

YEAR 8 GEOGRAPHY – WEATHER AND CLIMATE

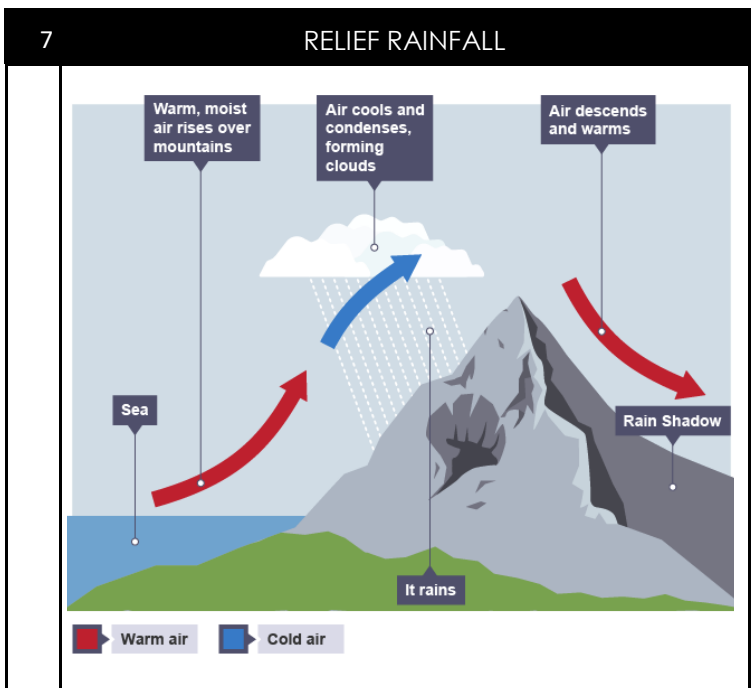
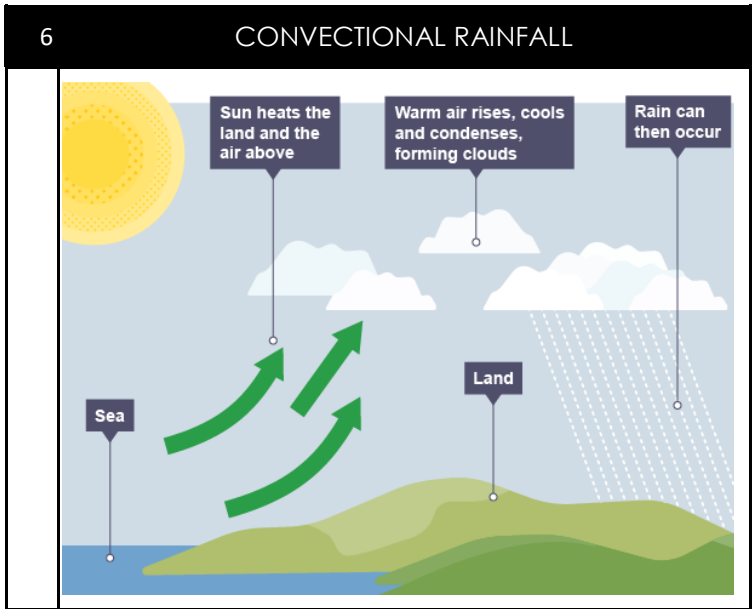
1 KEY VOCABULARY	
Weather	This is the everyday description of what is happening outside. It is very changeable and the weather can often change many times in a day.
Climate	This is decided when the weather is measured over 30 years and a pattern develops.
Temperature	How hot or cold it is.
Precipitation	Rain, hail, sleet, snow
Evaporation	Liquid water turning into a gas (water vapour)
Condensation	Water vapour turning back into a liquid to form clouds.

2 HIGH AND LOW AIR PRESSURE	
	<p>Low-pressure areas are created when air rises. It is called low pressure because the weight of the air above the Earth's surface is lower than average.</p> <p>High-pressure areas are created when air sinks. It is called high pressure because the weight of the air is above average when it sinks to the Earth's surface. The air that sinks is considered to be cold, as when air is cooled, it becomes denser and therefore heavier.</p>

