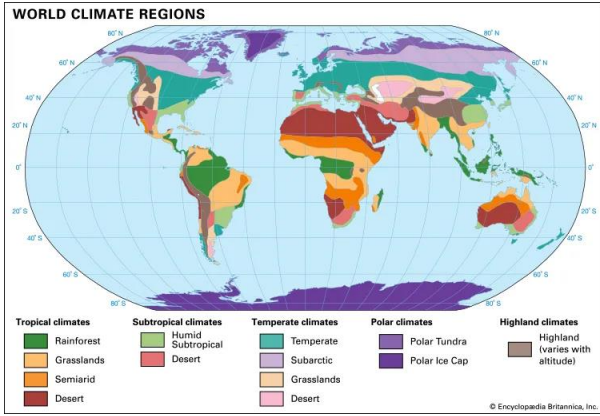


What you should know	What you should be able to do
<p><b>Climate</b> is the average temperature and precipitation of a place measured over a long period of time, usually 30 years</p> <p><b>Climate</b> varies around the world due to how far north or south a place is from the equator</p> <p><b>Altitude</b> is how far above sea level a place is, measured in metres</p> <p>The higher the altitude, the colder the temperature</p>	<p><b>Describe</b> the distribution of different climate zones</p> <p><b>Explain</b> why climate varies around the world</p>
<p>The <b>Greenhouse Effect</b> is the natural process of gases in the Earth's atmosphere trapping the Sun's heat (<b>solar insolation</b>)</p> <p>The <b>Enhanced Greenhouse Effect</b> is the increase in the amount of heat trapped in the Earth's atmosphere due to the increased amount of greenhouse gases such as carbon dioxide (<b>CO<sub>2</sub></b>), Methane (<b>CH<sub>4</sub></b>), Water vapour (<b>H<sub>2</sub>O</b>) and Nitrous Oxide (<b>N<sub>2</sub>O</b>)</p>	<p><b>Explain</b> the difference between the Greenhouse Effect and the Enhanced Greenhouse Effect</p>
<p><b>Climate change</b> is a change in the average temperature and precipitation of a place measured over a long period of time</p> <p><b>Natural causes</b> of climate change include:</p> <p><b>Large-scale volcanic eruptions</b> release large amounts of ash and dust which can lead to <b>global cooling</b> – the Earth's average temperature cools down</p> <p><b>Milankovitch cycles</b> are changes in the shape of the Earth's orbit or tilt around the Sun, causing changes in the amount of solar insolation received in the Earth's atmosphere</p> <p><b>Asteroid or meteor strikes</b> can cause changes in temperature due to the large amount of dust and ash created from impact</p> <p>Variations in <b>solar activity</b> can lead to changes in the amount of <b>solar insolation</b> (heat) from the Sun</p>	<p><b>Describe</b> the natural causes of climate change</p>
<p><b>Human induced</b> causes of climate change</p> <p>The <b>Industrial Revolution (1750 to 1950)</b> saw an increase in the burning of <b>fossil fuels</b> (coal, oil, and gas) to <b>power machines, generate electricity</b> and for <b>fuels for transport</b>. The burning of fossil fuels <b>releases CO<sub>2</sub></b> into the atmosphere, increasing the amount of solar insolation heat remaining within the atmosphere.</p> <p><b>Population growth</b> has meant everyone needs more food. The increase in <b>agriculture</b>, especially in meat production has led to an <b>increase in CH<sub>4</sub></b> in the atmosphere, increasing global temperatures</p> <p><b>Deforestation</b> is when humans <b>remove</b> trees and forests from land that is then converted to non-forest use, such as growing crops, animal grazing, mining, or building. Trees <b>absorb</b> CO<sub>2</sub> through photosynthesis</p> <p><b>Plastic</b> is produced from fossilised raw materials like <b>natural gas, oil, or plants</b>, which are refined into ethane and propane and heated to create polymers which are then used to create plastic.</p>	<p><b>Explain</b> the human causes of climate change</p>
<p><b>Evidence</b></p> <p><b>Historical sources</b> such as diaries and paintings (<b>Little Ice Age</b>)</p> <p><b>Ice Cores</b> trap volcanic bubbles, revealing information on the climate when the ice was formed <b>Tree rings</b> show climate conditions by the size of their growth – thick rings mean warm, wet conditions <b>Pollen records</b> provide evidence on warm and cold growing conditions</p>	<p><b>Explain</b> how different types of evidence can be used to describe changes in the climate</p>
<p><b>Impacts</b></p> <p><b>Melting of glaciers</b> results in sea-level rise, flooding coastal areas</p> <p><b>Warmer ocean temperatures</b> result in ocean expansion and an increase in the frequency and intensity of storms</p> <p>Longer and harsher periods of <b>drought</b>, result in <b>desertification</b> (land becoming desert-like) and loss of crops. The impacts of climate change are <b>unevenly distributed</b></p>	<p><b>Describe</b> the impacts of climate change for different places around the world</p>
<p><b>Mitigation</b> means making the impacts of climate change less severe by preventing or reducing the emission of greenhouse gases into the atmosphere (<b>renewable energies</b>)</p> <p><b>Adaptation</b> means adapting to life in a changing climate by, for example, growing drought tolerant crops</p> <p>Some people, known as <b>climate-deniers</b>, believe human-induced climate change is not real</p>	<p><b>Assess</b> how important mitigation and adaptation are to minimising the impacts of climate change</p>
<p><b>Environmental racism</b> is when a minority (small group) area has a disproportionate number of hazards, e.g. toxic waste and other sources of environmental pollution, that lower the quality of life</p> <p><b>Climate activism</b> is a global social movement focused on pressuring governments and industry to act on (also called "climate action") addressing the causes and impacts of climate change</p>	
<p><b>Case Study: Kiribati</b> South Pacific coral atoll, comprising of 33 islands, 20 of which are inhabited. Small Island Developing State (SIDS) highest altitude 87m above sea level with most land only a few metres above sea level. Zero carbon emissions but suffering the consequences of sea level rise through ocean thermal expansion and melting glaciers. 'Migration with dignity' is a programme to evacuate the population from those islands most threatened by sea level rise. Only Fiji has accepted climate refugees. Climate refugees are not recognised by many global nations</p>	<p><b>Explain</b> how Kiribati can mitigate and/or adapt to climate change</p> <p><b>Assess</b> the impacts of climate change on the islands of Kiribati</p>



1) Describe the distribution of 3 of the world’s climate zones using TEA



2) Draw a diagram to show the greenhouse effect

3) Draw 4 diagrams to show how changes in the Earth’s climate can be caused by natural changes

4) Explain how global population growth has led to an increase in global temperatures

5) Describe the impacts of climate change in Kiribati

6) Explain how Kiribati and other developing or emerging countries can mitigate against climate change