ATHERTON HIGH SCHOOL

Science: Ecology

1. Key Words

Habitat	The place where an organism lives
Population	All the organisms of one species living in a habitat
Community	The populations of different species living in a habitat
Abiotic factors	Non-living factors of the environment that affects the distribution of organisms
Biotic factors	Living factors of the environment that affects the distribution of organisms
Biodiversity	The number of different species living in an ecosystem

2. Biotic and Abiotic factors

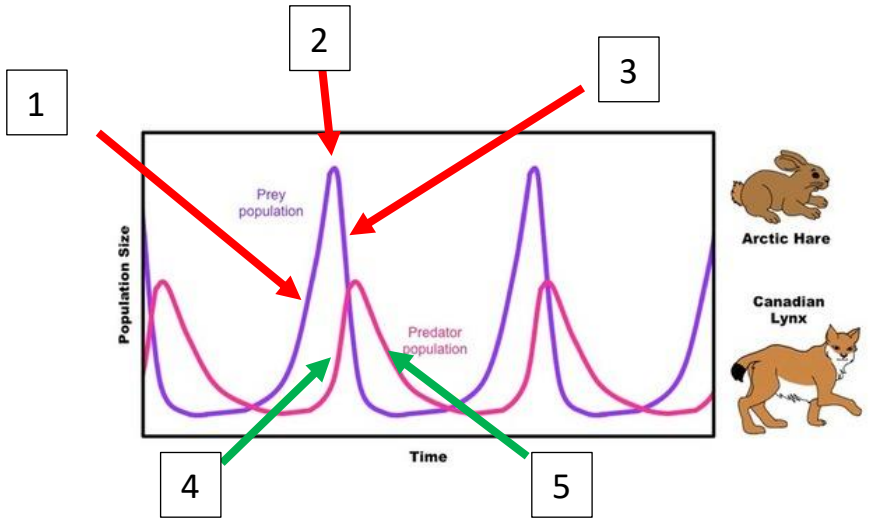
Biotic	Abiotic
New predators	Moisture level
Competition	Light intensity
New pathogens	Temperature
Availability of food	Carbon dioxide levels
	Wind intensity and direction
	Oxygen Levels
	Soil Ph and mineral content

3. Competition

Plants	Animals
Light	Food
Space	Territory
Water	Water
Mineral ions	Dominance
	Mates

4. Predator/prey relationships

Berries → Arctic Hare → Canadian Lynx



	Pattern	Reason
1	Prey population increases	Plentiful supply of food and territory
2	Prey population reaches a maximum	Death rate is equal to the birth rate
3	Prey population decreases	Overcrowding increases competition for resources and diseases spread quicker
4	Predator population increases	Plentiful supply of food and territory
5	Predator population decreases	Overcrowding increases competition for resources and diseases spread quicker

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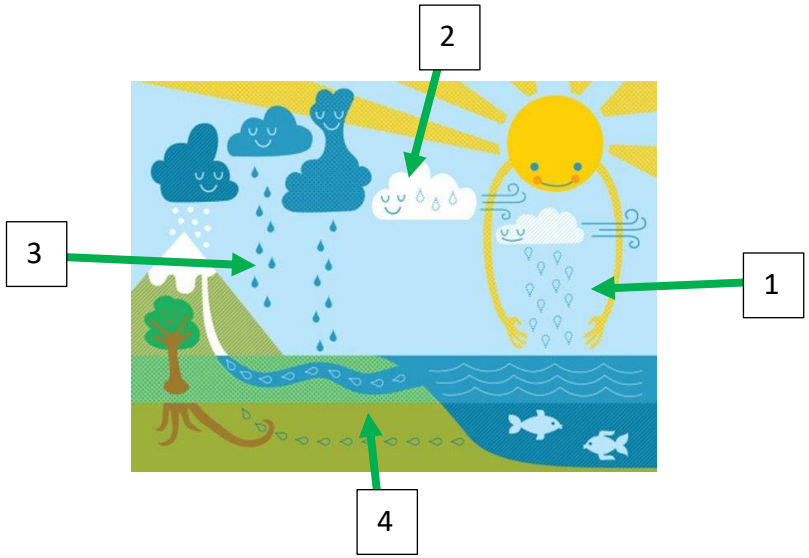
5. Adaptations

