakes? Try another hiding place." In only one place have the full answer to the question.