

1 - Ecosystem	
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 (temperature, moisture, light intensity, soil pH, wind intensity, conc. of CO₂ and O₂)
Biotic factors	Living factors of the environment (food, pathogens, new predators, competition)
Ecosystem	Interaction of a community of living organisms (biotic) with non-living (abiotic) parts of their environment.
2 - Adaptation	
Behavioural adaptations	The ways in which an organism behaves . Examples: migration, mating rituals, hunting in packs .
Structural adaptations	Features of an organism's body structure (shape or colour) . Examples: camouflage, layers of fat, surface area to vol. ratio .
Functional adaptations	The things that go on inside the organism's body that are related to processes like reproduction and metabolism .
Extremophiles	Organisms adapted to live in extreme conditions (hot volcanic vents, salty lakes, or high pressure on the seabed)
3 - Food chains	
Biomass	Mass of living material in an organism -> stores energy .
Producer	Plant or algae at the start of food chain -> makes glucose by photosynthesis -> produces biomass .
Consumer	Organisms which cannot make their own food . They eat producers or other animals .
Herbivore	These consumers eat producers (plants or algae).
Carnivore	These consumers eat other consumers (animals).
Food Chains	Show the transfer of energy through organisms.

4 – Investigating Distribution and Abundance of Species	
Quadrat	Set up a grid in first sample area -> use random number generator to pick co-ordinates -> place quadrat and count number of organisms -> repeat and calculate mean -> compare different sample areas .
Line Transects	Mark out line with tape measure -> place quadrats along the line at intervals -> analyse distribution along the line.
5 – Cycling of Materials (Water Cycle and Carbon Cycle)	
Water cycle	Evaporation from land/sea and transpiration from plants -> water vapour rises -> condensation to form clouds -> precipitation (rain, snow, hail) -> taken in by plants and animals -> run off into streams/ivers -> flows to sea .
Carbon removal from air	Plants and algae remove CO ₂ through photosynthesis . Carbon makes glucose -> turned into carbohydrates, fats and proteins .
Carbon through food chains	Animals eat plants and algae -> carbon becomes part of fats and proteins in their body -> passes through food chain .
Carbon returned to the air	Organisms respire -> releases CO ₂ . Detritus feeders (micro-organisms) feed on dead organisms -> releases CO ₂ . Combustion of wood and fossil fuels -> releases CO ₂ .
6 – Human Impact	
Biodiversity	Variety of different species of organism on Earth , or within an ecosystem -> high biodiversity = more stable ecosystem.
Human population	Seven billion -> rising very quickly -> more raw materials used, more food , more energy required, more waste produced.
Human impact	Global warming, deforestation, peat bog destruction .
Protecting ecosystems	Breeding programmes, protect rare habitats, reintroduce hedgerows, reduce deforestation, reduce waste .

GCSE Science
Biology B7 – Ecology

