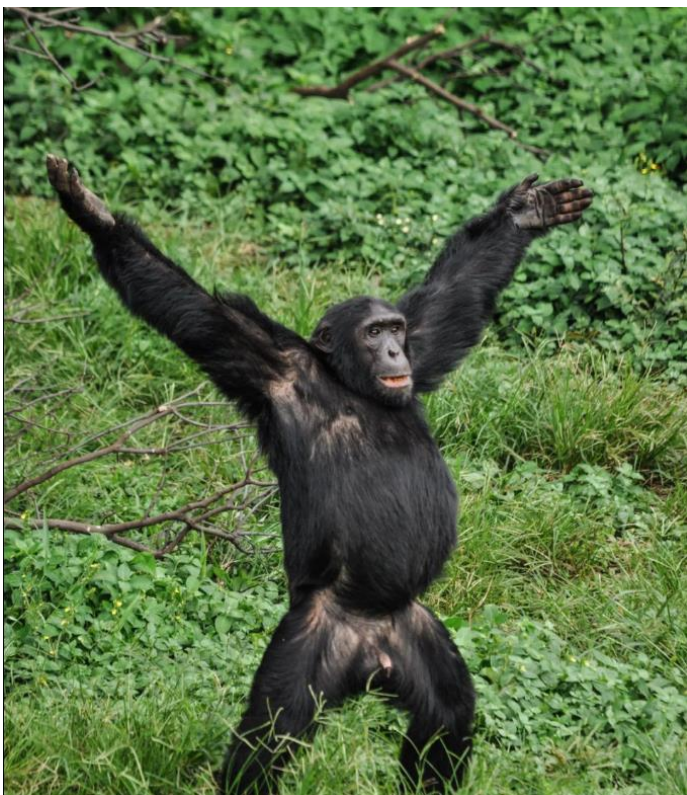


THE LIVING WORLD

AQA GCSE Geography



Paper 1 Question 2 Revision Booklet



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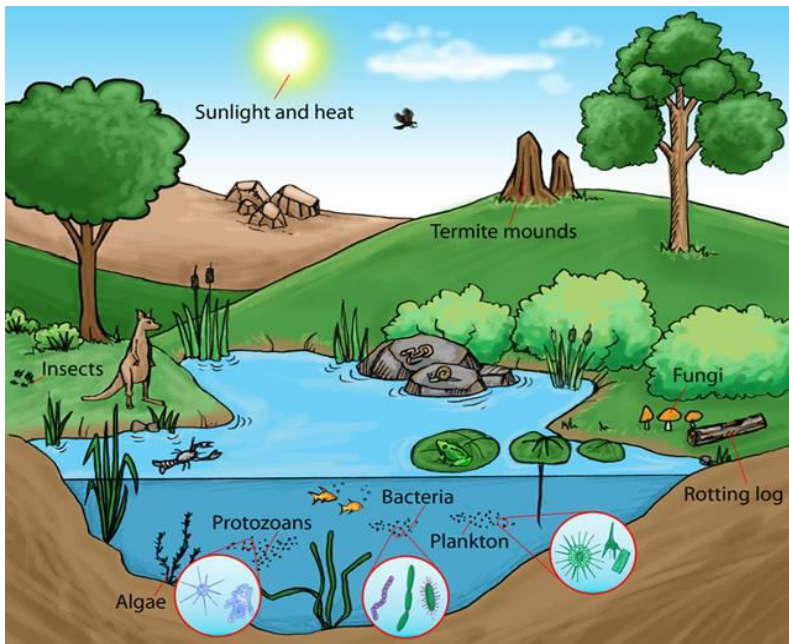
The interrelationship within a small-scale ecosystem

TASK 1: Define an ecosystem and give a named example in the UK that you have studied:

TASK 2: Define the key elements to an ecosystem:

Producer	
Consumer	
Decomposer	
Food Web	
Food Chain	
Nutrient Cycle	
Biodiversity	

TASK 3: Using the image below, list examples of abiotic & biotic features:

