

Geography AQA

Paper 1. Section B – The Living World

Ecosystems and Tropical Rainforests

Exam Booklet

3.1.2.1 Ecosystems

Key idea	Specification content
Ecosystems exist at a range of scales and involve the interaction between biotic and abiotic components.	An example of a small scale UK ecosystem to illustrate the concept of interrelationships within a natural system, an understanding of producers, consumers, decomposers, food chain, food web and nutrient cycling. The balance between components. The impact on the ecosystem of changing one component. An overview of the distribution and characteristics of large scale natural global ecosystems.

3.1.2.2 Tropical rainforests

Key idea	Specification content
Tropical rainforest ecosystems have a range of distinctive characteristics.	The physical characteristics of a tropical rainforest. The interdependence of climate, water, soils, plants, animals and people. How plants and animals adapt to the physical conditions. Issues related to biodiversity.
Deforestation has economic and environmental impacts.	Changing rates of deforestation. A case study of a tropical rainforest to illustrate: • causes of deforestation – subsistence and commercial farming, logging, road building, mineral extraction, energy development, settlement, population growth • impacts of deforestation – economic development, soil erosion, contribution to climate change.

Key idea	Specification content
Tropical rainforests need to be managed to be sustainable.	Value of tropical rainforests to people and the environment. Strategies used to manage the rainforest sustainably – selective logging and replanting, conservation and education, ecotourism and international agreements about the use of tropical hardwoods, debt reduction.

EXAM PRACTISE QUESTIONS

1. Define ecosystem. (1 mark) pg. 20 in revision guide

Description

2. What is the role of producers in an ecosystem? (1 mark) pg. 20 in revision guide

Description

3. What is the role of a consumer in an ecosystem? (1 mark) pg. 20 in revision guide

Description

4. What is the role of a decomposer in an ecosystem? (1 mark) pg. 20 in revision guide

Description

5. How are nutrients transferred from dead material into the soil? pg. 20 in revision guide

Description

6. How are nutrients transferred from soil to the plants? (1 mark) pg. 20 in revision guide

Description

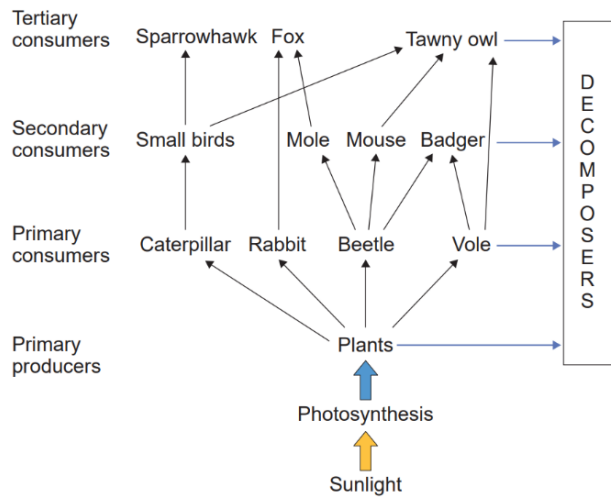
7. How are nutrients transferred from plants to animals? (1 mark) *pg. 20 in revision guide*

Description

8. What is the difference between a food chain and a food web? [1 mark] *pg. 20 in revision guide*

Description

9. Study figure 1 below:



Changes to one part of an ecosystem can have a knock- on effect. Using Figure 1, Suggest how a decrease in plants could impact the food web (2 marks) *pg. 20 in revision guide*

(K)nowledge	(U)nderstanding

10. Identify a producer of the Slapton Ley Reed Bed (1 mark) *pg. 21 in revision guide*

Description

11. Identify a consumer of the Slapton Ley Reed Bed (1 mark) *pg. 21 in revision guide*

Description

12. Identify a decomposer of the Slapton Ley Reed Bed (1 mark) *pg. 21 in revision guide*

Description

13. Slapton Reed Bed is an interdependent ecosystem, which means all the biotic and abiotic components depend on each other.

