



Extreme weather

Climate change, and the associated increased average global temperature, has led to more extreme weather conditions being experienced across the Earth. Scientists monitor many aspects of the weather to understand human impact on the climate better.

ACTIVITY

Can you measure the wind direction and wind speed outside?



ACTIVITY OVERVIEW

You need to go outside on a breezy day for this activity. Choose an area of open ground that is safe for children to move around freely.

To make bubble solution: Mix washing-up liquid (1 part) with water (7 parts). Add some glycerine (1/4 part) - optional (this strengthens the bubbles).

To make a bubble blower: Cut off the bottom of the plastic bottle (children may need help with this). Pull a sock over the bottom end of the bottle. Attach this with an elastic band. Dip the sock end in the bubble solution and blow through the neck of the bottle. Alternatively, you could make blowers from pipe cleaners.

To measure wind direction: Place a marker at the starting point. Blow some bubbles. Follow the bubbles for a while. Look back at where you have come from. Use a compass to work out the direction back to the starting point. This will give you the wind direction.

To measure wind speed: Two people are needed (a blower and a timer). Place a marker where the blower stands and another marker 10m away in the direction the wind will take the bubbles. Time how long it takes one bubble to reach the second marker. Calculate the wind speed by dividing the 10m by the time it takes the bubble to travel that distance.

KEY FACTS/SCIENCE

Calculating a **weather forecast** is extremely complicated. Real data collected from weather stations, satellites and weather balloons is sent to super computers to make forecasts. **Temperature data** is used to predict how much evaporation of water will take place and how much cloud formation and rain is likely to occur. **Air pressure** (the weight of air pressing down on an area of the Earth) is used to calculate the direction and speed of winds. We feel wind because air particles rush from areas of high to low pressure.

RESOURCES

MAIN ACTIVITY

for bubble solution - container, washing-up liquid, water, glycerine (optional)

for bubble blower - empty plastic bottle, scissors, sock, elastic band OR make simple loops from pipecleaners

compass or compass app

metre ruler/tape measure

stopwatch or stopwatch app

QUESTIONS FOR LEARNING

- What was the wind direction and wind speed today?
- What other weather data could you measure? How might you do this?
- What is air pressure? Use the QR code to see what air pressure can do.

