

Term		Meaning and explanations
Lesson 1: Parts of an ecosystem		
1	Ecosystem	Made of biotic (living) and abiotic (non-living) parts interacting together
2	Biotic	Living - plants, animals, bacteria
3	Abiotic	Non-living - sunlight, water, soil, air, temperature
4	Producers	Make their own food using sunlight (plants)
5	Consumers	Eat plants or other animals
6	Decomposers	Fungi break down dead plants and animals and return nutrients to the soil
7	Food chains and food webs	Show how energy moves around an ecosystem
8	Energy transfer	Not all energy is passed on and some is lost through: 1. Movement 2. Waste (Not the entire animal is eaten)
Lesson 2: Nutrient Cycle		
9	Nutrients	A substance that helps living things grow
10	Nutrient cycle	Nutrients move in a cycle between soil, plants, animals, and decomposers 1. Plants absorb nutrients through roots 2. Animals gain nutrients by eating plants/animals 3. Decomposers such as fungi return nutrients to the soil through decay 4. The system is a recycling process in nature
11	Nutrient loss	Deforestation (removes nutrient store in trees) Leaching (washed away by rain) Soil erosion (soil removed by wind/water)
Lesson 3: Physical and human changes in an ecosystem		
12	Natural changes	Happen without human involvement (drought)
13	Human changes	Changes caused by people (Pesticides and fertilisers)
Lesson 4: Biomes		
14	Biome	Areas with similar climates, plants, and animals
15	Tropical rainforest	Climate is hot and wet, this results in high biodiversity
16	Desert	Climate is hot and dry, this results in few plants
17	Tundra	Cold, dry, this results in low biodiversity
Lesson 5: Forest biomes		
18	Characteristics of deciduous forests	Climate: Warm summers and cool winters with plenty of rainfall and high biodiversity Vegetation: Trees that lose leaves in winter
19	Characteristics of coniferous forests	Climate: Long cold winters and short cool summers and low biodiversity
Lesson 6: Differential heating		
20	Differential heating	The Earth is heated unevenly because it is curved and the Sun's rays hit at different angles Equator: direct sunlight → hot Poles: sunlight is spread out → cold
Lesson 7: Global atmospheric circulation		
21	Global atmospheric circulation	This temperature difference causes air to move, with warm air rising and cold air sinking
22	Low pressure	Rising warm air → low pressure + rain (Equator 0°)
23	High pressure	Sinking air → high pressure + dry conditions (30°N and 30°S of the equator)
Lesson 8-9: Tropical rainforests characteristics		
24	Location of tropical rainforests	Tropical rainforests are found near the Equator

Geography Knowledge Organiser:Ecosystems and tropical rainforests

25	Characteristics of tropical rain forests	Climate: hot and wet all year causing very high biodiversity Dense vegetation in layers: Emergent; Canopy; Under canopy; Forest floor Soils: Thin and nutrient poor
Lesson 10: Interdependence		
26	Interdependence	Different parts of the environment rely on each other.
27	Climate	Plants absorb water from the soil and use sunlight to photosynthesise
28	Animals and plants	Agouti eats and buries Brazil nuts → uneaten nuts germinate into new Brazil nut trees
29	Soil	Decomposers recycle nutrients from dead plants and animals → helps plants grow in nutrient-poor rainforest soils.
30	People	People rely on tropical rainforests for food, water, medicine and jobs
Lessons 11: Tropical rainforest plant adaptations		
31	Adaptation	Plants and animals develop special features to survive
32	Plants adapt to challenges	1. Nutrient poor soils 2. Competition for sunlight 3. Competition for water
33	Buttress roots	Support tall trees and help absorb nutrients from shallow soil
34	Drip tips	Help leaves remove heavy rainwater so photosynthesis can continue
35	Lianas	Climb trees to reach sunlight in the canopy
Lesson 12: Tropical rainforest animal adaptations		
36	Animals adapt to challenges	1. Heavy rainfall 2. Threats from predators 3. Competition for food and space
37	Sloth	Their fur grows upward to allow rain water to run off when hung upside down
38	Jaguar	Their spotted fur provides camouflage so they can compete for food and catch prey
39	Poison dart frog	Sticky toe pads help them climb wet trees and leaves in the hot, wet climate
Lesson 13: Causes of deforestation		
40	Amazon Rainforest	Located in South America, covers many countries but is mainly in Brazil
41	Deforestation	When large areas of forest are removed
42	Logging	Trees cut down to provide timber for export e.g mahogany in Rondonia
43	Commercial farming	Trees cut down to provide space for farms e.g. Cattle ranching in Mato Grosso
Lesson 14: Negative impacts of deforestation		
45	Environmental impacts of deforestation	1. Soil erosion and nutrient loss 1. Increased CO₂ → climate change 2. Loss of biodiversity
Lesson 15: Sustainable management		
46	Sustainable management	To use rainforest to meet people's needs today without destroying it for future generations
47	Selective Logging	Only some trees are cut down (certain age or height) Replanting the same species of tree means the forest can regenerate
48	Ecotourism	Small-scale tourism means a limited impact on the environment Provides jobs for local people (guides, lodges) Eg Yachana Lodge (Amazon Rainforest)
Deeper learning		
Online watching		BBC rainforests: https://www.youtube.com/watch?v=UlbplCn8-zs
Online reading		BBC BitesizeKS3 geography Tropical rainforests: https://www.bbc.co.uk/bitesize/articles/zppthcw#zx8djsg
NET Online Quizzing		Retrieval practice quizzes based on the key knowledge from your lessons. https://sites.google.com/northerneducationtrust.org/netgcsegeography/ks3