Using an example of a small-scale ecosystem that you have studied, explain the impact of one human change on the ecosystem. (3 marks) *pg. 21 in revision guide*

(K)nowledge	(U)nderstanding	(U)nderstanding

14. Using an example of a small-scale ecosystem that you have studied, explain the impact of one natural change on the ecosystem. (3 marks) *pg. 21 in revision guide*

(K)nowledge	(U)nderstanding	(U)nderstanding

15. Describe the location of the tundra (1 mark) *pg. 22 in revision guide*

Description

16. Describe the climate of a polar ecosystem (1 mark) *pg. 22 in revision guide*

Description

17. Describe the location of temperate deciduous forests (1 mark) *pg. 22 in revision guide*

Description

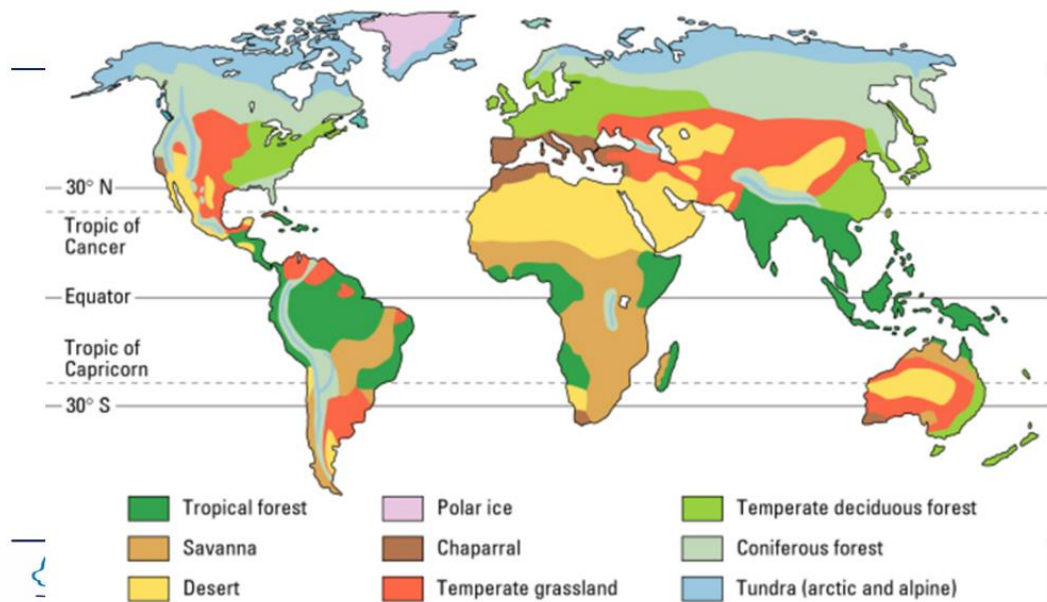
18. Explain why there is little vegetation found in polar climates (3 marks) *pg. 22 in revision guide*

(K)nowledge	(U)nderstanding	(U)nderstanding

19. Describe the climate of the Boreal forest (Taiga) (1 mark) *pg. 22 in revision guide*

Description

20. Using the map below, describe the location of hot deserts (2 marks) *pg. 22 in revision guide*



(D)escribe	(D)escribe

21. Explain why it is hot all year round in the tropical rainforest (2 marks) *pg. 23 in revision guide*

(K)nowledge	(U)nderstanding

22. Explain why soil in the tropical rainforest is not very fertile (2marks) *pg. 23 in revision guide*

(K)nowledge	(U)nderstanding

23. Define biodiversity (1 mark) *pg. 23 in revision guide*

Description

24. Outline one reason for the high levels of biodiversity found in tropical rainforests. (2 mark)
pg. 22/23 in revision guide

(K)nowledge	(U)nderstanding

25. State one threat to biodiversity in the tropical rainforest (1 mark) pg. 23 in revision guide

Description

26. Explain how the climate, soil and plants are interdependent in the tropical rainforest (3 marks) pg. 24 in revision guide

(K)nowledge	(U)nderstanding	(U)nderstanding

27. Explain how the Agouti (rodent) and Brazil nut tree are interdependent on each other in the tropical rainforest (3 marks) pg. 24 in revision guide

(K)nowledge	(U)nderstanding	(U)nderstanding

28. What is the name given to the top layer of the tropical rainforest? (1 mark) pg. 25 in revision guide

Description

29. State 3 physical characteristics of a tropical rainforest environment. (3 marks) *pg. 25 in revision guide*

(D) escribe	(D) escribe	(D) escribe

30. Explain two ways in which plants have adapted to the physical conditions of the tropical rainforest (6 marks) *pg. 25 in revision guide*

(K)nowledge	(U)nderstanding	(U)nderstanding
(K)nowledge	(U)nderstanding	(U)nderstanding

