



Ecosystems

Multiple choice knowledge checker

1.	What is an ecosystem?	
<input type="radio"/>	A.	A community of plants and animals sharing an environment with non-living things.
<input type="radio"/>	B.	The flow of energy between living organisms.
<input type="radio"/>	C.	A global biome such as the tropical rainforest.
<input type="radio"/>	D.	The pathways through which nutrients are constantly recycled.

2.	Which of the following statements is true?	
<input type="radio"/>	A.	The term biotic relates to all living organisms within an ecosystem such as plants and animals. Abiotic elements are the non-living features such as soil, rocks and the climate.
<input type="radio"/>	B.	The term abiotic relates to all living organisms within an ecosystem such as plants and animals. Biotic elements are the non-living features such as soil, rocks and the climate.

3.	Which of the following is a characteristic of a producer in an ecosystem?	
<input type="radio"/>	A.	They are herbivores which means they only eat plants.
<input type="radio"/>	B.	They are carnivores.
<input type="radio"/>	C.	They produce their own food through photosynthesis.
<input type="radio"/>	D.	They break down dead plants and animals

4.	Which of the following is a characteristic of a primary consumer in an ecosystem?	
<input type="radio"/>	A.	They are herbivores which means they only eat plants.
<input type="radio"/>	B.	They are carnivores.
<input type="radio"/>	C.	They produce their own food through photosynthesis.
<input type="radio"/>	D.	They break down dead plants and animals

5.	Which of the following is a characteristic of a secondary consumer in an ecosystem?	
<input type="radio"/>	A.	They are herbivores which means they only eat plants.
<input type="radio"/>	B.	They are carnivores.
<input type="radio"/>	C.	They produce their own food through photosynthesis.
<input type="radio"/>	D.	They break down dead plants and animals

6.	Which of the following is a characteristic of decomposers in an ecosystem?	
<input type="radio"/>	A.	They are herbivores which means they only eat plants.
<input type="radio"/>	B.	They are carnivores.
<input type="radio"/>	C.	They produce their own food through photosynthesis.
<input type="radio"/>	D.	They break down dead plants and animals

7.	True or false? Decomposers are very important for any ecosystem. If they weren't in the ecosystem the plants would not get essential nutrients and dead matter and waste would gather.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

8.	What is a food chain?	
<input type="radio"/>	A.	A community of plants and animals sharing an environment.
<input type="radio"/>	B.	The transfer of nutrients in an ecosystem.
<input type="radio"/>	C.	A global scale ecosystem. Also known as a biome.
<input type="radio"/>	D.	A series of organisms each dependent on the next as a source of food.

9.	True or false? A food web shows lots of food chains and how they overlap	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

10.	What is the transfer of nutrients through an ecosystem is known as?	
<input type="radio"/>	A.	Food chain
<input type="radio"/>	B.	Food web
<input type="radio"/>	C.	The nutrient cycle
<input type="radio"/>	D.	A biome

11.	Identify three stores in the nutrient cycle.
<input type="radio"/>	A. Air, soil and biomass
<input type="radio"/>	B. Biomass, abiotic and biotic
<input type="radio"/>	C. Biomass, litter and soil.
<input type="radio"/>	D. Litter, soil and air

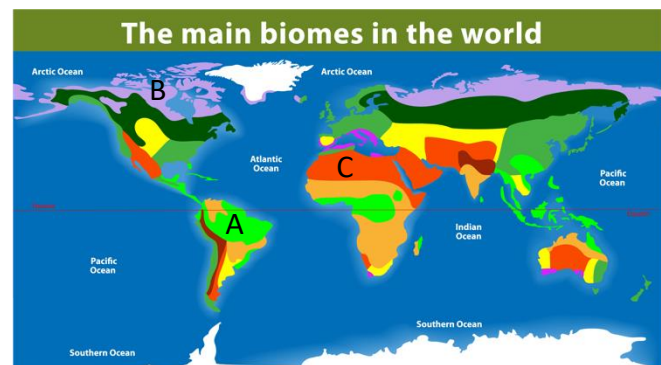
12.	Which of the following is not a flow within the nutrient cycle.
<input type="radio"/>	A. Nutrient uptake by plants.
<input type="radio"/>	B. Input dissolved in rain
<input type="radio"/>	C. Output dissolved in evaporation
<input type="radio"/>	D. Loss in run-off

13.	Which of the following is not an example of a small-scale ecosystem
<input type="radio"/>	A. A hedgerow
<input type="radio"/>	B. A pond
<input type="radio"/>	C. A wood
<input type="radio"/>	D. An area of tropical rainforest

14.	What is a biome?
<input type="radio"/>	A. A biome is a very large ecological areas e.g. tropical rainforest.
<input type="radio"/>	B. A biome is a small-scale ecosystem e.g. pond.
<input type="radio"/>	C. A biome is a store in the nutrient cycle.
<input type="radio"/>	D. All of the above

15.	Which of the following is not an example of a biome?
<input type="radio"/>	A. Tropical rainforest
<input type="radio"/>	B. Hot Desert
<input type="radio"/>	C. Tundra
<input type="radio"/>	D. Hedgerow

16.	True or false? <i>Biomes</i> contain fauna and flora (animals and plants) that have adapted to the environment.
<input type="radio"/>	A. True
<input type="radio"/>	B. False



17.	Look at the map above. Which answer below correctly identifies three biomes?
<input type="radio"/>	A. A = Rainforest, B = Tundra and C = Desert.
<input type="radio"/>	B. A = Tundra, B = Rainforest and C = Desert.
<input type="radio"/>	C. A = Desert, B = Tundra and C = Rainforest.
<input type="radio"/>	D. A = Tundra, B = Desert and C = Rainforest.

