

Ecology and the environment

Organism in the environment

Ecological terms

Population Community Habitat Ecosystem

Quadrat practical

Random placement Mean per quadrat Estimate population

Abiotic factors

Temperature Light Water

Biotic factors

Competition Predation Predator-prey cycles

Feeding relationships

Trophic levels

Producers (level 1) Primary, secondary, tertiary consumers Decomposers

Food chains and webs

Arrows: food to eater Webs link chains

Pyramids

Number Biomass Energy transfer

Energy transfer

About 10% Faeces Respiration heat Urine

Limited chain length

Little energy left Less biomass higher up

Cycles

Carbon cycle

Photosynthesis removes CO₂ Respiration adds CO₂ Combustion adds CO₂

Decomposers

Bacteria and fungi Decomposition Release CO₂

Human influences

Sulfur dioxide

Acid rain Lakes and trees Lichens

Carbon monoxide

Incomplete combustion Binds haemoglobin

Greenhouse gases

CO₂, CH₄, N₂O CFCs Water vapour

Enhanced greenhouse effect

Infrared absorbed Global warming Sea level rise

Sewage

Oxygen used up Pathogens

Eutrophication

Leached nitrates Algal bloom Oxygen falls