31. Explain two ways animals have adapted to live in the tropical rainforest. (4 marks) *pg. 25 in revision guide*

(K)nowledge	(U)nderstanding
(K)nowledge	(U)nderstanding

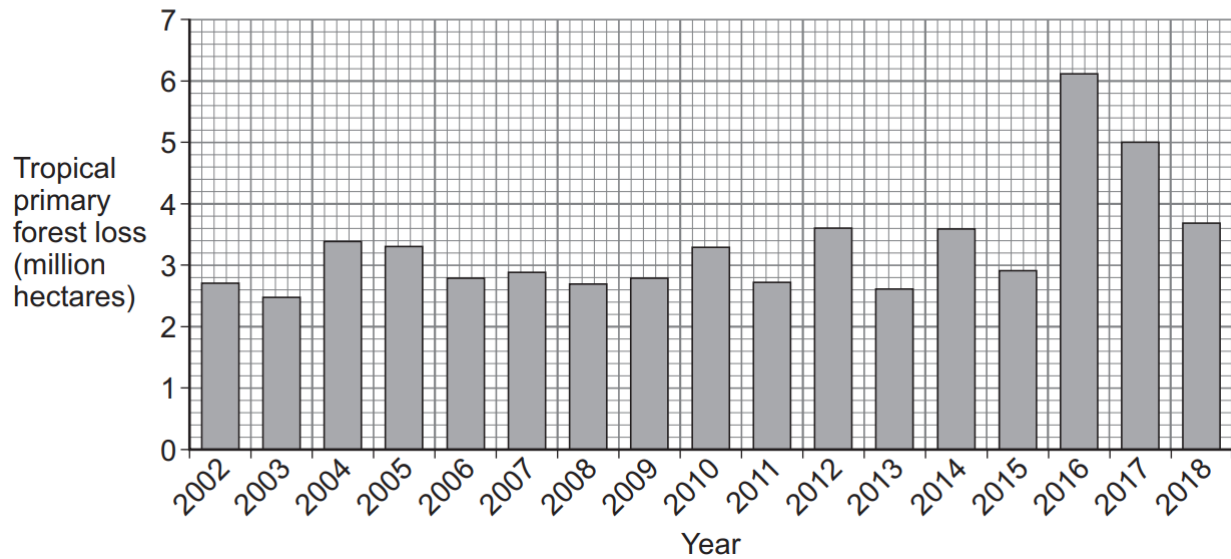
32. Define deforestation (1 mark) *pg. 26 in revision guide*

Description

Study the figure below showing the tropical primary forest loss.

Study **Figure 7**, a graph showing tropical primary forest loss between 2002 and 2018.

Figure 7



33. Describe changes in tropical primary forest loss between 2002 and 2018. (3marks)

(D)escribe	(D)escribe	(D)escribe

34. Explain two causes of deforestation in the Amazon rainforest (4 marks) *pg. 26 in revision guide*

(K)nowledge	(U)nderstanding
(K)nowledge	(U)nderstanding

35. Define subsistence farming (1 mark) *pg. 26 in revision guide*

Description

36. Explain two environmental impacts of deforestation (6 marks) *pg. 27 in revision guide*

(K)nowledge	(U)nderstanding	(U)nderstanding
(K)nowledge	(U)nderstanding	(U)nderstanding

37. Explain one positive economic impact of deforestation (3 marks) *pg. 27 in revision guide*

(K)nowledge	(U)nderstanding	(U)nderstanding

38. Explain one reason why the tropical rainforest is valuable to people (2 marks) *pg. 28 in revision guide*

(K)nowledge	(U)nderstanding

39. Explain one reason why the tropical rainforest is valuable to the environment (3 marks) *pg. 28 in revision guide*

(K)nowledge	(U)nderstanding	(U)nderstanding

40. Explain how ecotourism and logging help manage rainforests sustainably (4 marks) *pg. 28 in revision guide*

(K) nowledge	(U) nderstanding
(K) nowledge	(U) nderstanding

41. Outline how education can be used to manage the rainforest sustainably (1 mark) *pg. 29 in revision guide*

Description

42. Outline a negative of conservation (1 mark) *pg. 29 in revision guide*

Description

43. Explain how reducing debts help manage the rainforest (2 marks) *pg. 29 in revision guide*

(K) nowledge	(U) nderstanding

44. Explain how international hardwood agreements help manage the rainforest (2 mark) *pg. 29 in revision guide*

(K) nowledge	(U) nderstanding

Question	Discuss the human and natural impacts on a small scale ecosystem you have studied (6 marks)			
	A (application)	K (knowledge)	U (understanding)	U (understanding)
Paragraph 1				
Paragraph 2 (Challenge – grade 6 +)				
Conclusion (Challenge – grade 8+)				

Question	Using an example of a tropical rainforest you have studied, discuss how development in a tropical rainforest creates economic advantages but at a cost to the environment. (6 marks)			
	A (application)	K (knowledge)	U (understanding)	U (understanding)
Paragraph 1				
Paragraph 2 (Challenge – grade 6 +)				
Conclusion (Challenge – grade 8+)				