

# Year 7 Geography

# Knowledge Organiser - Weather and climate

## Key Vocabulary

|               |   |
|---------------|---|
| Weather       | The day to day conditions of the atmosphere. Example: wind, rain, snow etc.   |
| Climate       | The changes of the atmospheric conditions on a long term scale. They are the average conditions over a number of years. Example: you go Spain in summer because you expect it to be hot.                    |
| Precipitation | Any moisture that falls to earth. Example: rain, snow, sleet, hail etc.   |
| Meteorology   | The scientific study of weather.  |
| Anticyclone   | A weather system that consists of high pressure which circulates slowly in a clockwise (northern hemisphere) or anticlockwise (southern hemisphere) direction. They are associated with calm, fine weather. |
| Depressions   | These have 3 elements: a warm front; a warm sector and a cold front. A depression forms as a result of the warm air mixing and rising above surrounding cold air. This often leads to unsettled weather.    |

## How do we measure weather?

|                |  |
|----------------|--|
| Temperature    | Maximum/minimum thermometer, measured in °C.               |
| Sunshine       | Campbell Stokes Sunshine Recorder, measured in hours.      |
| Air pressure   | Barometer, measured in millibars.                          |
| Wind speed     | Anemometer, measured in knots.                             |
| Wind direction | Wind vane or wind sock, measured using compass directions. |
| Rainfall       | Rain gauge, measured in mm.                                |

## Symbols on a weather chart.

| Current Weather                       | Sky Coverage                            |
|---------------------------------------|---|
| • Intermittent Rain                   | ○ No Clouds                             |
| •• Continuous Rain                    | ◐ Less than one-tenth or one tenth      |
| ★★ Continuous Snow                    | ◑ Two-tenths or three-tenths            |
| ” Continuous Drizzle                  | ◒ Four-tenths                           |
| ≡ Fog                                 | ◓ Five-tenths                           |
| ⊞ Thunderstorm                        | ◔ Six-tenths                            |
| ⊞ Thunderstorm with Intermittent Rain | ◕ Seven-tenths or eight-tenths          |
|                                       | ◖ Nine-tenths or overcast with openings |
|                                       | ◗ Completely overcast                   |
|                                       | ⊗ Sky obscured                          |

### Summer Anticyclones

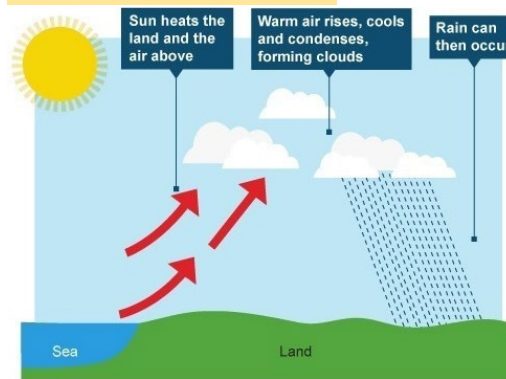
Clear settled conditions bring long, sunny, cloudless days and warm temperatures. The weather is normally dry, although occasionally very hot temperatures can trigger convective rainfall and thunderstorms.

### Winter Anticyclones

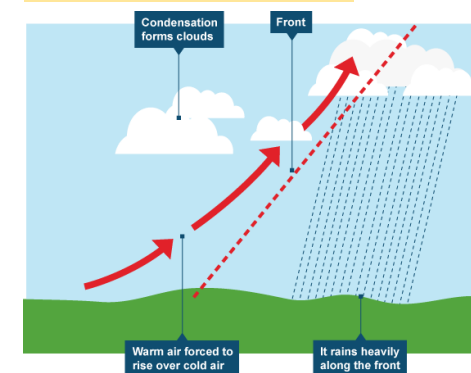
Cold, dry days with light winds. The clear skies allow heat to be lost from the surface. Temperatures can decrease very quickly at night. Water vapour can condense and freeze on ground surfaces causing frost.