3 HOW DOES THE WEATHER AFFECT US	
	<p>The weather outside affects what it is we can do. Whether we stay in or go out. Where we go, when we do go out and even our mood.</p> <p>Certain jobs require certain types of weather too.</p> <p>An ice-cream seller like hot weather A ski resort like cold but sunny weather.</p>
	<p>When we want to know what we can do, we watch weather forecasts and this tells us lots of information including the temperature and windspeed. Many types of weather are displayed as symbols as shown below/</p> <div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center;"> Sunny</div> <div style="text-align: center;"> Light Cloud</div> <div style="text-align: center;"> Sunny intervals</div> <div style="text-align: center;"> Heavy Cloud</div> <div style="text-align: center;"> Light Rain</div> <div style="text-align: center;"> Light rain with sunny intervals</div> <div style="text-align: center;"> Heavy Rain</div> <div style="text-align: center;"> Heavy Rain with sunny intervals</div> <div style="text-align: center;"> Snow</div> <div style="text-align: center;"> Sleet</div> <div style="text-align: center;"> Thunder storm</div> <div style="text-align: center;"> Fog</div> </div>

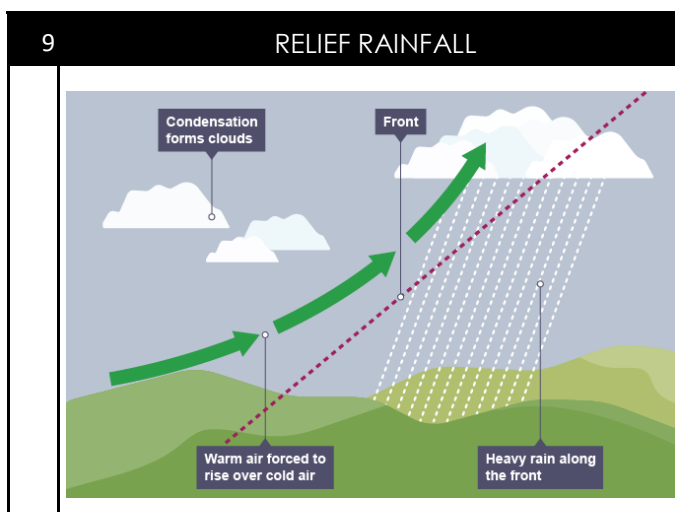
4 THE FORMATION OF A TROPICAL STORM	
	<ul style="list-style-type: none"> • Warm air from several thunderstorms, and the warm ocean surface (above 27°), mix together and start to rise to create low pressure. • Trade winds at the Equator cause the storm to spin due to the Earth's rotation (Coriolis effect). • Air continues to rise and the pressure starts to decrease at higher altitudes. • Air rises faster and draws in more warm air from the sea surface whilst sucking cooler air downwards. Once the surface winds reach 119 km/h the storm is officially a tropical storm. • As the storm moves over the ocean (due to the prevailing winds), it picks up more warm moist air. The speed of its winds increases as more air is sucked in • It can take hours or days to fully form a hurricane. The eye has calm winds which are surrounded by a spinning vortex of high winds and heavy rain (the eyewall).

5 MEASURING THE WEATHER	
Rain gauge	Collects and measures how much rainfall has fallen
Thermometer	Measures how hot or cold a place is in degrees centigrade or Fahrenheit.
Anemometer	Measures windspeed in miles per hour.
Wind vane	Measures the wind direction.
Barometer	This measures air pressure.



8 FACTORS THAT AFFECT CLIMATE

1	Latitude	Locations that are further North/South of the equator receive less heat energy from the Sun.
2	Altitude	Temperatures decrease with <i>altitude</i> . There is a 1°C drop in temperature for every increase of 100 m in height.
3	Prevailing winds	Prevailing winds are the dominant wind direction in an area. The temperature of the wind and the amount of rainfall partly depend on where the air has come from.
4	Distance from the sea.	Coastal areas are most affected by the sea. The sea takes longer to heat up and cool down than land.
5	Coastal currents	The effect that ocean currents have on the temperature depends on whether the ocean current is hot or cold.



