

Genetic Variation and natural selection

Genetic diversity - number of different alleles of genes in a population

Increased by:

- Mutations in the DNA forming new alleles
- **Gene flow** Allele being introduced into a new population when individuals from another population migrate.

Allele frequency - How often the allele appears in a population

Selection pressures - increases chances of some alleles being passed on.

selection advantage - when random mutation provides an advantage of ability to camouflage and avoid predation

mutations → variation → ^{competition} → Selection pressure → selective advantage → reproductive success

OR

more variation → competition → selective pressure → (more) mutations → reproductive success → selective advantage

Allele frequency will increase if the allele is advantageous whereas Allele frequency will decrease if it isn't advantageous.