## Types of Rainfall

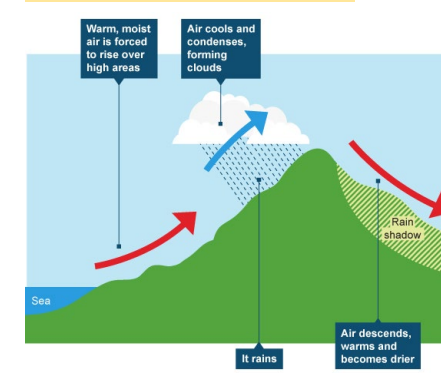
### Convective Rainfall



### Frontal Rainfall



### Relief Rainfall



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|                  |   |
|------------------|---|
| Climate zone     | An area with its own distinctive pattern of temperature and rainfall. |
| Altitude         | A measure of the land's height above sea level.                       |
| Prevailing winds | The direction from which the wind usually blows.                      |

## Factors Affecting Climate

**Latitude** - places near the equator are much warmer than places near the poles.

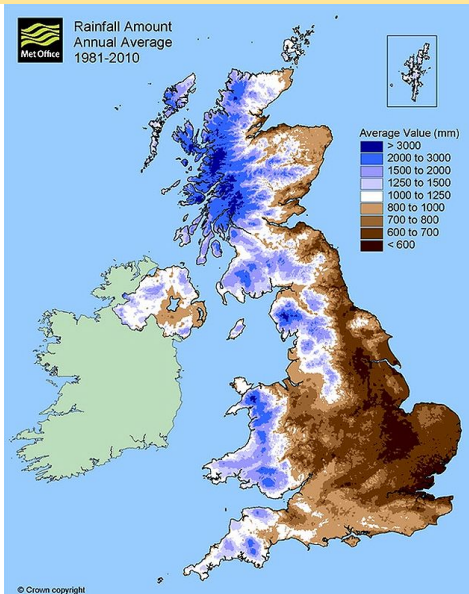
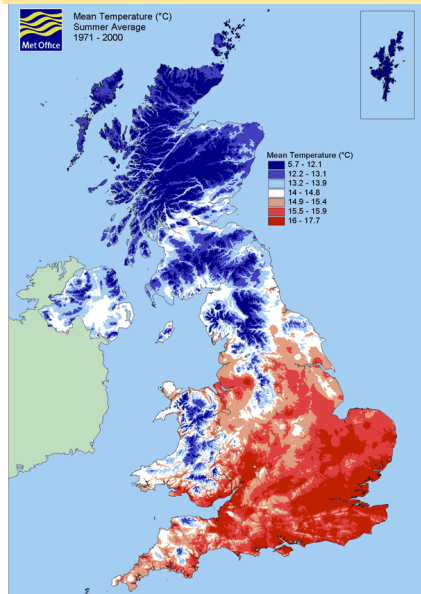
**Distance from the sea** – land and sea heat up at different rates. The sea takes a lot longer to heat up than the land but keeps its heat for longer as more than just the surface is heated up. In winter the sea keeps coastal areas warm and in the summer cools them down. The further away from the sea the wider the range of temperatures found there.

**Altitude** – temperatures decrease by around 1°C for every 100m increase in height. Many parts of the Alps mountain range in Europe are over 4,000m above sea level which means they are 40°C colder than coastal areas.

**Prevailing winds** – the prevailing wind is affected by the area it blows over. The North Atlantic Drift is a warm ocean current that flows across the Atlantic Ocean from the Gulf of Mexico. It warms the prevailing winds or air masses, making western areas of the UK and Europe warmer than areas inland.

## The UK's Climate

The climate in the UK is variable meaning it changes a lot. The UK has cool summers, mild winters and rainfall evenly spread throughout the year. The climate is classified as temperate which means we rarely experience extremes.



## The World's Climate Zones

