

Living World

Concepts: Genetics, Plants and Adaptations

You will learn about the following specific concepts:

- Living things show variation due to sexual reproduction
- Variation enables individuals to have different characteristics which enables a species to survive if the environment changes
- In sexual reproduction the DNA from 2 different individuals is combined
- Humans have 23 pairs of chromosomes
- Before the new individual is formed, the number of chromosomes in the sperm and egg must be halved (in meiosis, to 23 in humans)
- A gene is a section of DNA that codes for one characteristic
- There can be a dominant and a recessive form of a gene - these are alleles, slightly different forms of the gene
- Each individual gets 2 copies of each gene - only one of these must be the dominant allele for the dominant characteristic to show
- 2 recessive alleles must be present for the recessive characteristic to show
- Adaptations are structural, physiological or behavioural changes which enable a living thing to survive in its environment
- Plants as producers - leaves are food factories, adaptations and photosynthesis
- Respiration, plants balance O_2 and CO_2 in the atmosphere as part of the carbon Cycle.
- Transpiration, e.g. how plants absorb and lift water up through the stem to the leaves, and why plants lose water - link to water as a greenhouse gas
- Parts of a flower linked to reproduction
- Medicinal plants used by Maori