Knowledge Organiser – Weather (Year 3)

Key Vocabulary

Anemometer An **anemometer** is a device used to measure wind speed.

Atmosphere The **atmosphere** is the mixture of gases that surround Earth. It's divided into five layers – troposphere, stratosphere, mesosphere, thermosphere and exosphere.

Atmospheric pressure **Atmospheric pressure** is a measure of the 'weight' of air pressing down on a square meter of Earth's surface. Where air is rising we see lower pressure at Earth's surface and where it is sinking we see higher pressure.

Barometer A **Barometer** is a device used to measure atmospheric pressure; when pressure changes we can expect changes in the weather.

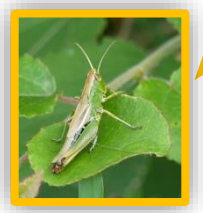
Blizzard A **blizzard** occurs when moderate or heavy snow is falling, there are wind speeds of 30mph or more and visibility is 200m or less.

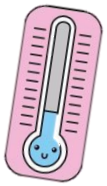
Weather Elements

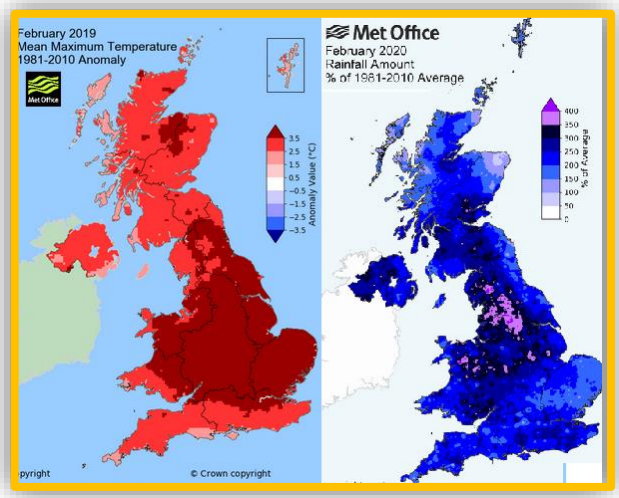
Weather systems are a result of atmospheric conditions; changes in air pressure affect the different elements of the weather.
Some weather elements are:
Temperature; humidity; wind (speed and direction); precipitation (e.g. rain, snow); visibility (e.g. fog, mist); thunder and lightning; cloud; sunshine).

Elements in the atmosphere that change daily, such as temperature, determine the weather in a particle place at a particular time. The weather can change hourly. The long-term pattern of weather in a place is known as its climate and is based on average weather conditions over a period of at least 30 years.

You can tell the temperature by counting a cricket's chirps!







The weather affects many parts of our life: everyday activities; our choice of clothing; our moods and feelings and the food we eat.
The weather can be observed, measure and recorded in both formal and informal ways.
Weather can be compared and contrasted both within a local area and with locations in other parts of the world.

Key Vocabulary

Cloud — **Clouds** form when water vapour condenses on particles in the atmosphere. The droplets are so small that each cubic metre of cloud will contain 100 million droplets.

Drizzle — **Drizzle** is raindrops that are smaller than 0.5mm in diameter.

Fog — **Fog** is caused by tiny water droplets suspended in the air. Fog is basically a cloud at ground level that reduce visibility to less than 1000m.

Hail — **Hail** is a form of precipitation falling as round or irregularly-shaped pieces of ice that start as small particles or frozen raindrops.

Precipitation — **Precipitation** is any form of water falling from the sky. This includes rain, sleet, snow, hail, drizzle and freezing rain.

Rain — **Rain** is a form of precipitation that occurs when the water vapour in the air condenses.

Weather — **Weather** is the daily elements of the atmosphere such as temperature, wind and

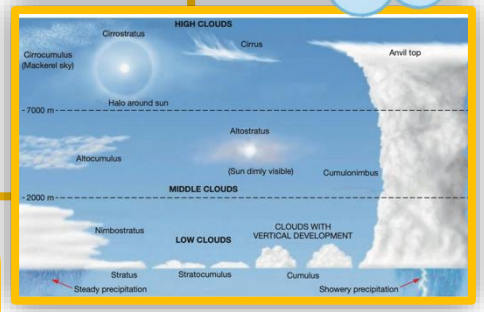
Clouds

A cloud is a mass of tiny water droplets or ice crystals. They form when air cools and the water vapour in it condenses onto very small part particles in the air. Whether a cloud will be formed of water or ice will depend on the temperature of the atmosphere and the height of the cloud.

