Glossary of Terms
Workshop on Modelling in Population Genetics
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1. Hardy-Weinberg Equilibrium - The evolutionary state of a population in the absence of any force inducing drift or selection (so genotype and allele frequencies will remain constant).
2. Mutation - A change in the DNA sequence of an organism. These changes may or may not lead to phenotypic changes depending on the kind of mutations they are.
3. Fitness - A term used broadly in evolutionary biology to quantitatively refer to how evolutionarily 'successful' an individual is. One accepted definition is the relative change in genotype of the organism we are referring to from one generation to another.
4. Locus - A position on the genome.
5. Chromosomes - Genomes in different organisms are split up into multiple components called chromosomes. Humans have 23 chromosomes. There is a paternal and maternal version of each chromosome, bringing the total to 46.
6. Allele - A gene can have different versions. Each version is called an allele. For instance, the paternal and maternal versions of each chromosome are the exact same except for a few differing alleles.
7. Fix - When the frequency of an allele reaches 1 in the population, meaning that all individuals in the population have these allele, then we say that this allele is fixed.
8. Sweep - The word 'sweep' is used interchangeably with the word 'fix'. When an allele starts off at a low frequency in a population, but, over time, steadily rises to a frequency of 1, its trajectory looks like a 'sweep', and hence the mutation is said to have 'swept'.
9. Population - a group of organisms that are found in the same geographical area at the same time.