18.	Which biome is mainly found between 15° north – 15° south of the equator
<input type="radio"/>	A. Hot desert
<input type="radio"/>	B. Tundra
<input type="radio"/>	C. Tropical rainforest
<input type="radio"/>	D. Savanna

19.	Which biome is mainly found between 15-30° north and south of the equator?
<input type="radio"/>	A. Hot desert
<input type="radio"/>	B. Tundra
<input type="radio"/>	C. Tropical rainforest
<input type="radio"/>	D. Savanna

20.	Which biome is mainly found in the extreme north?
<input type="radio"/>	A. Hot desert
<input type="radio"/>	B. Tundra
<input type="radio"/>	C. Tropical rainforest
<input type="radio"/>	D. Savanna

21.	What is the tropical rainforest?	
<input type="radio"/>	A.	The tropical rainforest is a forest occurring in tropical areas of heavy rainfall.
<input type="radio"/>	B.	The tropical rainforest is a forest occurring in tropical areas of low rainfall.
<input type="radio"/>	C.	The tropical rainforest is a forest occurring along the tropics of Cancer and Capricorn occurring in areas of high rainfall.
<input type="radio"/>	D.	The tropical rainforest is a forest occurring along the tropics of Cancer and Capricorn occurring in areas of low rainfall.

22.	What % of all life forms on our planet are found in tropical rainforests?	
<input type="radio"/>	A.	20-40%
<input type="radio"/>	B.	30-50%
<input type="radio"/>	C.	40-60%
<input type="radio"/>	D.	50-70%

23.	True or false? Rainforests are the most productive and most complex ecosystems on Earth.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

24.	Which of the following best describes climate in the rainforest?	
<input type="radio"/>	A.	Temperature = 8°C Rainfall = 1000mm
<input type="radio"/>	B.	Temperature = 18°C Rainfall = 1500mm
<input type="radio"/>	C.	Temperature = 28°C Rainfall = 2000mm
<input type="radio"/>	D.	Temperature = 38°C Rainfall = 3000mm

25.	True or false? The largest rainforests are in the Amazon in Brazil (South America), Democratic Republic of Congo (Africa) and Indonesia (South East Asia).	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

26.	Where is the greatest area of tropical rainforest found?	
<input type="radio"/>	A.	Indonesia
<input type="radio"/>	B.	Democratic Republic of Congo
<input type="radio"/>	C.	Peru
<input type="radio"/>	D.	Brazil

27.	Identify the rainforest's main layers.	
<input type="radio"/>	A.	Plant layer, under canopy, canopy and emergent.
<input type="radio"/>	B.	Shrub layer, under shrub layer, canopy and emergent.
<input type="radio"/>	C.	Shrub layer, under canopy, canopy and emergent.
<input type="radio"/>	D.	Ground layer, under canopy, crown layer and emergent.

28.	True or false? Emergents are the tallest trees and are usually under 30 metres tall	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

29.	True or false? The canopy contains over 50% of the rainforest wildlife.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

30.	Which type of plant climbs trees to reach sunlight in the canopy?	
<input type="radio"/>	A.	Epiphytes
<input type="radio"/>	B.	Lianas
<input type="radio"/>	C.	Air plants
<input type="radio"/>	D.	Sun plants

31.	Name an organism that grows on the surface of a plant and gets its moisture and nutrients from the air, rain, water or from debris gathering around it.	
<input type="radio"/>	A.	Epiphytes
<input type="radio"/>	B.	Lianas
<input type="radio"/>	C.	Rain plants
<input type="radio"/>	D.	Sun plants

32.	Why do tree trunks in the under canopy tend to be bare?	
<input type="radio"/>	A.	To allow animals to climb them.
<input type="radio"/>	B.	To discourage plants from climbing the tree.
<input type="radio"/>	C.	To discourage animals from climbing the tree.
<input type="radio"/>	D.	To discourage humans from climbing the tree.

33.	Which rainforest layer is being described below? It contains shrubs and ferns and other plants needing less light. Saplings of emergents and canopy trees can also be found here.	
<input type="radio"/>	A.	Shrub layer,
<input type="radio"/>	B.	Under canopy,
<input type="radio"/>	C.	Canopy
<input type="radio"/>	D.	Emergent.

34.	What is the layer of rotting leaves and dead animals on the forest floor called?	
<input type="radio"/>	A.	Rubbish
<input type="radio"/>	B.	Litter
<input type="radio"/>	C.	Decaying
<input type="radio"/>	D.	Rotting

35.	True or false? Below the rich top soil the soil lacks nutrients. This is because nutrients are rapidly absorbed by vegetation.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

36.	Which of the following is not a way vegetation has adapted to the rainforest environment?	
<input type="radio"/>	A.	Buttress roots
<input type="radio"/>	B.	Waxy leaves
<input type="radio"/>	C.	Rough bark
<input type="radio"/>	D.	Drip tips

37.	Why have plants developed a waxy surface and drip tips?	
<input type="radio"/>	A.	The weight of water doesn't damage the plant, and there's standing water for fungi and bacteria to grow in.