The appearance of clouds and the patterns they make are good indicators of the weather to come. Clouds are given Latin names:

- Stratus/strato = flat/layered and smooth
- Cumulus/cumulo = heaped up/puffy like cauliflower
- Cirrus/cirro = tendril/wispy
- Alto = medium level
- Nimbus/nimbo = rain-bearing

Mild Autumn weather often means bigger spiders in our homes.



When we talk about climate change, we are talking about global changes in the Earth's average temperature.
The Earth's average temperature moves up and down naturally but it has been increasing more rapidly than it usually does.

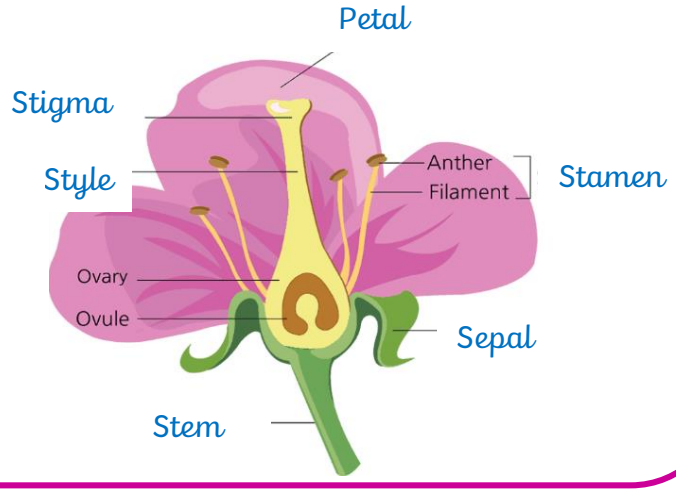
Scientists say the world is about 1°C warmer than it was 300 years ago.

This change is impacted on the planet's environment – which is everything natural around us; rivers, trees, plants,

Scientists say many of the changes to the Earth's climate are caused by human activity, e.g. burning of oil, coal and gas; waste; deforestation and urbanisation and

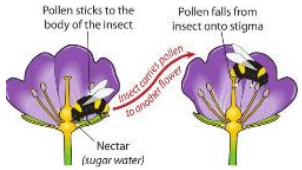
Extreme weather like heatwaves, droughts and storms would happen more often and become more severe.

Parts of a flowering plant



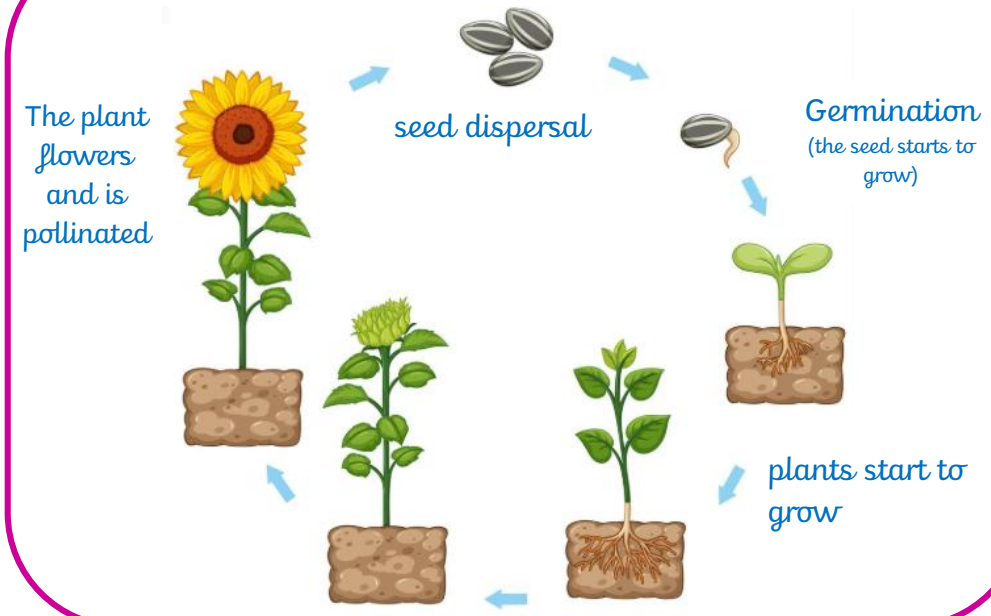
Pollination and Germination

Pollination takes place when pollen (a fine powdery substance produced by a flowering plant) is moved from the male anther of a flower to the female stigma.