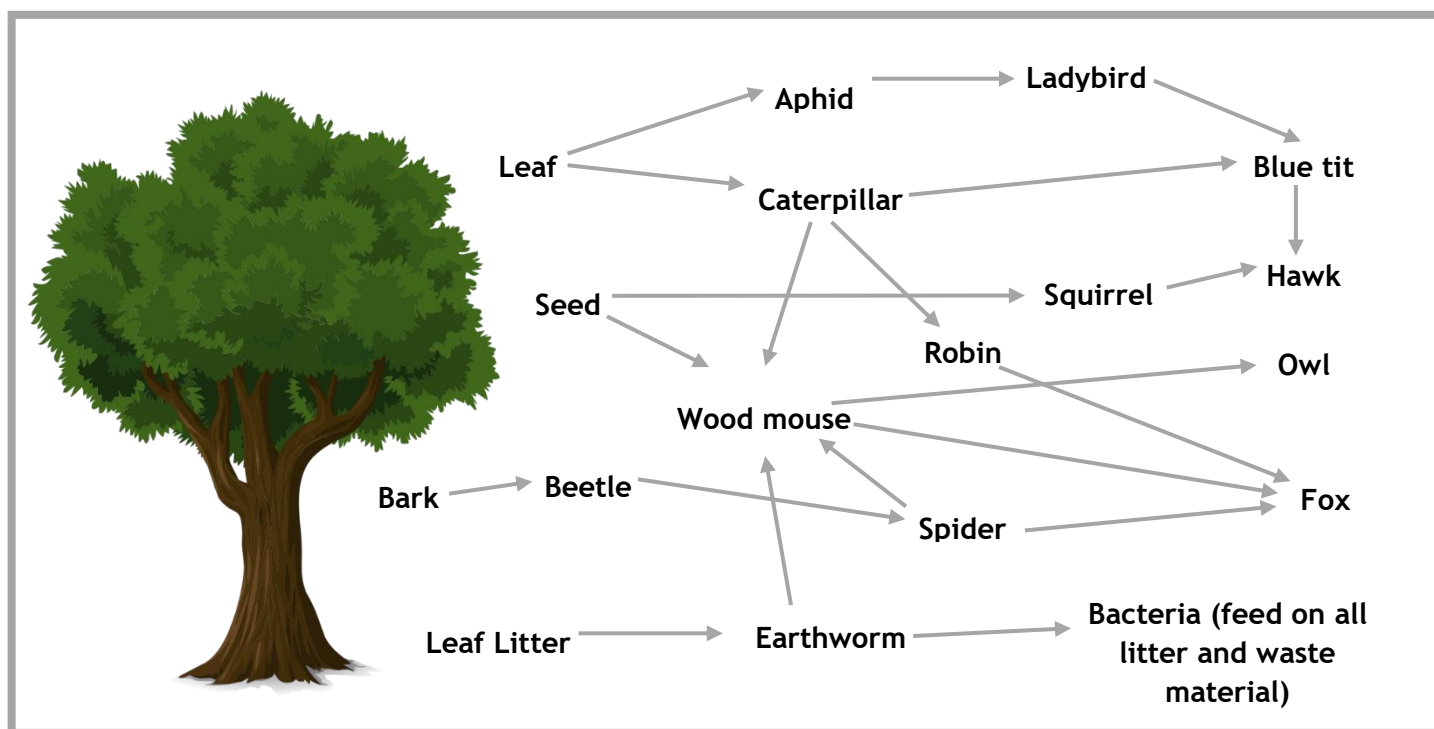


Biotic (living)	Abiotic (non-living)

TASK 4: Explain the role of the following:

Producer	
Consumer	
Decomposer	

TASK 5: Ecosystems contain complex food webs. Colour code the producers, herbivores, carnivores and decomposers.



TASK 6: Give examples of two food chains that can be seen in the food web above.

	➡		➡	
	➡		➡	

TASK 7: Suggest two changes that would occur in the food web if there were no caterpillars:

TASK 8: Changes to an ecosystem have a knock-on effect. Describe the effects the following will have:

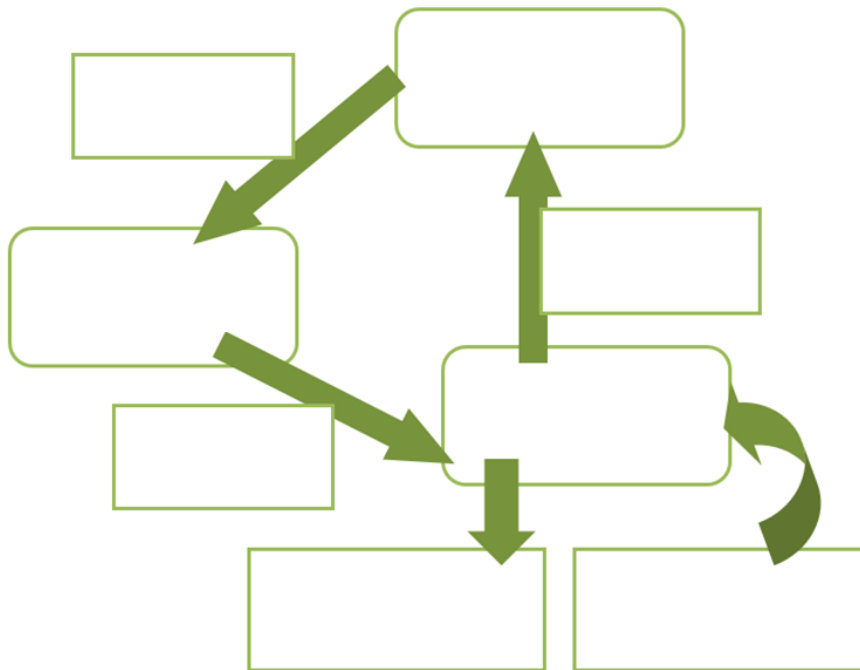
A hot summer causes drought	
A housing development cuts down a small woodland to build homes	
Heavy rain falls after a farmer has sprayed fertiliser on their field	

