

YEAR 9 GEOGRAPHY – CYCLE 1 – ECOSYSTEMS

BOX 1: KEYWORDS PART 1	
component	a part of something
abiotic	non-living things → e.g. soil and climate
biotic	living things → e.g. plants and animals
flora	vegetation (plants) of a particular region (area), habitat or time period
fauna	animals of a particular region (area), habitat or time period
biodiversity	the variety of plant and animal life in a particular habitat
ecosystem	community of biotic and abiotic components → interact with each other and environment → example small scale ecosystem UK e.g. pond
large scale global ecosystems	very large ecosystems → also called biomes → examples → tropical rainforest, hot desert → have specific climates, flora and fauna
climate	average precipitation and temperature over many years → e.g. tropical rainforest climate → high temperatures and high precipitation
distributed	how something is spread out /where is it located
weather	hour to hour changes in precipitation and temperature → at a particular place and time → always changing e.g. raining, sunny, cloudy
latitude	imaginary horizontal lines around the Earth → show how far north or south a place is from the Equator → Tropic of Cancer is 23.5° N of Equator
longitude	imaginary vertical lines around the Earth → show how far east or west a place is from the Prime Meridian e.g. Leeds is 1.5° W of Prime Meridian
altitude	how high a place is above sea level
BOX 2: LARGE SCALE GLOBAL ECOSYSTEMS DISTRIBUTION AND CHARACTERISTICS	
tropical rainforest	<ul style="list-style-type: none"> distributed along Equator → in-between Tropic of Cancer and Tropic of Capricorn very concentrated insolation (sunlight) at Equator → temperatures high → warm moist air rises (creates low pressure) → lots of evaporation → lots of precipitation climate → high temperatures and high precipitation → flora and fauna thrive → high biodiversity in tropical rainforest largest rainforest → Amazon, South America → 7 million km²
hot desert	<ul style="list-style-type: none"> distributed along Tropic of Cancer (15° to 35° north of Equator) and along Tropic of Capricorn (15° to 35° south of Equator) air rises at Equator → air pushed north and south → north (to Tropic of Cancer) and south (to Tropic of Capricorn) → air cools high up in atmosphere → air sinks (high pressure) → air warms as it falls → no clouds can form → arid desert climate → dry climate → high temperatures and low precipitation → harsh and dry → arid → low biodiversity in deserts largest hot desert → Sahara, Africa → 9 million km²

tundra	tundra global ecosystem → distributed → across northern North America and northern Asia → at high latitudes above 60° N → insolation less concentrated here (sun rays are weak) → temperatures below freezing most of year → very few plants and animals survive here
polar	<ul style="list-style-type: none"> polar global ecosystem → distributed → the Arctic (Northern Hemisphere) and Antarctica (Southern Hemisphere) → at high latitudes → insolation less concentrated here climate → temperatures mostly below freezing → windy and very little precipitation → soil covered in ice throughout the year species of moss, algae and lichen survive the harsh conditions → few other plants can survive → low biodiversity
alpine	alpine global ecosystem → distributed → mountainous areas → high altitude e.g. the Alps → as altitude increases → temperature decreases → every 100m increase in altitude → temperatures decrease by 1°C

BOX 3: KEYWORDS PART 2	
interrelationships	how two or more things are linked to each other
producers	plant → absorb energy from sun → photosynthesis
consumers	organism → energy from eating producers or other consumers
decomposers	bacteria or fungus → energy by breaking down dead tissue e.g. fallen leaves → recycled back to the environment (through the nutrient cycle)
food chain	linear connections between organisms that rely on each other for food
food web	complex hierarchy of plants and animals relying on each other for food
nutrient cycling	organisms extract minerals for growth from soil or water → pass them on through the food chain → then back to the soil and water

BOX 4: SMALL SCALE ECOSYSTEMS	
case study → small-scale ecosystem (UK)	<p>case study → Roundhay Lake, Leeds → small scale ecosystem in the UK</p> <ul style="list-style-type: none"> bottom of lake → decomposers and scavengers live here where they feed on dead material e.g. water worms middle of lake → fish main consumers here e.g. stickleback fish surface of lake → plenty of oxygen and light here e.g. ducks edge of lake → producers e.g. marsh marigold → provide sheltered habitat for insects and small animals such as frogs above the lake surface → birds such as kingfishers and insects like dragonflies are common here
impact of changing one ecosystem component	<ul style="list-style-type: none"> removing one species → affects entire food web → removing producer → less food for consumers → reduces consumers natural factors → damage ecosystems → drought, fire, disease human factors → damage ecosystems → introducing more fish, changing the pH level, altering the nutrient levels → eutrophication

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