

How does climate affect an ecosystem?	The Earth's climate depends on energy from the sun. It affects growing conditions for vegetation and affects the location and characteristics of large scale eco-systems.
State two characteristic of hot deserts.	Deserts are close to the tropics of Cancer and Capricorn. This is where hot dry air sinks down to the Earth's surface and the sun's rays are concentrated, making it very hot in the day.
State two characteristic of tundra biome.	The tundra is within the arctic circle. The sun gives little heat here and there is little rainfall. Only tough, short grass survives here.
State two characteristic of temperate biome.	Temperate forests have high rainfall and there are seasonal variations in the sun's rays. Trees lose their leaves in the cool winters.
Describe the distribution of tropical forests.	Tropical rainforests are mostly found either side of the equator. The temperature is hot and there is heavy rainfall.
Describe how precipitation affects biomes.	The global circulation system influences precipitation. Desert areas have low precipitation due to descending dry air.
Describe how sunshine hours affect biomes.	There are lower sunshine hours in tundra ecosystems which means much less sunlight for plants to carry out photosynthesis than in tropical rainforests.
Identify two local factors that affect the distribution of large scale-ecosystems.	Rock/ soil type and altitude differences.

Describe the importance of the biosphere.	The biosphere is important for providing resources for people (food, medicine, building materials and fuel resources).
Describe how water is being commercially exploited.	Increased water demand (urbanisation, agriculture and industry) means there is less water in the biosphere for other areas, e.g. wetlands.
How does the biosphere provide resources for people?	<b>Fuel</b> (animal dung, trees and shrubs, fermenting crops) <b>building materials</b> (animal dung mixed with clay and straw, timber, straw—used for roofing and insulation) <b>Medicine</b> (lichens stop blood loss from cuts, vitamin C— found in oranges, aloe plant soothes skin conditions, poppies (morphine) treat pain) <b>Food</b> (natural vegetation can be replaced by crops, wheat, and rice, sustainable harvests, fruits, berries and nuts, fish and meat.)
Suggest one way humans can damage marine ecosystems.	One way humans can damage marine ecosystems is by overfishing fish species such as cod. This disrupts the food chain as cod eat smaller fish, which then increase in number.
State the 4 main terrestrial ecosystems located in the UK.	Moorlands, heathlands, woodlands and wetlands.
Describe how tourism is important on the marine ecosystems in the UK.	Tourism has an estimated 250 million people visit the UK's coastline each year, generating income for the local economy and providing employment.
Describe how energy is important on the marine ecosystems in the UK.	Wind energy helps the UK reduce reliance on fossil fuels and meet carbon targets. The London Array is the world's largest offshore wind farm—175 turbines.
Describe how fishing is important on the marine ecosystems in the UK.	Marine ecosystems provide jobs in commercial fishing.

What does TRF stand for?	Tropical rainforest.
Describe the components that depend on each other to make the ecosystem function.	<p>Biotic components (living parts of the eco-system, plants, animals and humans).</p> <p>Abiotic components (non-living parts of the ecosystem (climate, soil, water))</p>
Provide an example of how humans use TRF.	Indigenous tribes hunt animals for food, carry out small-scale farming and spread seeds of plants when eating fruit and nuts.
Explain the Gersmehl model.	Nutrients are transferred between three key stores: biomass, litter and soil. Biomass is the largest store—nutrients are recycled quickly because of year-round plant growth and rapid decomposition of dead matter due to warm, wet conditions. Therefore, the soil and litter are small nutrient stores.
Suggest one reason why tropical rainforests have high levels of biodiversity.	It has a complex layered structure, creating a range of wildlife habitats.
Describe animal adaptations within a TRF.	Main canopy—leaves, fruit, berries, nuts and flowers are mainly 30-40m up. Monkeys have evolved strong gripping hands and feet and long tails for balance to help them find food.
Describe a plant adaptation within a TRF.	Emergent trees have adapted by growing up to 40m to reach above the canopy, to get more light for photosynthesis.
List goods provides from the TRF.	Source of food like fruits and nuts for indigenous tribes, diverse range of plant species and timber for manufacturing furniture for construction and fuel.

<p>Suggest two ways of how climate change presents as a threat to tropical rainforests.</p>	<p>One way climate change presents as a threat to the tropical rainforest is through the impact on plant and animal species. Drier conditions could kill off particular species and bring in new species, changing the balance of the ecosystem. Secondly, climate change could prevent 'cloud functioning from occurring, reducing the water available for the functioning of the ecosystem.</p>
<p>State the 3 main causes of TRF deforestation.</p>	<p>The main reasons for clearing rainforest are resource extraction, conversion to agriculture and population pressure.</p>
<p>Explain why resource extraction is causing the deforestation of tropical rainforests.</p>	<p>One reason for deforestation is the growth in palm oil plantations, with palm oil becoming more important as a biofuel, as well as being used in cosmetics. Another reason is that in many areas rainforests are being cleared due to rising demands for minerals like iron ore.</p>
<p>For a named tropical rainforest, explain two ways eco-tourism is helping to manage the tropical rainforest more sustainably.</p>	<p>One way ecotourism is helping to manage the Amazon tropical rainforest in Brazil is through the construction of visitor centres. These are used to help educate local people and tourists about the importance of conserving the local area. Secondly, ecotourism is providing an alternative form of employment for local people that doesn't involve removing trees: for example, by creating jobs as guides.</p>
<p>Suggest how conventional logging has contributed to the Impact of logging in the Amazon rainforest.</p>	<p>The TRF is fragmented and species become endangered. For every tree cut down, 10-20 others are damaged.</p>
<p>Explain one reason why tropical rainforests require sustainable management.</p>	<p>One reason why tropical rainforests require sustainable management is that they provide a home for a diverse range of plant and animal species, like the Amazon rainforest with over 1300 bird species. Damage to these ecosystems can lead to a reduction in species numbers and potential extinction, so it is important to manage this for the future.</p>

State one characteristic of deciduous woodlands.	The deciduous woodland eco-system has four layers; canopy layer, sub-canopy layer, herb layer and ground layer.
Suggest one way animals living in deciduous woodlands are adapted to their environments.	One way squirrels have adapted is through storing food, such as acorns from deciduous trees, by burying it to use in the winter.
Describe one service provided by deciduous woodlands.	Deciduous woodlands provide a service in the form of a range of recreational activities for people. For example, many people like to use the woodlands for days out walking with the family and horse-riding.
List goods provides from deciduous woodlands.	Wood used for fuel in wood burning stoves, wood pellets used in power stations to burn biomass, oak is a useful wood for construction.
List services provides from the deciduous woodlands.	Act as carbon store—UK woodlands take in 1 million tonnes of carbon per year, protect rare plant and animal species and regularly used for cycling, walking and horse-riding.
Explain how climate change presents a threat to deciduous woodlands.	One way climate change is a threat to deciduous woodlands is by potentially reducing the levels of biodiversity. This is caused by a rise in diseases threatening some species, due to the survival of pests during milder winters. Climate change could also cause significant changes to the structure of deciduous woodlands. This is because rising temperatures and drier conditions are making conditions more suitable for coniferous trees.
Explain two causes of deforestation in deciduous woodlands.	One of the causes of deforestation in deciduous woodlands is the demand for new homes as a result of the rising UK population, resulting in large areas being cleared. Another cause is rising car ownership, which is leading to the removal of trees to enable the widening of roads.