Definitions

Ecosystem	1. distinct self supporting
	2. system of organisms
	3. interacting with each other and the environment
individual	1. a single member of a species
Population	1. a particular species
	2. in the same area
	3.at a certain time
community	1. multiple populations
	2. living and interacting
	3. in an ecosystem
Habitat	1. where an organism lives at any one time
Producers	plants which photosynthesize to produce food
Consumers	animals that eat plants or other animals
Decomposers	organisms that break down dead material and help to recycle nutrients by saprotrophic nutrition (extracellular enzymatic digestion)
Biodiversity	1. amount of variation shown by species
	2. species richness
	3.abundance of species and even distribution

Biotic factors

availability of food	1. more food means more organisms can survive and reproduce
	2. increase in population size
new predators	1. in balanced ecosystems , predators catch enough prey to survive but not many that they wipe out the population
	2. if a new predator is introduced ecosystem may become unbalanced
new pathogens	1. if a new pathogen enters an ecosystem , the population will have no immunity or resistence
	2. population may decline or wipe out
competition	1. if 2 species compete for the same resource and one is better adapted then that species will outcompete the other

Biotic factors (cont)

2. may continue until there are too few members of the lesser adapted species to breed successfully

pyramid of energy

illustrates the amount of energy contained within the biomass

area of each box represents the quantity of energy

wide base , as you move up the energy decreases

only 10% of the energy is passed on

only a small proportion is absorbed by the producers , most energy is relfected

energy transfer

1. producers use glucose from respiration to produce their own biomass	**energy losses**
2.primary consumers eat producers they digest the biomass and use the chemical energy to increase or sustain their own biomass	1. during movement
chemical energy is transfered , biomass is also transferred	2. as heat during respiration
only the energy from assimilation remains with the organism to be passed on	3. egestion e.g. cellulose in faeces
	4. excretory products - some of the energy is transferred to the decoposer food chain
	5. some parts are inedible
efficiency of energy	useful energy output / total energy input x100

importance of biodiversity

species depend and compete with each other for:	1) food
	2)shelter
	3)maintenance of physical environment
High biodiversity ->stability of ecosystems ->reducing dependence	more resilient to environmental impact or disease

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Abiotic factors	
Light intensity	1. needed for photosynthesis
	2. more light->more ph^{s} ->more plant growth
Temperature	affects rate of ph^{s} due to KE of enzymes
Moisture levels	living organisms require water to survive
soil pH, mineral ion , clay content	different species of plants are adapted to different conditions(mention them !)
wind intensity	1. affects rate of **transpiration** in plants
	2. higher wind intensity -> greater rate of transpiration
	3. affects rate of **photosynthesis** as it ensures water and mineral ions are transported to the **leaves**
CO_2 conc^{n} for plants	1. ph^{s} in plants
	2. increase in CO_2 -> increase in ph^{s}
O_2 concentration , salinity	some aquatic animals can only survive in certain conditions
flow rate of river	
pollution	toxic waste

food chains and food webs
represents the transfer of energy from producer through a sequence of organisms
source of all energy in a food chain is the light energy from the sun
food web: when an organism is both a primary or secondary consumer

pyramid on numbers and biomass	
to show how **many organisms** are in a habitat you need to draw a **pyramid of numbers**	pyramid of biomass shows the total mass the organisms at each level would have
the larger an individual is the fewer of them there are	always pyramid shaped
width of box indicates the number of organisms at that trophic level	refers to dry biomass , after water has been removed
not always pyramid shaped	

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