<input type="radio"/>	B.	The weight of water damages the plant, and there's standing water for fungi and bacteria to grow in.
<input type="radio"/>	C.	The weight of water doesn't damage the plant, and there's no standing water for fungi and bacteria to grow in.
<input type="radio"/>	D.	To reduce the risk of flooding in the tropical rainforest.

38.	Why is tree bark thin in the tropical rainforest?	
<input type="radio"/>	A.	They need protection from the cold at night.
<input type="radio"/>	B.	They store nutrients in the bark.
<input type="radio"/>	C.	There are not enough nutrients in the soil.
<input type="radio"/>	D.	They do not need protection from the cold.

39.	Why do plants drop their leaves gradually throughout the year?	
<input type="radio"/>	A.	They can go on growing all year round.
<input type="radio"/>	B.	Autumn occurs twice.
<input type="radio"/>	C.	The wind is very strong causing the leaves to be blown off.
<input type="radio"/>	D.	There are not enough nutrients to sustain the trees throughout the year.

40.	Why are some leaf stems flexible?	
<input type="radio"/>	A.	To allow leaves to move with the sun to maximise photosynthesis.
<input type="radio"/>	B.	To enable plants to disrupt the movement of termites.
<input type="radio"/>	C.	To allow leaves to avoid heavy rainfall.
<input type="radio"/>	D.	To capture more rainfall.

41.	What adaptation has the poison dart frog made to survive in the tropical rainforest?	
<input type="radio"/>	A.	Bright colours to attract prey.
<input type="radio"/>	B.	Claws to grip to the waxy surface of leaves.
<input type="radio"/>	C.	Bright colours to warn predators.

42.	Why do sloths have long, sharp claws?	
<input type="radio"/>	A.	To cling onto branches
<input type="radio"/>	B.	To extract prey from tree bark
<input type="radio"/>	C.	To itch themselves due to the large number of termites that bury into their fur.
<input type="radio"/>	D.	To pick their noses.

43.	The spider monkey has developed a prehensile tail. What does this mean?	
<input type="radio"/>	A.	A tail that looks like vegetation to help hide from predators.
<input type="radio"/>	B.	A tail that is a different colour to the rest of the body.
<input type="radio"/>	C.	A tail used to attract mates.
<input type="radio"/>	D.	A tail able to grasp or hold objects

44.	Why have geckos developed large, flattened toe pads that have sticky scales on their undersides?	
<input type="radio"/>	A.	To hold onto prey.
<input type="radio"/>	B.	To help them grip onto the smooth tree trunks.
<input type="radio"/>	C.	To help them swim.
<input type="radio"/>	D.	To easily detach if they are caught by a predator.

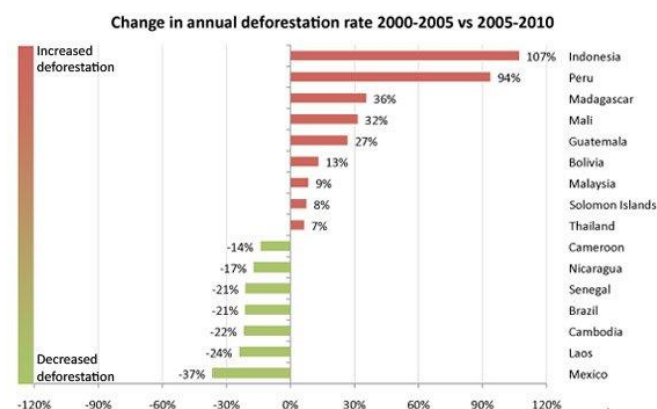


Figure 1 Changes in annual deforestation rate 2000-2005 vs 2005-2010

45.	Look at figure 1. Where is the rate of deforestation increasing?	
<input type="radio"/>	A.	Mexico, Laos and Cambodia
<input type="radio"/>	B.	Indonesia, Peru and Brazil
<input type="radio"/>	C.	Indonesia, Peru and Madagascar
<input type="radio"/>	D.	Cameroon, Nicaragua and Senegal

46.	Look at figure 1. Where is the rate of deforestation decreasing?	
<input type="radio"/>	A.	Mexico, Laos and Cambodia
<input type="radio"/>	B.	Indonesia, Peru and Brazil
<input type="radio"/>	C.	Indonesia, Peru and Madagascar
<input type="radio"/>	D.	Cameroon, Nicaragua and Senegal

47.	True or false? Over half of the remaining rainforest in Brazil is in some way protected.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

48.	Which of the following is not a cause of deforestation in the tropical rainforest?	
<input type="radio"/>	A.	Cattle ranching
<input type="radio"/>	B.	Afforestation
<input type="radio"/>	C.	Farming
<input type="radio"/>	D.	Road Building

49.	Which of the following conditions make the Brazilian rainforest ideal for HEP?	
<input type="radio"/>	A.	The large number of lakes.
<input type="radio"/>	B.	The mountainous environment.
<input type="radio"/>	C.	Unlimited supply of water and ideal river conditions
<input type="radio"/>	D.	There are few indigenous people living there.

50.	Which of the following is not a type of agriculture affecting tropical rainforests?	
<input type="radio"/>	A.	Cattle ranching
<input type="radio"/>	B.	Palm oil production
<input type="radio"/>	C.	Soya production
<input type="radio"/>	D.	Hydroponics

51.	True or false? Deforestation leads to soil erosion.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

52.	True or false? Deforestation provides a valuable income in many LICs and NEEs.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

53.	Which of the following is not an example of a local impact of deforestation in the tropical rainforest?	
<input type="radio"/>	A.	Elimination of Indian groups and their way of life.
<input type="radio"/>	B.	Soil erosion
<input type="radio"/>	C.	An increase in CO2 levels in the atmosphere.
<input type="radio"/>	D.	Destruction of the nutrient cycle.