TASK 9: List ways in which energy is used/lost in a food chain:

TASK 10: Define the following key terms:

Biomass	
Litter	
Leeching	

TASK 11: Using the statements, fill in the diagram of the nutrient cycle:



Trees and organisms die.
Leaves fall.

Soil.

Litter - Surface layer of
vegetation, e.g. fallen leaves.

Some nutrients are washed
from the soil due to leaching.

Some additional nutrients are
added by the weathering of
parent rock.

Nutrients are released as plants
and leaves decompose.

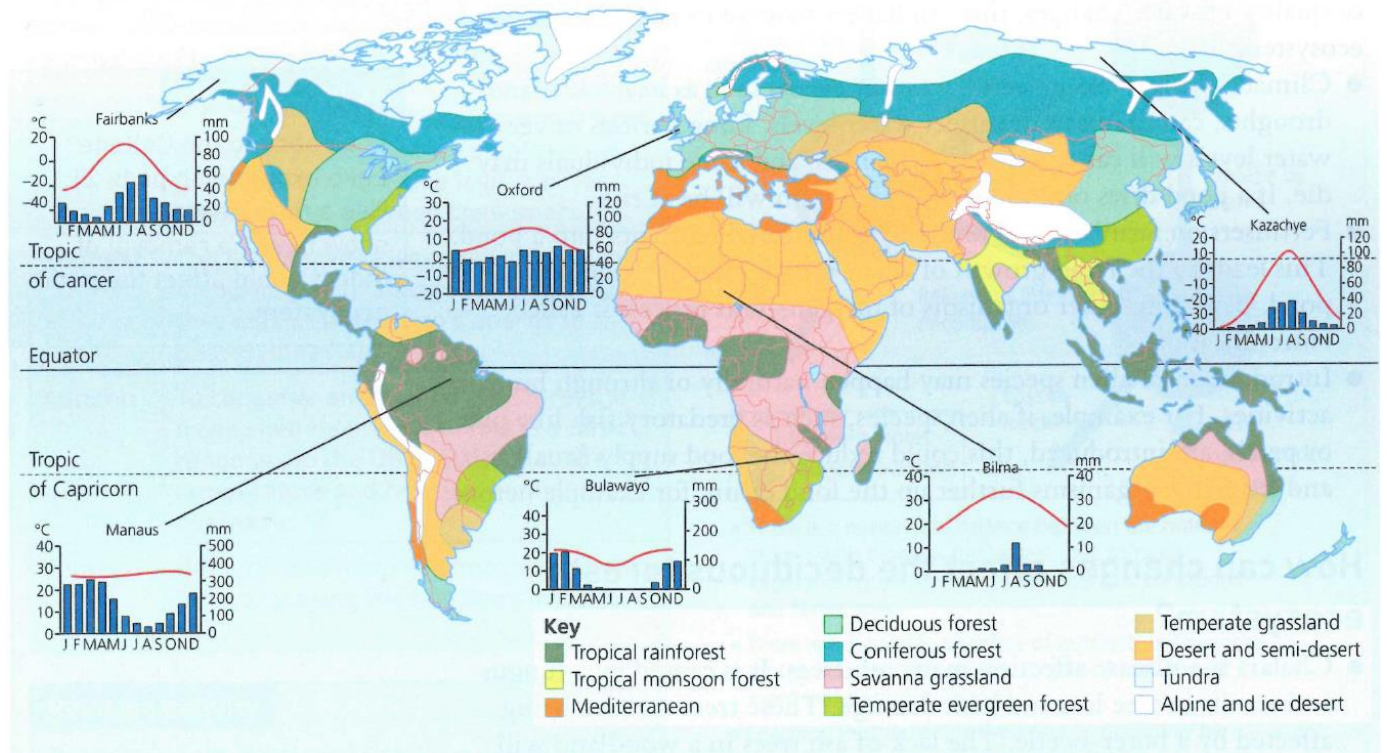
Biomass - weight of living
material (plants and animals).

