

# Biodiversity

# Biodiversity

## biodiversity

the number of living organisms within a given area

## ecosystem diversity

the number of distinct biological communities within a given area

## genetic diversity

the presence of differing genetic characteristics within the population of a species

## species diversity

both the number of species living within a given area and the abundance of a particular species within a given area

## biosphere

where all living organisms exist on Earth

## biome

the largest grouping of physical environments, based on similar climates and species

## biotic

living factors within an ecosystem

## abiotic

non-living factors within an ecosystem

## ecosystem

a geographic area that's home to a community of living, interconnected organisms

## habitat

the place where living organisms naturally occur

## critical habitat

an area of high biological significance that helps determine the health of a species

## habitat fragmentation

the breakup of continuous habitat into unconnected parts

## species

a class of individuals with common characteristics

## keystone species

a species that influences or impacts an ecosystem, whose removal would change the structure of that system

## subspecies

a genetically distinct subpopulation of a larger species that has evolved ecosystem-specific characteristics

## indicator species

a species that helps embody or represent the overall condition of an ecosystem

## niche

the role undertaken by a living organism within its community or ecosystem



# Carrying Capacity and Food Chains

## carrying capacity

the maximum number of organisms within a given species that can be supported by a specific ecosystem

## herbivore

an organism that eats plants only

## carnivore

an organism that eats mainly meat

## omnivore

an organism that eats both plants and meat

## food chain

a hierarchical network of organisms that relate to each other through the food they eat

## food web

a graphic representation of interconnected food chains

## trophic levels

the position an organism has in the food chain

## primary producer

plants that make their own food through the transfer of energy

## primary consumer

an organism that feeds on primary producers

## secondary consumer

an organism that feeds on primary consumers

## tertiary consumer

an organism that feeds on primary and secondary consumers

## decomposers

an organism that breaks-down organic matter



# Genetics

## genetics

the study of heredity

## DNA

instructions that an organism needs for development, found in the nucleus of a cell

## cell

the smallest unit that can perform the functions of life

## genetic diversity

the presence of differing genetic characteristics within the population of a species; required for the health of a species

## nucleus

the specialized structure in a cell that controls its activities

## dominant traits

an inherited characteristic that appears in offspring that is contributed by a parent

## chromosome

small threadlike structures in cells that contain genes

## recessive traits

a characteristic that appears in offspring that isn't dominant in the parental genes

## gene

made of DNA and controls heredity and can be used for protein production

## genetic mutation

any event that changes genetic structure



# Reproduction

## sexual reproduction

the production of a new living organism by combining genetic information from two individuals of different sexes

## asexual reproduction

the type of reproduction by which offspring arise from a single organism and inherit the genes of that parent only

## mating process

how male and female animals choose their mating partner

## inheritance

the reception of genetic qualities by transmission from parent to offspring

## chromosomes

a threadlike structure found in cells made of DNA molecules and wrapped around a structure of protein

## mitosis

the process by which a cell divides into two smaller cells

## prophase

the first phase of mitosis in which sister chromatids condense and the chromosome becomes visible

## metaphase

the second phase of mitosis in which chromosomes are aligned across the centre of the cell

## anaphase

the third phase of mitosis in which the centromere splits apart and the chromatids are pulled to opposite sides of the cell by spindle fibres

## telophase

the last phase of mitosis in which two daughter nuclei are formed

## interphase

the normal resting state of a cell before it enters mitosis again



# Natural Selection and Extinction

## natural selection

a process in which organisms evolve to adapt to their environment

## adaptation

the modification of a species to its environment in order to improve their chances of survival

## endangered species

a species that is in danger of extinction

## umbrella species

a species that requires a large habitat for survival and its conservation results in the protection of many other species

## keystone species

a species that is load-bearing to an ecosystem; its absence would drastically alter life and systems within that ecosystem

## invasive species

a non-native species whose introduction to an ecosystem is likely to cause economic or environmental harm

## threatened species

any species that is considered critically endangered, or vulnerable, according to IUCN's 'Red List of Threatened Species'

## extinction

a species of which there are no longer any living individuals



# Stewardship

## sustainability

the ability to continue at the same rate, for a long period of time

## climate change

gradual changes in connected weather elements

## conservation

the active management of a species or geographic space to ensure its health and survival

## natural resource

raw materials that occur in nature and can be used for economic development

## traditional knowledge

the collective practices and knowledge of Indigenous peoples generated across generations

## protected area

a geographically defined area which regulates activities to achieve conservation objectives

## rehabilitation

measures taken to return a degraded ecosystem to a state similar to the original form

## degraded ecosystem (ecosystem degradation)

an area treated or regarded with contempt or disrespect

## non-governmental organization

organizations independent of any government and focused on improving society

## non-profit organization (NPO)

an organization that doesn't seek to generate profit and is dedicated to advancing a cause or point-of-view