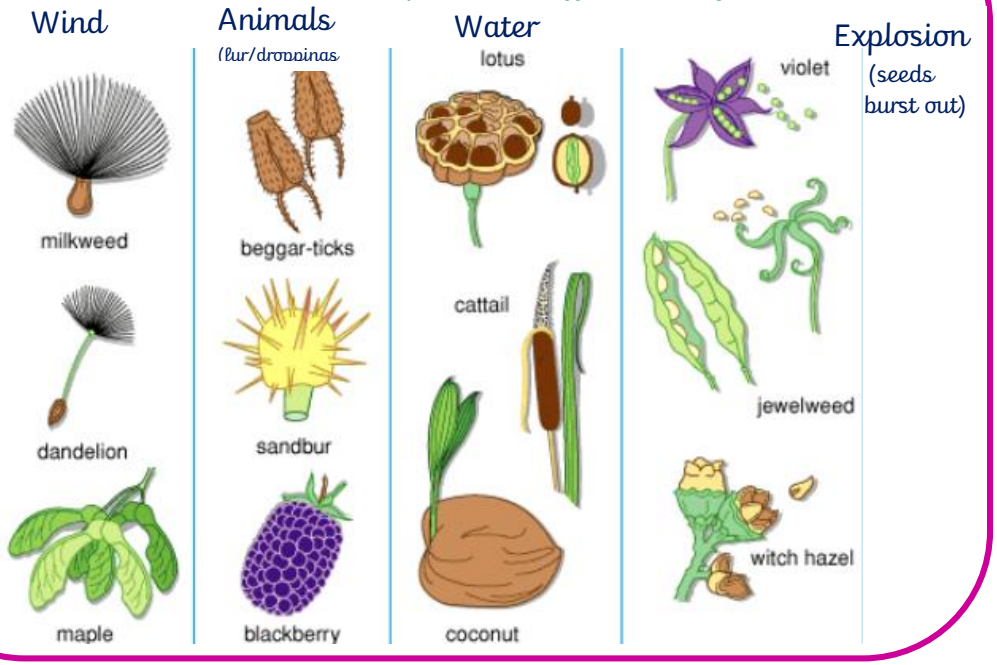
Germination is when seeds start to grow.

Life cycle of a flowering plant



How seeds are dispersed

Seeds can be dispersed in different ways

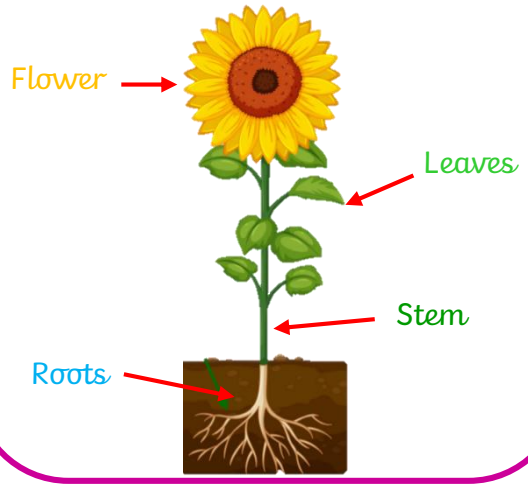


Knowledge Organiser – Plants (Year 3)

Key vocabulary - Plants

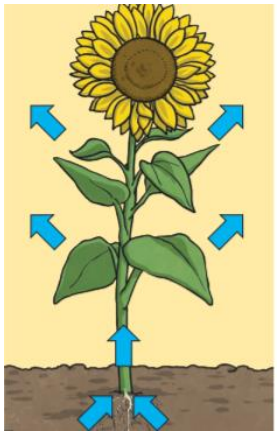
Roots	These anchor the plant into the ground and absorb water and nutrients from the soil.
Stem	This holds the plant up and carries water and nutrients from the soil to the leaves. A trunk is the stem of a tree.
Leaves	These make food for the plant using sunlight and carbon dioxide.
Flowers	The flower's job is to create seeds so that new plants can be grown. Their petals attract pollinators to the plant.
Nutrients	These substances are needed by living things to grow and survive. Plants get nutrients from the soil and also make their own food in their leaves.
Photosynthesis	The process by which a plant uses the energy from the light of the sun to produce its own food.
Dispersal	Spreading things over a wide area.

Parts of a flowering plant



How water moves through plants

1. The roots absorb water from the soil.
2. The stem transports water to the leaves.
3. Water evaporates from the leaves.
4. Evaporation causes more water to be sucked up the stem. *The water is sucked up the stem like water being sucked up through a straw.*



What does a plant need to grow?

Plants need light, water, air, food and room to grow. How much of each of these a plant needs depends on the type of plant. For example, cactus can grow in deserts because they need little water, compared to seaweed which grows in water.