Nutrients taken up by plants.

Task 12: Explain how the nutrient cycle works:

Task 13: Explain how ecosystems are interdependent:

The distribution and characteristics of global ecosystems (biomes)



ECOSYSTEM	DISTRIBUTION		DESCRIPTION (Biotic & Abiotic)
Grassland			
Hot desert			
Temperate deciduous forest			
Tropical rainforest			
Tundra			
Polar			

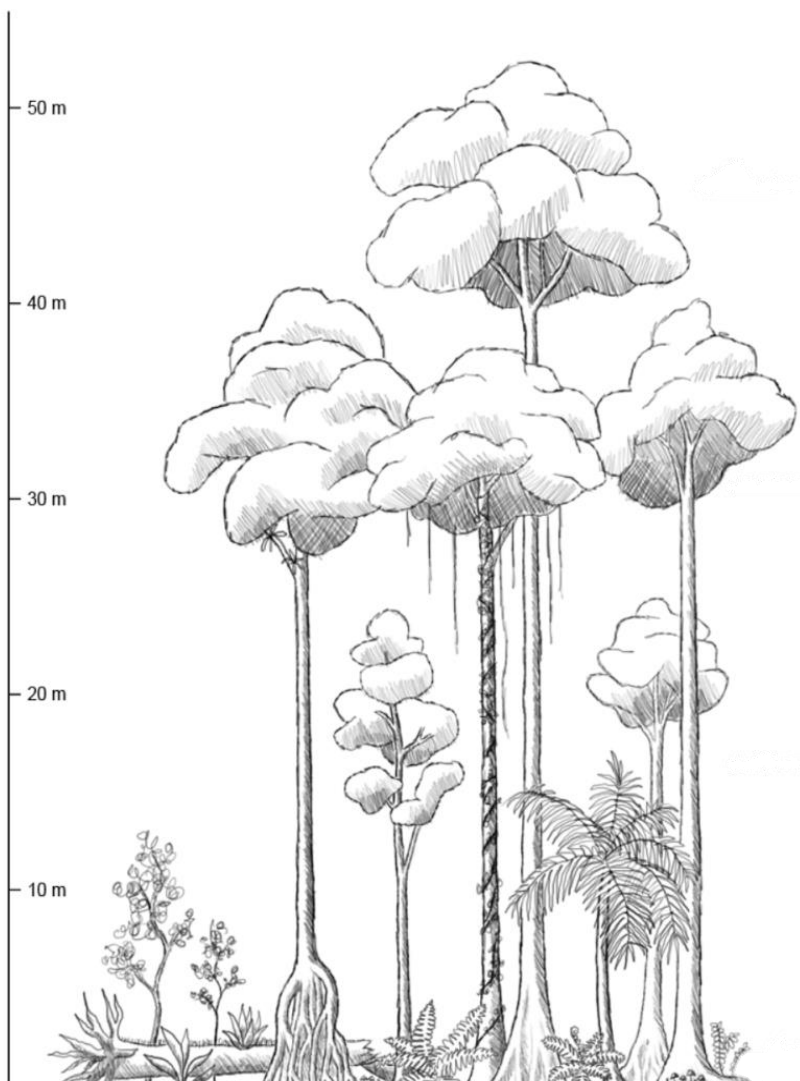
TASK 14: Explain the reasons for the distribution of:

Hot Deserts:

Tropical rainforests:

Tropical Rainforests

TASK 15: Annotate the diagram below to show the layers of a rainforest and its characteristics