54.	Which of the following are global impacts of rainforest deforestation?	
<input type="radio"/>	A.	Global climate change
<input type="radio"/>	B.	Local climate change
<input type="radio"/>	C.	Loss of biodiversity
<input type="radio"/>	D.	River pollution

55.	<p>True or false? The tropical rainforest is a valuable provider of resources and opportunities. These fall into two different groups:</p> <ul style="list-style-type: none"> those provided by the rainforest in its natural state those provided by the land once it is cleared of its forest cover. 	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

56.	True or false? The rainforest is of little use to pharmaceutical companies.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

57.	Which of the following will help reduce the impact of climate change?	
<input type="radio"/>	A.	Increasing the rate of deforestation
<input type="radio"/>	B.	Reducing burning fossil fuels
<input type="radio"/>	C.	Reducing afforestation
<input type="radio"/>	D.	Greatly reducing the rate of deforestation to make sure that as much of the Earth as possible is covered by trees to absorb the carbon dioxide in the atmosphere.

58.	What does it mean to sustainably manage the tropical rainforest?	
<input type="radio"/>	A.	To use the rainforest in a way that enables local people to benefit from the rainforest today, but ensures the resource is available to future generations.
<input type="radio"/>	B.	To use the rainforest in a way that enables local people to benefit from the rainforest today but will not be available to future generations.
<input type="radio"/>	C.	To use the rainforest in a way that local people will not benefit from today, but ensures the resource is available to future generations.

59.	Which of the following are examples of sustainable management of the rainforest at the local level?	
<input type="radio"/>	A.	Replanting
<input type="radio"/>	B.	Selective logging
<input type="radio"/>	C.	Agroforestry
<input type="radio"/>	D.	Creating protected areas or reserves.

60.	Which of the following are examples of sustainable management of the rainforest at the national level?	
<input type="radio"/>	A.	Creating protected areas or reserves.
<input type="radio"/>	B.	Education
<input type="radio"/>	C.	Debt reduction by HICs.
<input type="radio"/>	D.	Stopping the abuse of the rainforest by developers.

61.	Which of the following are examples of sustainable management of the rainforest at the international level?	
<input type="radio"/>	A.	Inter-government agreements on hardwoods and endangered species.
<input type="radio"/>	B.	Debt reduction by HICs
<input type="radio"/>	C.	Conservation and education by NGOs
<input type="radio"/>	D.	Creating protected areas or reserves.

62.	Which local strategy for managing the tropical rainforest sustainably is described below? Felling trees only when they are fully grown, and letting younger trees mature and continue protecting the ground from erosion.	
<input type="radio"/>	A.	Replanting
<input type="radio"/>	B.	Selective logging
<input type="radio"/>	C.	Agroforestry
<input type="radio"/>	D.	Stopping illegal logging

63.	Which local strategy for managing the tropical rainforest sustainably is described below? This strategy involves combining crops and trees. This avoids destroying the nutrient cycle.	
<input type="radio"/>	A.	Replanting
<input type="radio"/>	B.	Selective logging
<input type="radio"/>	C.	Agroforestry
<input type="radio"/>	D.	Stopping illegal logging

64.	Which national strategy for managing the tropical rainforest sustainably is described below? Stopping deforestation and development in designated areas of rainforest. This often occurs in areas settled by indigenous people.	
<input type="radio"/>	A.	Creating protected areas or reserves.
<input type="radio"/>	B.	Education
<input type="radio"/>	C.	Stopping the abuse of the rainforest by developers.

65.	Which national strategy for managing the tropical rainforest sustainably is described below? Making subjects such as environmental studies a compulsory part of the school curriculum.	
<input type="radio"/>	A.	Creating protected areas or reserves.
<input type="radio"/>	B.	Education
<input type="radio"/>	C.	Stopping the abuse of the rainforest by developers.

66.	Which international strategy for managing the tropical rainforest sustainably is described below? An agreement to convert debt to a high-income country into a fund to protect large areas of tropical rainforest.	
<input type="radio"/>	A.	Inter-government agreements on hardwoods and endangered species
<input type="radio"/>	B.	Conservation and education by NGOs
<input type="radio"/>	C.	Debt reduction by HICs

67.	Which international strategy for managing the tropical rainforest sustainably is described below? Agreements between governments aimed at protecting the biodiversity and resources of the rainforest.	
<input type="radio"/>	A.	Inter-government agreements on hardwoods and endangered species
<input type="radio"/>	B.	Conservation and education by NGOs
<input type="radio"/>	C.	Debt reduction by HICs

68.	What is the 2006 International Tropical Timber Agreement an example of?	
<input type="radio"/>	A.	Inter-government agreements on hardwoods and endangered species
<input type="radio"/>	B.	Conservation and education by NGOs
<input type="radio"/>	C.	Debt reduction by HICs

69.	Which international approach involves: <ul style="list-style-type: none"> • promoting the conservation message largely through education programmes in schools and colleges • providing training for conservation workers • providing practical help to make programmes more sustainable • buying up threatened areas and create nature reserves. 	
<input type="radio"/>	A.	Inter-government agreements on hardwoods and endangered species
<input type="radio"/>	B.	Conservation and education by NGOs
<input type="radio"/>	C.	Debt reduction by HICs

70.	Which of the following is not a challenge that needs to be overcome to achieve a sustainable balance between protection and development in the tropical rainforest?	
<input type="radio"/>	A.	Some governments are not willing to do anything that risks slowing down the rate of economic development.
<input type="radio"/>	B.	Some governments are unwilling to enforce monitoring laws aimed at protecting the rainforest.
<input type="radio"/>	C.	There is a lot of corruption in the way forests are treated, such as bribes to allow illegal logging.
<input type="radio"/>	D.	Making subjects, such as ecology or environmental studies, a compulsory part of the school curriculum.