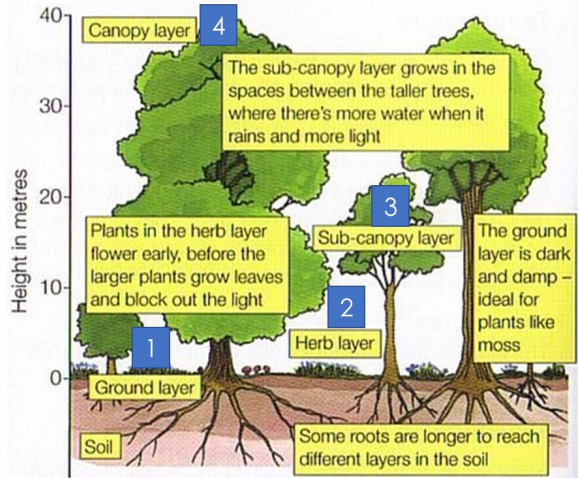
10 WEATHER MAPS

Depression	A low-pressure weather system associated with wet and windy weather
Warm front	When a warm air mass moves into an area of cold air.
Isobar	A line to show equal air pressure.
Air mass	A large area of air with the same temperature and humidity.
Cold front	When cold air pushes into an area that has warmer air
Air pressure	How heavy the air is. Measured in millibars.
Low pressure	When air is rising. Clouds form
High pressure	When air is sinking. No clouds form
Cloud cover	How much of the sky is covered by cloud. Measured in Oktas by eye.
Anticyclone	A high-pressure weather system associated with fine and calm weather.

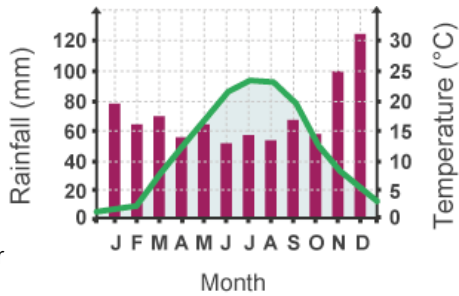
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TEMPERATE DECIDUOUS FOREST

A



The climate of the temperate deciduous forest is seasonal. Winters are often cold and wet, whereas summers are warm and drier.



B

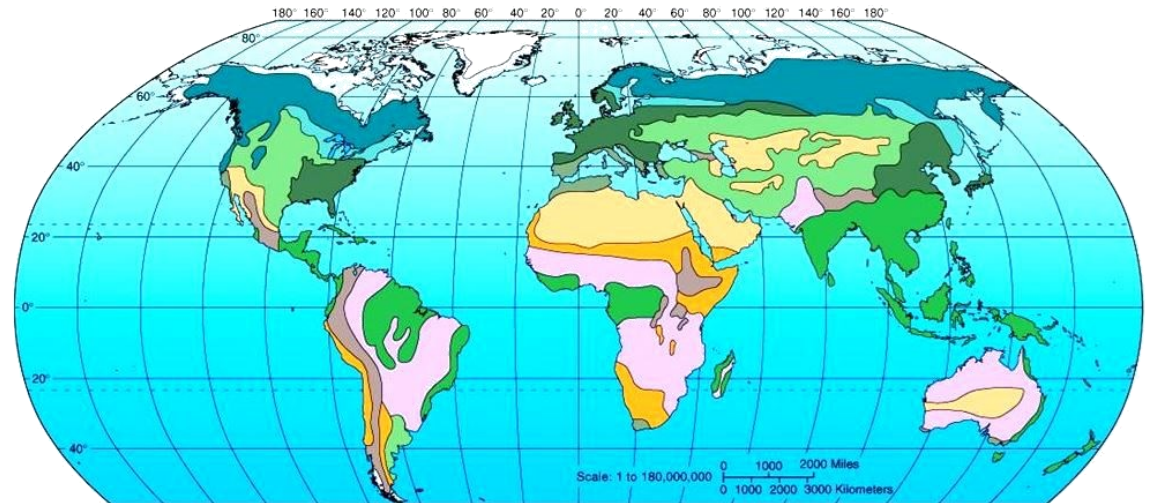
Plant and animal adaptations

Broad leaves can capture maximum sunlight as it is not close to the equator. Trees have thick bark to protect against the cold winters and trees lose their leaves and stop growing in winter.

Animals can have thick fur that they shed in the summer so that they can be cooler in summer. Animals such as squirrels will hibernate in winter as food is in short supply.

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CLIMATE ZONES AND BIOMES ACROSS THE WORLD



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HOT DESERT

Deserts are located between 5° and 30° north and south of the Equator, around the Tropic of Cancer and the Tropic of the Capricorn.

They are usually found on the west coasts of continents.

Plant and animal adaptations

Camels store fat in their humps and have long eyelashes to remove sand. Many other smaller animals are nocturnal due to lower night time temperatures.

Plants such as succulents store water in their fleshy leaves. Cactus have spike to prevent their water being stolen by predators and many plants have shallow widespread roots to access large surface area of water when it falls.