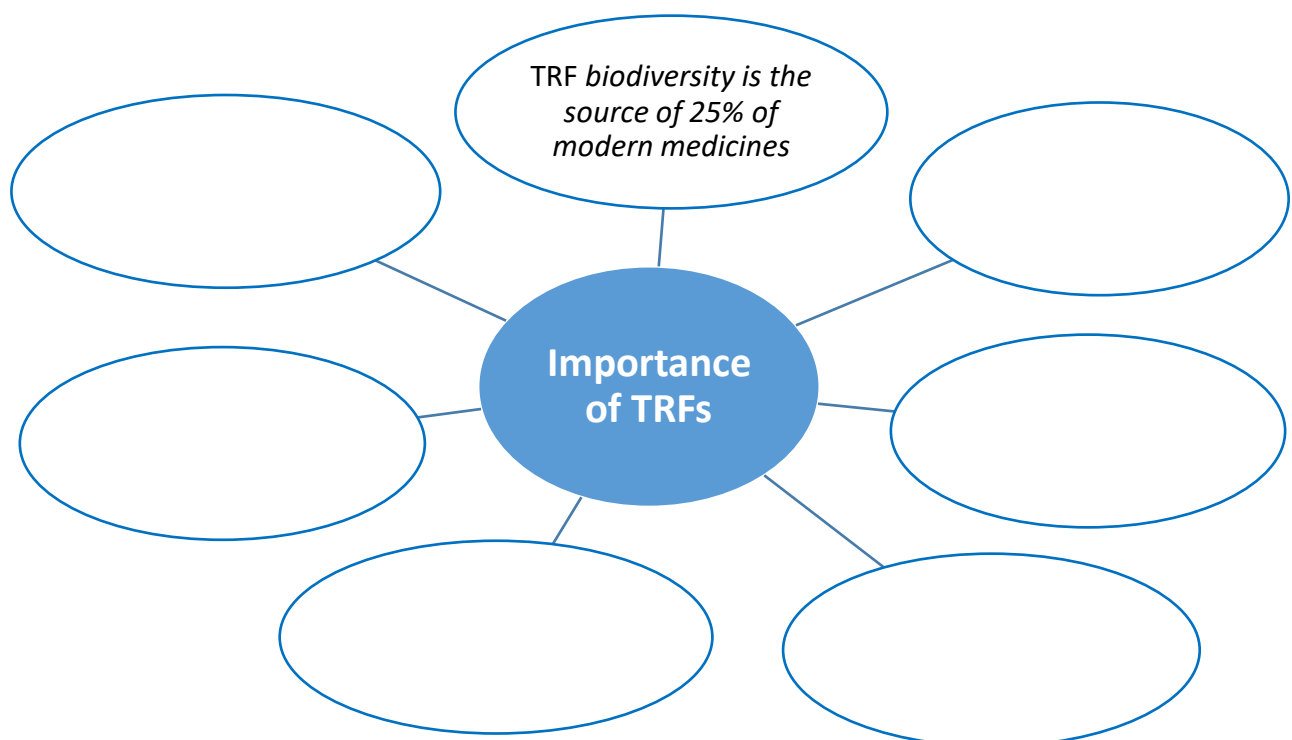


Describe the soils in tropical rainforests:

TASK 16: Complete the table below to show plant and animal adaptations to extreme conditions in a TRF.

Reason adaptation is needed	Adaptation(s)	Explanation of how adaptation(s) helps

TASK 17: Create a mind map to detail the importance of tropical rainforests.



TASK 18: Complete the table explaining the positive and negative effects of deforestation in the Amazon

Causes of deforestation (K)	Brazil (PLC) (Case Study Detail)	EFFECTS (U)	
		Positive	Negative
Subsistence Farming and Commercial Farming	65-70% of commercial farming is cattle ranching	<p>U1- Large scale agriculture supports many jobs in the poor regions within the Amazon.</p> <p>U2- This will encourage the multiplier effect which improves Brazil's GNI.</p>	<p>U1- This destroys large habitats and the loss of much biodiversity.</p> <p>U2- This biodiversity is the source of 25% of modern medicines.</p>
Logging	Logging in Brazil generates \$2.5 billion per year		
Road Building	In Brazil, the Trans-Amazonian Highway stretches for some 4,000 km through the rainforest.		
Mineral Extraction	Largest iron ore mine in the world, Carajás, employs over 3,000 and runs 24 hours a day.		
Energy Development	Hydro-Electric Dams such as the Monte Dam in Brazil.		
Settlement and Population Growth	Population in the Amazon region has grown about 25% since 2000		

TASK 19: Complete the table on Sustainable management strategies of tropical rainforests

Strategy (K)		Strength of strategy (U)	Limitation of strategy (A/U)
Selective logging	Only some trees cut down: normally the older ones.	<i>Controls areas deforestation occurs and then guarantees that the area is untouched and allowed to grow back</i>	<i>Limiting the activity has led to an increase in illegal logging which has impacted indigenous communities</i>
Afforestation (replanting trees)	New trees can be planted to replace those cut down		
Education	International community is educated about the impacts of deforestation. This will encourage people to buy products which are rainforest certified.		
Ecotourism	Ecotourism is tourism which minimises the impact on the environment whilst benefitting locals.		
International agreements	Countries join and agree to protect forests		
Debt reduction	Cut trees to sell them and pay off debts. Debt relief (reducing debt) or even debt cancellation reduces the need to cut down trees.		