Hot Deserts

71.	Where are hot deserts located?	
<input type="radio"/>	A.	Between 20° and 30° north and south of the equator.
<input type="radio"/>	B.	Between 20° north and south of the equator.
<input type="radio"/>	C.	Between 5° north and south of the equator.
<input type="radio"/>	D.	Between 5° and 10° north and south of the equator.

72.	Which of the following characterises the climate in the world's hot desert regions?	
<input type="radio"/>	A.	Hot and dry rising air with less than 250 millimetres of rain annually.
<input type="radio"/>	B.	Hot and dry sinking air less than 250 millimetres of rain annually.
<input type="radio"/>	C.	Hot and wet rising air less than 250 millimetres of rain annually.
<input type="radio"/>	D.	Hot and wet sinking air less than 250 millimetres of rain annually.

73.	Which of the following is not an example of hot desert?	
<input type="radio"/>	A.	Australian
<input type="radio"/>	B.	Thar
<input type="radio"/>	C.	Sahara
<input type="radio"/>	D.	Taklamakan

74.	What are areas of land found on the borders of hot deserts known as?	
<input type="radio"/>	A.	Semi-arid
<input type="radio"/>	B.	Semi-horrid
<input type="radio"/>	C.	Semi-fringe
<input type="radio"/>	D.	Semi-detached

75.	What can the diurnal temperature range in a desert exceed?	
<input type="radio"/>	A.	35°C
<input type="radio"/>	B.	45°C
<input type="radio"/>	C.	55°C
<input type="radio"/>	D.	65°C

76.	What causes the deep deposits of sand and loose material in deserts?	
<input type="radio"/>	A.	Weathering
<input type="radio"/>	B.	Erosion
<input type="radio"/>	C.	Transportation
<input type="radio"/>	D.	Deposition

77.	True or false? Sand dunes should not be classified as soils if there is no organic matter present there at all.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

78.	True or false? Some desert soils are potentially very fertile because important nutrients for plant growth, such as calcium, have not been leached away over time.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

79.	What is the collective name given to plants that can survive in very dry conditions?	
<input type="radio"/>	A.	Cacti
<input type="radio"/>	B.	Epiphytes
<input type="radio"/>	C.	Xerofites
<input type="radio"/>	D.	Xerophytes

80.	Which of the following are adaptations made by vegetation to survive the desert environment?	
<input type="radio"/>	A.	Some plants have the majority of their biomass below the ground surface where temperatures are cooler
<input type="radio"/>	B.	Some plants have thick, waxy cuticles to reduce water loss through transpiration.
<input type="radio"/>	C.	Deserts bloom suddenly after rainfall so to complete their life cycle quickly.
<input type="radio"/>	D.	Plants have drip tips so water does not accumulate on leaves.

81.	How have acacia trees adapted to survive in the desert ecosystem? You can select more than one answer.	
<input type="radio"/>	A.	They are fire resistant
<input type="radio"/>	B.	Deep roots, up to 50m which also reach out sideways.
<input type="radio"/>	C.	They have seeds that lie dormant for years between rains.
<input type="radio"/>	D.	Short, fat trunks that store excess water.

82.	How have cacti adapted to survive in the desert ecosystem? You can select more than one answer.	
<input type="radio"/>	A.	They are succulents, storing water in their tissues.
<input type="radio"/>	B.	Spikes deter consumers.
<input type="radio"/>	C.	Their small, waxy leaves reduce transpiration loss.
<input type="radio"/>	D.	They have deep roots to absorb water deep in the soil.

83.	Which of the following is not an example of interdependence in a hot desert?	
<input type="radio"/>	A.	Vegetation roots stabilise sandy soils in semi-arid areas at the edges of deserts.
<input type="radio"/>	B.	Links between different parts of the food web.
<input type="radio"/>	C.	Soil erosion is reduced by vegetation holding soil together, especially on the edge of deserts.
<input type="radio"/>	D.	It is home to thousands of other living organisms.

84.	How is lichen able to survive in the desert ecosystem?	
<input type="radio"/>	A.	It chemically breaks down rock using organic acids.
<input type="radio"/>	B.	It chemically breaks down organic material using organic acids.
<input type="radio"/>	C.	It decomposes organic material.
<input type="radio"/>	D.	It absorbs water from the atmosphere.

85.	Which of the following food chains would not be found in the desert ecosystem?	
<input type="radio"/>	A.	Grass → Kangaroo rat → Coyote
<input type="radio"/>	B.	Cactus → Grasshopper → Roadrunner → Coyote
<input type="radio"/>	C.	Cactus → Grasshopper → Scorpion → Road runner → Coyote
<input type="radio"/>	D.	Cactus → Grasshopper → Spider Monkey → Coyote

86.	Which of the following is not an animal adaptation to the desert ecosystem?	
<input type="radio"/>	A.	Desert foxes have thick fur on the soles of their feet, protecting them from the hot ground.

