

**Week 1: Weather and Climate**

- Weather is a description of what the conditions are like in a particular place.
  - For example, it could be: hot or cold, wet or dry, windy or calm or stormy, with thunder and lightning
  - Climate is a description of the average weather conditions in a certain place for the past 30 or so years.
  - Different areas of the world have different climates.
- Climate is influenced by lots of different things, including:
- how near or far it is from the Equator
  - how near or far it is from the sea
  - how high or low the ground is
  - its position on a continent

**Week 2: UK Climate**

- The UK has a temperate climate, this means that Britain gets cool, wet winters and warm, wet summers
  - It rarely features the extremes of heat or cold, drought or wind that are common in other climates
  - The weather conditions are also very changeable
  - Not all parts of the UK have the same climate
- The general pattern of the climate across the UK has four distinct regions:
- the south-east - cold winters, warm and dry summers
  - the south-west - mild and very wet winters, warm and wet summers
  - the north-west - mild winter, cool summers and heavy rain all year
  - the north-east - cold winter, cool summers and steady rain all year

**Week 3: Rainfall Part One**

- On average, it rains one in three days in the UK
- There are three different types of rainfall:
- Relief rainfall occurs when warm moist air from the Atlantic Ocean rises up over mountains
  - When the warm air rises, it cools and condenses to form clouds, which bring rain
  - Once the air has passed over the mountains, it descends and warms
  - This creates drier conditions known as a rain shadow
  - Frontal rainfall occurs when a warm front meets a cold front. The heavier cold air sinks to the ground and the warm air rises above it.
  - When the warm air rises, it cools.
  - The cooler air condenses and form clouds.
  - The clouds bring heavy rainstorms

**Week 4: Rainfall Part Two**

- Convictional rainfall usually occurs during the summer in the UK, when the sun heats the land.
- This creates rising pockets of warm air, known as convection currents.
- Warm air rises rapidly, where it starts to cool and condenses to form clouds.
- These clouds can be large cumulonimbus clouds.
- The clouds can produce heavy rainfall and thunder
- Recent weather reports identify the UK climate is wetter and there is more rain
- The amount of rainfall has increased by 4% over the last decade

**Week 5: The Weather in our Area**

- Wakefield in in West Yorkshire
- Wakefield is in the North of England
- The region has colder winters and cooler summers than in the south of England
- The average minimum temperature in West Yorkshire in January is - 0 °C and the average maximum temperature is 5 °C
- The average minimum temperature in West Yorkshire in July is - 9°C and the average maximum temperature is 19 °C
- The average rainfall in West Yorkshire in January is 90mm
- The average rainfall in West Yorkshire in July is 65mm

**Week 6: Measuring Weather**

- Meteorologists measure weather conditions in different places
  - They use this information to report and make forecasts about future weather conditions
  - This is useful because people can be warned about hazardous weather conditions such as storms and floods
- What do we measure?
- Temperature
  - Precipitation, eg rainfall
  - Wind speed and direction
  - Cloud cover and visibility
  - Air pressure
  - Humidity (amount of water vapour in the air)
  - Sunshine