Hot Deserts

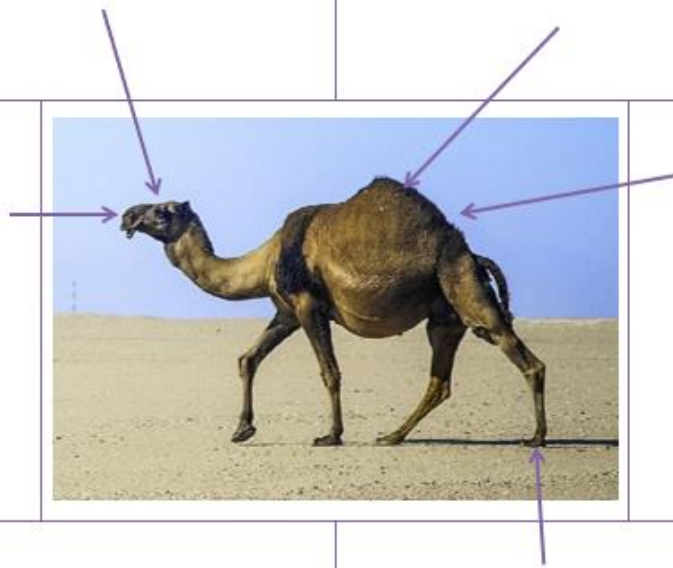
Task 20: Explain 3 reasons why areas of Hot Desert are “hostile environments” for wildlife

TASK 21: Annotate the images below to show how wildlife has adapted to the extreme conditions in hot deserts.

