

## Weather Experiments

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<b>Category</b>	Activities
<b>Badge</b>	Conservation
<b>Advancement</b>	Our Precious Planet
<b>Time to allocate (mins)</b>	30
<b>Outcome</b>	Understand weather, global warming and rainfall

	Water
	Jar
	Food colouring
	Shaving cream
<b>Resources</b>	Thermometer x 2
	Plastic bag
	Board
	Oil/Flour glue
	String

**Set up the below experiments at the start of Cubs and go back to them at this stage of the programme to get the results.**

### **Greenhouse Effect:**

1. Put one of the thermometers in the plastic bag and tie the bag so it is airtight
2. Put the bag in direct sunlight for about 10 minutes
3. Put the other thermometer beside the bag
4. Wait for 10 to 15 minutes and then look at the two temperatures.
5. What do you notice?

When the sunlight travels into the plastic bag, the light turns into heat. The inside of the bag gets hotter because the air can't escape quickly enough. The sunlight does the same thing when it enters Earth's atmosphere. This is called the greenhouse effect.

### **Air Pollution:**

1. Take the piece of white cardboard/board and put a hole in the top and tie it on.
2. Paint one side of the board with glue/oil
3. Hang the piece of board outside for about an hour (longer if the day is not windy)

4. Look at what is stuck to the board and see what the wind has been carrying

There will be seeds, leaves, maybe some insects. Look for dust and smog and talk about what air pollution and what we can see on the board that tells us how clean/dirty the air is.

#### **Rain:**

1. Pour water into the glass/jar, leaving about an inch from the rim
2. Carefully add a layer of shaving cream to the water. Be sure not to make it too thick or you'll find you're having to wait a long time for the magic to begin and that's a bit boring. **The shaving cream represents a cloud and the water is the atmosphere.**
3. Simply add a few drops of blue food colouring to the shaving cream. The weight of the food colouring will start to push through the shaving cream and fall down through the water that's in the glass! This will look just like streaks of rain falling.

#### **Instructions**

#### **Some additional easy experiments:**

##### **Clouds:**

1. Pour a little bit of warm water into the bottle, just enough to cover the bottom
2. Light a match and let it burn for a little while
3. Blow the match out and immediately let the smoke fill the bottle. The smoke will clear quite quickly but there will be invisible particles floating in the bottle.
4. Screw the cap on the bottle and try to keep as much smoke in the bottle as you can.
5. Squeeze the bottle six or seven times.

##### **Tornado:**

1. Measure 1 teaspoon of washing up liquid and pour it into a bottle
2. Drop in 5 small aluminium foil balls into the bottle
3. Fill the bottle with water
4. Add a couple of drops of blue food colouring
5. Rotate the bottle and you should see a swirling motion that represents the motion of a tornado