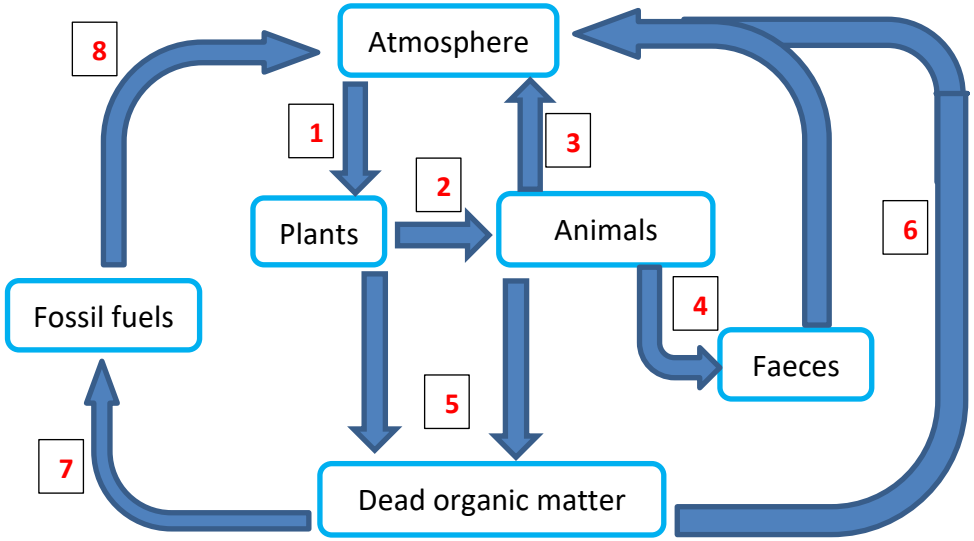
Structural	Behavioural	Functional
Features of an organisms body	The way organisms behave	These are things that happen inside an organisms body
e.g an arctic fox has white fur to camouflage against the snow	e.g. geese migrate to warmer climates during the winter	e.g. camels produce very little sweat and produce concentrated urine to conserve water

6. Water Cycle



1	Evaporation – water from lakes, seas and oceans evaporated using the energy from the sun
2	Condensation – the water vapour condenses to form clouds
3	Precipitation – the water falls as rain to the ground
4	Transportation – rain water is transported in to streams and rivers to the sea

7. Carbon Cycle



1	Photosynthesis	Plants take in CO_2 from the air and convert the glucose to proteins and starch
2	Feeding	The carbon in plants is taken in and converted into proteins in the cells of animal
3	Respiration	Glucose in plants and animals is broken down in to CO_2 and water and released into the air
4	Excretion	Solid waste from animals contains carbon compounds
5	Death	Plants and animals die with carbon compounds trapped in their cells
6	Decay	Faeces and dead organic materials are broken down by micro-organisms called decomposers that release CO_2 back into the air
7	Formation of fossil fuels	Some organic materials get trapped in layers of mud and rock and form fossil fuels such as oil and coal
8	Combustion	When fossil fuels are burned, CO_2 is released into the air

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8. Waste Management

Type of pollution	Example
Water	Sewage
	Fertilisers
	Industrial waste
Air	Smoke – particulates
	Acidic gases e.g. SO_2
Land	Landfill
	Radioactive waste

9. Impact of pollution

Destruction of peat bogs	Reduction in biodiversity Increase in CO_2 into the atmosphere
Deforestation for building materials and farm land	Reduction in biodiversity die to destruction of habitats Reduction in plant absorbing CO_2 from the air
Global warming	Increase in global temperature leading to flooding, droughts and melting polar ice caps Extreme weather Famine

10. Ways to maintain biodiversity

Method	Impact
Breeding programmes	Increases the global population of endangered animals and limits extinction
Protection and habitat preservation	Building of reserves and protected land to reduce poaching and destruction of habitats
Reduction of CO_2 emissions globally	Reduces the impact of global warming
Recycling resources	Reduced the waste such as plastic waste in oceans and reduces the use of finite resources
Reintroduction of field margins and hedgerows around farm land	Provides habitats for native species