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Ecosystems IGCSE Biology Cheat Sheet by lito.p via cheatography.com/165032/cs/34656/

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
Decomp- osers	organisms that break down dead material and help to recycle nutrients by saprotrophic nutrition (extracel- lular 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	 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	
compet- ition	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

oyramid of energy

efficiency of energy

pyrainia or chergy				
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 respir- ation 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 respir- ation			
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

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 enviro- nmental 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 transp- iration
	3. affects rate of photosynthesis as it ensures water and mineral ions are transported to the leaves
CO2 conc ⁿ for plants	1. ph ^s in plants
	2. increase in CO ₂ -> increase in ph^s
O2 concen- tration , 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	pyramid of biomass shows the
in a habitat you need to draw a	total mass the organisms at
pyramid of numbers	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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