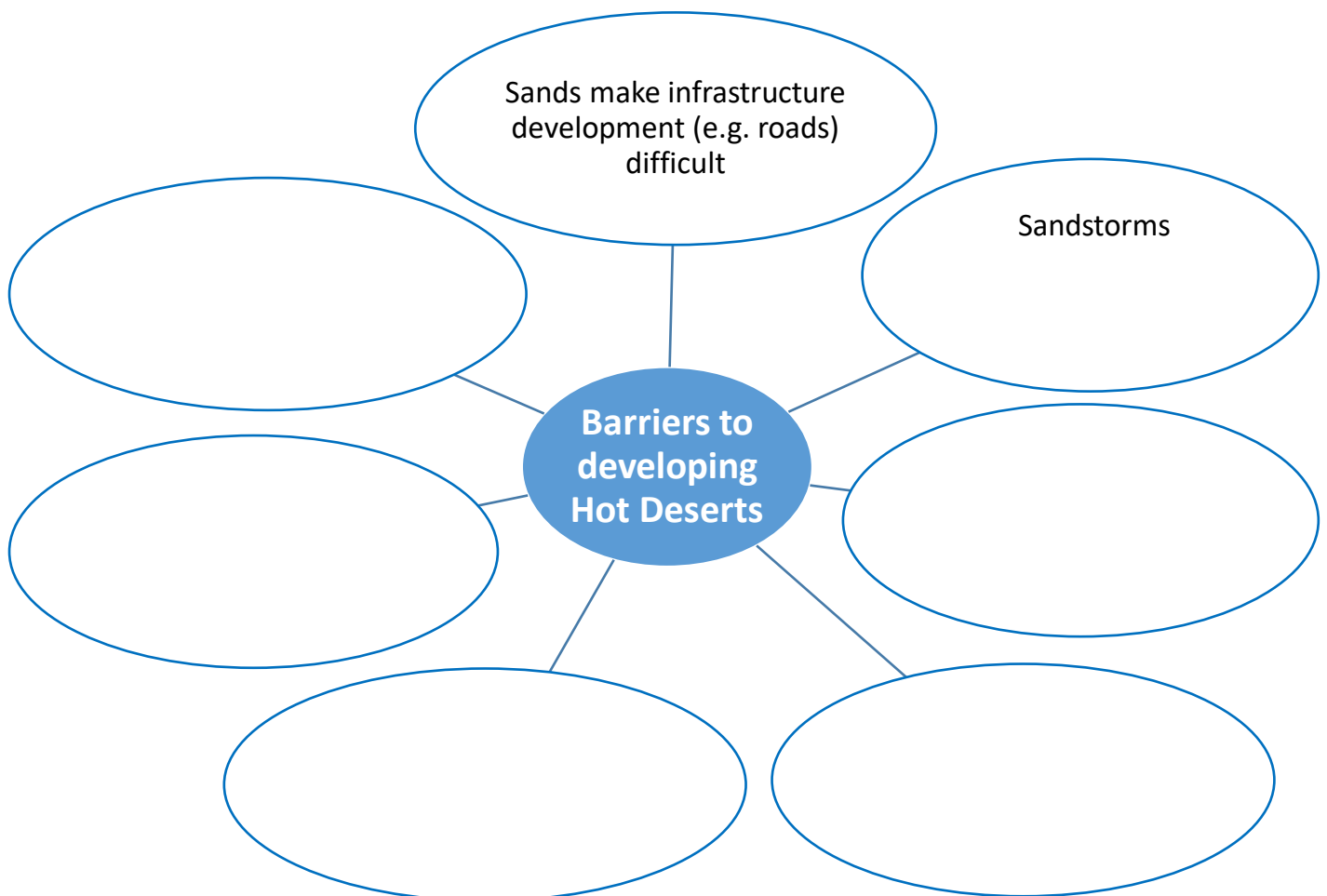
Hot Desert Adaptation - Cactus

	<p>Cacti have two types of root system</p> <ol style="list-style-type: none">1. A shallow network just below the surface the can soak up any rain water immediately2. A large network of tap roots that go as far as 3 meters underground to reach the deepest groundwater

Hot Desert Adaptation - Camel



TASK 22: Create a developed mind map that outlines challenges of developing economic activities in hot desert areas



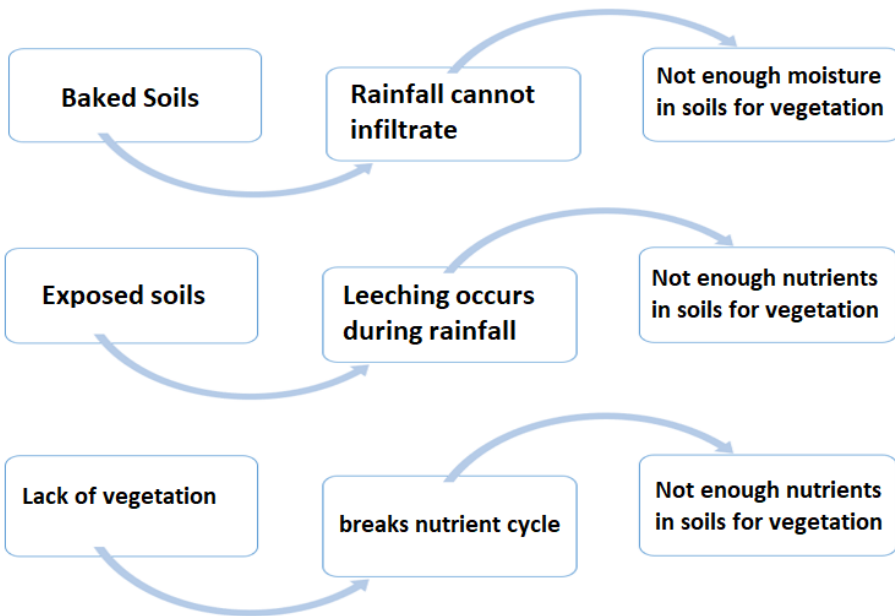
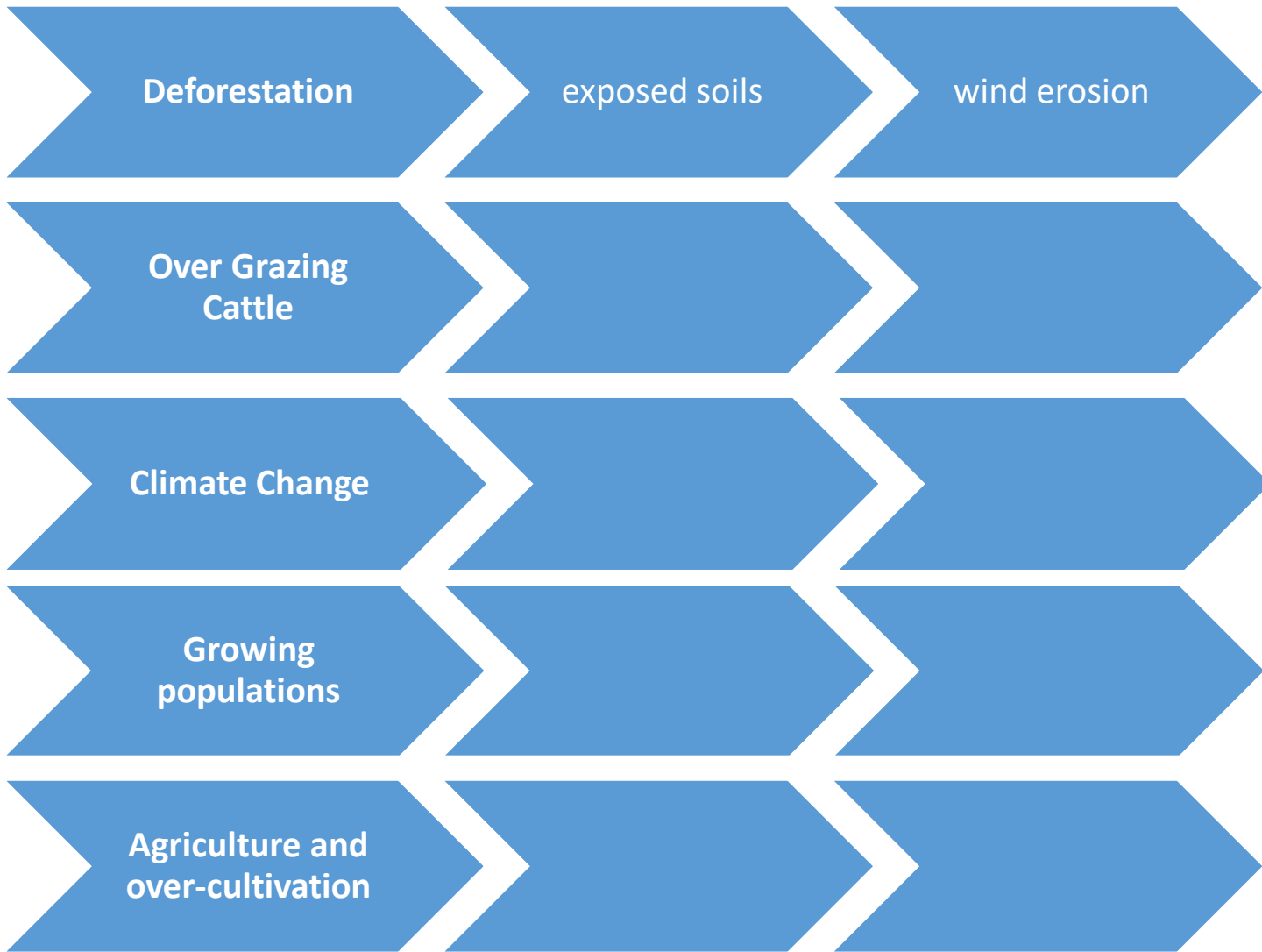
TASK 23: Explain the opportunities for development in Hot Deserts