<input type="radio"/>	B.	The light-coloured fur on the bodies of Desert foxes reflects sunlight and keeps them cool.
<input type="radio"/>	C.	Kangaroo rats do not need to drink water; they get it from food.
<input type="radio"/>	D.	Kangaroo rats stay in burrows at night due to the low temperatures.

87.	Which of the following are hot desert development opportunities? You can select more than one.	
<input type="radio"/>	A.	Agriculture, providing water can be found for irrigation through aquifers or canals.
<input type="radio"/>	B.	Mineral extraction such as copper, uranium, lead, zinc and coal.
<input type="radio"/>	C.	Energy, such as solar.
<input type="radio"/>	D.	Tourism

88.	Which of the following is not a reason for uneven development in the desert ecosystem?	
<input type="radio"/>	A.	It is difficult to adapt to the hot desert environment.
<input type="radio"/>	B.	Desert environments are very inaccessible.
<input type="radio"/>	C.	There is a low population density in deserts.
<input type="radio"/>	D.	Large areas of desert are protected from development.

89.	How have people adapted to the desert environment? (you can select more than one answer)	
<input type="radio"/>	A.	Whitewashed buildings help reflect the sun.
<input type="radio"/>	B.	Water is extracted from aquifers.
<input type="radio"/>	C.	Slash and burn is a practiced form of farming.
<input type="radio"/>	D.	Irrigation is used to enable farming.

90.	What is desertification?	
<input type="radio"/>	A.	The process of land transforming from desert to fertile land.
<input type="radio"/>	B.	The process of rock breaking down in situ.
<input type="radio"/>	C.	The process by which land changes into desert.

<input type="radio"/>	D.	The process by which land wears away by the action of the sea, sand or river.
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91.	Which is the desert fringe also known as?	
<input type="radio"/>	A.	Semi-deserts
<input type="radio"/>	B.	Semi-arid area
<input type="radio"/>	C.	Drylands
<input type="radio"/>	D.	All of the above

92.	True or false? At the borders of hot deserts, desert fringe areas support greater biodiversity and larger plants.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

93.	True or false? Despite their higher rainfall, desert fringes are classified, alongside hot deserts, as fragile environments.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

94.	Which of the following statements is true?	
<input type="radio"/>	A.	We do not know whether global warming caused by humans will create even greater rainfall deficiencies in the Sahel or other desert fringes.
<input type="radio"/>	B.	Global warming is directly responsible for desertification in the Sahel and other desert fringes.
<input type="radio"/>	C.	Desertification in the Sahel is only occurring because of natural fluctuations in rainfall.
<input type="radio"/>	D.	Desertification in the Sahel and other desert fringes because of human action.

95.	Which of the following statements is not a human cause of desertification?	
<input type="radio"/>	A.	Population growth
<input type="radio"/>	B.	Overgrazing by cattle
<input type="radio"/>	C.	Deforestation for fuel and constructing shelter
<input type="radio"/>	D.	Cyclical drought bringing lower and less reliable rainfall

96.	True or false? Bunds are a low-tech solution to reducing soil erosion and desertification.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

97.	Which of the following are techniques that can be used to tackle desertification?	
<input type="radio"/>	A.	Tree-planting schemes to bind and protect the soil.
<input type="radio"/>	B.	Planting grass on slopes to help stabilise the topsoil and building small rock dams to trap rainwater in gullies.
<input type="radio"/>	C.	Building terraces (flattened sections with a retaining wall) on farmed slopes.
<input type="radio"/>	D.	All of the above

98.	Which of the following is an attempt to tackle desertification in the Sahel, Africa?	
<input type="radio"/>	A.	Green Door
<input type="radio"/>	B.	Green Wall
<input type="radio"/>	C.	Green Wing
<input type="radio"/>	D.	Green Goblin

99.	Technology that is suited to the needs, skills, knowledge and wealth of local people in the environment where they live which incorporates simple ideas with cheap and available materials is known as what?	
<input type="radio"/>	A.	Appropriate technology
<input type="radio"/>	B.	Intermediate technology
<input type="radio"/>	C.	Both of the above

100.	True or false? Efficient stoves are an example of appropriate technology.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

Cold Environments

71.	Where are cold environments mainly located?	
<input type="radio"/>	A.	66.5° north and south of the equator along with mountainous areas such as the Himalayas and the Alps.
<input type="radio"/>	B.	66.5° north and south of the equator.
<input type="radio"/>	C.	Between 66.5° north and south of the equator.
<input type="radio"/>	D.	Between 5° and 10° north and south of the equator.

72.	Which of the following characterises the climate in the world's cold environments?	
<input type="radio"/>	A.	Very low temperatures of short periods of time.
<input type="radio"/>	B.	Very low temperatures for long periods of time.
<input type="radio"/>	C.	Very low temperatures every 2-3 years.
<input type="radio"/>	D.	Places where temperatures are well below freezing all year.

