7.2 POPULATIONS

Species

- Population = group of organisms of the same species in one area at a time
  - Can interbreed
- Species can exist as one population or multiple populations

Genetics

- Gene pool = all alleles of all genes in a population
- Allele frequency = how common one particular allele is in the gene pool

Hardy-Weinberg principle

- Predicts that allele frequencies (proportions of dominant and recessive) will not change from generation to generation
- $p^2 + 2pq + q^2 = 1$
  - p is the frequency of the dominant allele
  - q is the frequency of the recessive allele
- Conditions
  - Isolated population, so there is no flow of alleles in or out of the population
  - No selection of particular alleles
  - Random mating within the population
  - No new mutations
  - A large population

AQA

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