Sahara Desert Opportunities (PLC)/(K)	Explain the benefits of this activity (UU)
<p><u>Mineral resources</u></p> <p><i>Morocco is the world's largest exporter of phosphate. Phosphate is used in cleaning products, batteries and fertilisers.</i></p> <p><i>There are also major iron ore deposits in Algeria.</i></p>	
<p><u>Oil and Gas Industry</u></p> <p><i>60% of Algeria's income comes from the oil and gas industry.</i></p>	
<p><u>Solar Energy</u></p> <p><i>Morocco is currently building one of the world's biggest solar power plants, a project largely funded by the EU.</i></p> <p><i>Tunisia also has plans to build one by 2025. It has the potential to provide 2.5 million people with energy.</i></p>	
<p><u>Farming</u></p> <p><i>Aswan Dam, which provides water for Egypt all year round. This water source can be used for farming.</i></p> <p><i>However, dams flood huge areas, forcing people and wildlife out of the area.</i></p>	
<p><u>Tourism</u></p> <p><i>Many people are fascinated by holidaying in extreme environments. Sand-boarding, cross-desert camel treks and carting a popular attractions.</i></p>	

TASK 24: Define Desertification

TASK 25: Use the information provided and your own understanding to complete the flows explaining causes of desertification

Figure shows examples of how soils can become infertile



TASK 26: Suggest problems that desertification on desert fringes will have on the local population

TASK 27: Explain strategies to reduce desertification on the fringes of Hot Deserts

Strategies (K)	Example (PLC)	Explanation of how desertification is managed (U)	Limitation of strategy (A)
<u>Bunds</u>	Sahel region in Burkina Faso.	<p>They construct a series of low stone walls along the slopes.</p> <p>When rain washes down the hillside, the wall traps water and soil, increasing infiltration rates</p>	Relies on regular rainfall which is becoming less frequent with climate change
<u>Tree Planting</u>	The 'Great Green Wall' along the southern edge of the Sahara		
<u>Use of appropriate technology (intermediate technology)</u>	In the Sahel regions, promotion of the use of 'efficient stoves'.		