73.	Which of the following are examples of cold environments?	
<input type="radio"/>	A.	Polar and tropical rainforest
<input type="radio"/>	B.	Polar and tundra
<input type="radio"/>	C.	Tundra and tropical rainforest
<input type="radio"/>	D.	Tundra and savannah

74.	What are extreme cold environments known as?	
<input type="radio"/>	A.	Polar
<input type="radio"/>	B.	Tundra
<input type="radio"/>	C.	Polar tundra
<input type="radio"/>	D.	Tundra polar

75.	What is the name of the cold environment that borders the polar region?	
<input type="radio"/>	A.	Polar
<input type="radio"/>	B.	Tundra
<input type="radio"/>	C.	Polar tundra
<input type="radio"/>	D.	Tundra polar

76.	Which type of cold environment has the greatest temperature range?	
<input type="radio"/>	A.	Polar
<input type="radio"/>	B.	Tundra
<input type="radio"/>	C.	Neither
<input type="radio"/>	D.	They are both the same

77.	True or false? Some cold environments experience less harsh conditions during summer enabling life to thrive.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

78.	Which of the following statements best describe soil in cold environments?	
<input type="radio"/>	A.	Tundra soils are almost non-existent unless they were formed under past climatic conditions. Polar soils are typically thin and not particularly fertile. They are often frozen in the winter.
<input type="radio"/>	B.	Polar soils are almost non-existent unless they were formed under past climatic conditions. Tundra soils are typically thin and not particularly fertile. They are often frozen in the winter.

79.	What is permanently frozen land in cold environments known as?	
<input type="radio"/>	A.	Frost
<input type="radio"/>	B.	Permafrost
<input type="radio"/>	C.	Perrofrrost
<input type="radio"/>	D.	Jackfrost

80.	Which of the following are adaptations made by vegetation to survive cold environments?	
<input type="radio"/>	A.	Deep root systems to access water and nutrients deep below the surface in the active layer. Low growing 'cushion' plants retain moisture and shelter from strong drying winds.
<input type="radio"/>	B.	Deep root systems to access water and nutrients deep below the surface in the active layer. High growing 'cushion' plants retain moisture and shelter from strong drying winds.
<input type="radio"/>	C.	Shallow root systems to access water and nutrients close to the surface in the active layer. High growing 'cushion' plants retain moisture and shelter from strong drying winds.
<input type="radio"/>	D.	Shallow root systems to access water and nutrients close to the surface in the active layer. Low growing 'cushion' plants retain moisture and shelter from strong drying winds.

81.	How have flowering plants such as the buttercup and Arctic poppy adapted to survive in cold environments?	
<input type="radio"/>	A.	They have deep roots to reach water.
<input type="radio"/>	B.	They have a rapid life cycle which means they can flower and seed quickly during the short summers.
<input type="radio"/>	C.	They have wide buttress roots to store water.
<input type="radio"/>	D.	Short, fat trunks that store excess water.

82.	True or false? Mosses are not found in cold environments because they cannot cope with waterlogged conditions in summer.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

83.	Which of the following is not an example of interdependence in a cold environment?	
<input type="radio"/>	A.	Indigenous people depend on animals such as seals for food, clothing and oil.
<input type="radio"/>	B.	Plants form dense cushions on the ground to retain moisture and heat.
<input type="radio"/>	C.	The bearberry has bright red berries to encourage birds such as owls to eat them and disperse the seeds.
<input type="radio"/>	D.	Vegetation roots stabilise sandy soils

84.	True or false? In polar regions food chains are short and food webs very basic.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

85.	Which food chain below is typical of a polar region?	
<input type="radio"/>	A.	Grass → Kangaroo rat → Coyote
<input type="radio"/>	B.	Arctic lichen → Musk Ox → Tundra Wolf
<input type="radio"/>	C.	Krill → Fish → Penguin
<input type="radio"/>	D.	Arctic willow → Arctic hare → Arctic fox → Tundra Wolf

86.	Which food chain below is typical of a tundra region?	
<input type="radio"/>	A.	Grass → Kangaroo rat → Coyote
<input type="radio"/>	B.	Krill → Fish → Seals → Whale
<input type="radio"/>	C.	Krill → Fish → Penguin
<input type="radio"/>	D.	Arctic willow → Arctic hare → Arctic fox → Tundra Wolf

87.	Which of the following is not an animal adaptation to a cold environment?	
<input type="radio"/>	A.	Arctic foxes have thick fur on their bodies and the soles of their feet, protecting them from the hot ground.
<input type="radio"/>	B.	Arctic foxes have thick fur on their bodies and the soles of their feet, protecting them from the cold.
<input type="radio"/>	C.	Musk oxen have wide hooves to enable them to walk on snow or waterlogged land.
<input type="radio"/>	D.	Arctic hares have white fur which provides good camouflage.

88.	Which of the following is not a risk to biodiversity in cold environments?	
<input type="radio"/>	A.	Climate change leading to longer, warmer summers.
<input type="radio"/>	B.	Melting permafrost releases carbon in the atmosphere enhancing the greenhouse effect.
<input type="radio"/>	C.	Increased resource exploitation of arctic regions (e.g. oil extraction) may cause pollution and have a negative impact on the ecosystem.
<input type="radio"/>	D.	Conservation groups such as the WWF supporting governments, businesses and local people in protecting biodiversity.

89.	Which of the following are hot desert development opportunities? You can select more than one.	
<input type="radio"/>	A.	Mineral extraction e.g. gold.
<input type="radio"/>	B.	Energy, through extracting oil and coal.
<input type="radio"/>	C.	Fishing e.g. salmon in Alaska's rivers.
<input type="radio"/>	D.	Tourism, particularly cruises.

