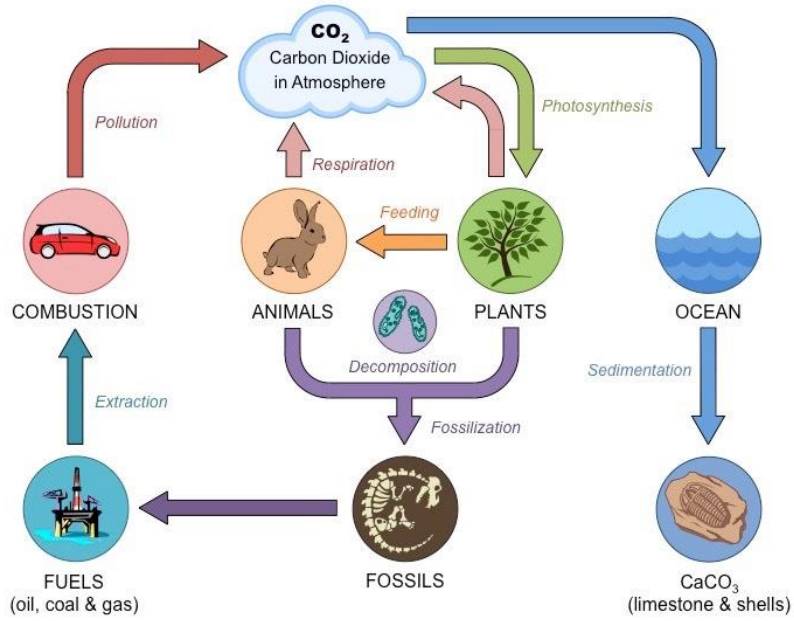
Biology Topic 7: Ecology

1. Keywords	
Ecosystem	The interaction of a community of living organisms with their environment
Biotic	Living factors
Abiotic	Non-living factors
Interdependence	Different species rely on each other for survival within an ecosystem
Adaptations	Features that help an organism survive in a particular habitat
Habitat	Natural environment of a particular organism
Competition	The process by which organisms try to gain raw materials over each other. Plants compete for space, light water and mineral ions Animals compete for shelter, food, water and mates
Biodiversity	The variety of all the living organisms within the earth or ecosystem. A good thing

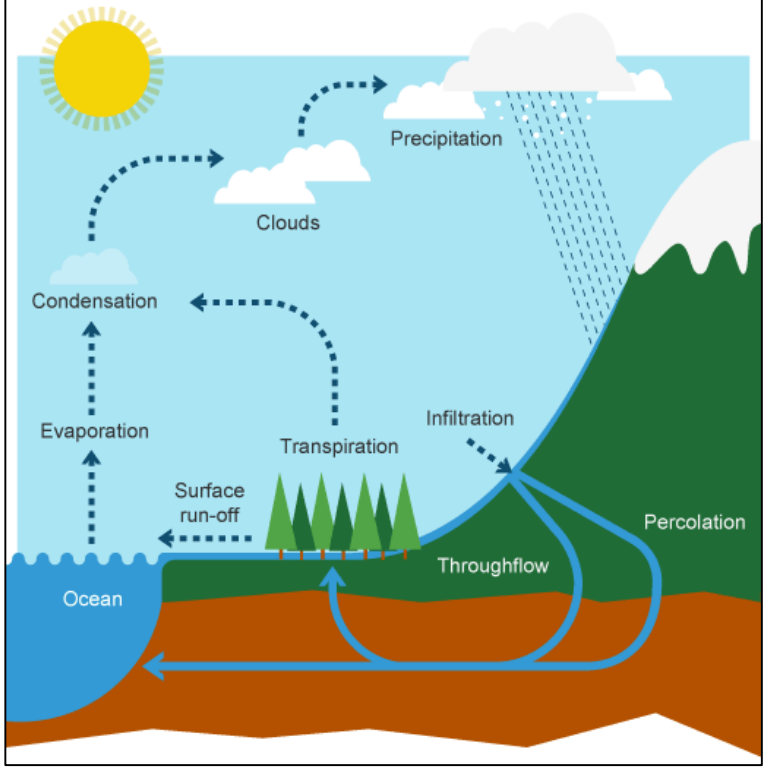
2. Biotic and abiotic factors	
Biotic factors	Abiotic factors
• availability of food • new predators arriving • new pathogens • one species outcompeting another so the numbers are no longer sufficient to breed.	• light intensity • Temperature • moisture levels • soil pH and mineral content • wind intensity and direction • carbon dioxide levels for plants • oxygen levels for aquatic animals

3. Levels of organisation	
Producer	An organism that makes its own food by photosynthesis. They are the starting point of all food chains
Consumer	Organism that eats something
Predator	Consumer that hunts
Prey	Consumer that is hunted
Transect	Sampling method which samples at regular spaces along a strip to measure the variation of a species
Quadrat	Sampling technique where a metal square is placed randomly in an area to determine an estimate of the population of a species
Mean	A type of average. Add up the values and divide by the number of results used
Mode	The most common value
Median	The value that is half the range of results

4. The carbon cycle



5. The water cycle



6. Waste management

Pollution type	Examples
Water	Sewage
	Fertilisers
	Toxic chemicals
Air	Smoke
	Acidic gases (SO_2)
Land	Landfill
	Toxic chemicals

7. Impact of pollution

Destruction of peat bogs	Reduction in biodiversity Burning the peat releases carbon dioxide
Deforestation to make room for agriculture and biofuels	Reduction in biodiversity Reduces ability to absorb carbon dioxide
Global warming	Extreme weather Famine

8. Maintaining biodiversity

1. breeding programmes for endangered species
2. protection and regeneration of rare habitats
3. reintroduction of field margins and hedgerows in agricultural areas
4. reduction of deforestation and carbon dioxide emissions by some governments
5. recycling resources rather than dumping waste in landfill.