90.	Which of the following is not a reason for uneven development in the desert ecosystem?	
<input type="radio"/>	A.	It is difficult to adapt to the extreme temperature.
<input type="radio"/>	B.	Cold environments are often very inaccessible.
<input type="radio"/>	C.	There is a low population density in cold environments.
<input type="radio"/>	D.	Constructing and the provision of services is easy to provide in cold environments.

91.	How have people adapted to cold environments? (you can select more than one answer)	
<input type="radio"/>	A.	Indigenous people survive as hunter-gatherers as they are unable to grow crops.
<input type="radio"/>	B.	Water is extracted from aquifers.
<input type="radio"/>	C.	Slash and burn is a practiced form of farming.
<input type="radio"/>	D.	They dress warmly, often using animal skins and live in insulated houses.

92.	What is a wilderness area?	
<input type="radio"/>	A.	A natural area of land protected from human development.
<input type="radio"/>	B.	A remote part of the world that has been developed by humans for economic benefits.
<input type="radio"/>	C.	A remote part of the world that is unspoilt by human development, remaining natural and undisturbed.
<input type="radio"/>	D.	A remote part of the world that is spoilt by human development.

93.	True or false? Many of the world's cold environments can be considered wilderness areas.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

94.	Which of the following are reasons for protecting cold environment wilderness areas? (you can select more than one)	
<input type="radio"/>	A.	They are fragile environments and take a significant amount of time to recover from damage.
<input type="radio"/>	B.	Some areas are inhabited by indigenous people whose culture and survival depend on protecting the natural world.
<input type="radio"/>	C.	Cold environments provide important habitats for many living organisms.
<input type="radio"/>	D.	There is a moral duty to protect these environments.

95.	Which of the following is not an example of how technology been used to solve some of the challenges of oil extraction in Alaska?	
<input type="radio"/>	A.	The trans-Alaskan pipeline has been insulated to retain the heat of oil and avoid melting permafrost.
<input type="radio"/>	B.	The pipeline is raised above the ground to avoid disturbing natural migration routes of animals such as caribou.
<input type="radio"/>	C.	Special slides allow the pipeline to move during earthquakes.
<input type="radio"/>	D.	The pipeline has been constructed in a way that oil flows freely without the need for pumping stations.

96.	Which of the following is an example of an International agreement to protect Antarctica, the world's last great wilderness?	
<input type="radio"/>	A.	The Antarctic Treaty
<input type="radio"/>	B.	The Arctic Treaty
<input type="radio"/>	C.	The Antarctic International Agreement
<input type="radio"/>	D.	The Antarctic International Protection Agreement

97.	Which of the following is not included in the treaty that protects Antarctica?	
<input type="radio"/>	A.	All military activities are banned
<input type="radio"/>	B.	The disposal of nuclear waste is banned
<input type="radio"/>	C.	The promotion of International cooperation in scientific research
<input type="radio"/>	D.	The total ban of tourism in Antarctica.

98.	True or false? The US government has been involved in the protection of Alaska since oil was found in the 1960s.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

99.	What is the name of the protected area of land in northern Alaska that protects the area from oil and gas developments?	
<input type="radio"/>	A.	Northern Arctic Reserve
<input type="radio"/>	B.	Western Arctic Reserve
<input type="radio"/>	C.	Eastern Arctic Reserve
<input type="radio"/>	C.	Southern Arctic Reserve

100.	True or false? Conservation groups are actively involved in developing strategies for maintaining cold environments.	
<input type="radio"/>	A.	True
<input type="radio"/>	B.	False

Answers

1 - A
2 - A
3 - C
4 - A
5 - B
6 - D
7 - A
8 - D
9 - A
10 - C
11 - C
12 - C
13 - D
14 - A
15 - D
16 - A
17 - B
18 - C
19 - A
20 - B
21 - A
22 - D
23 - A
24 - C
25 - A
26 - D
27 - C
28 – B - **Emergents** are the tallest trees and are usually over 50 metres tall
29 - A
30 - B
31 - A
32 - B
33 - A
34 - B
35 - A
36 - C
37 - C
38 - D
39 - A
40 - A
41 - A
42 - A

43 - D
44 - B
45 - C
46 - A
47 - A
48 - B
49 - C
50 - D
51 - A
52 - A
53 - C
54 – A & C
55 - A
56 - B
57 – B & D
58 - A
59 – A, B & C
60 - A, B and D
61 - D
62 - B
63 - C
64 - A
65 - B
66 - C
67 - A
68 - A
69 - B
70 - D

Hot Deserts

71 - A
72 - B
73 - D
74 - A
75 - A
76 – A
77 - A
78 - A
79 - D
80 – A, B and C
81 – A, B and D
82 – A, B, C
83 - C
84 - A
85 - D
86 - D

87 – A, B, C and D
88 - D
89 – A, B and D
90 - C
91 - D
92 - A
93 - A
94 - A
95 – D
96 - A
97 - B
98 - B
99 - C
100 - A

Cold Environments

71 - A
72 - B
73 - B
74 - A
75 - B
76 – B
77 - A
78 - B
79 - B
80 – D
81 – B
82 – B
83 - D
84 - A
85 - C
86 - D
87 – A
88 - D
89 – A, B, C and D
90 – D
91 – A & D
92 - C
93 - A
94 - A - D
95 – D
96 - A
97 - D
98 - A
99 - B
100 - A