

Pattern of evolution; a large number of species form to occupy different ecological niches.	A result of geographical isolation.	Relative proportion of alleles in a population.	Animals won't reproduce due to differences in courtship, etc.
Adaptive radiation	Allopatric speciation	Allele frequency	Behavioural isolation
Evidence for evolution; organisms separated by geography become increasingly different.	Pattern of evolution; one species or group changes its genetic composition in response to a genetic change in another.	Evidence for evolution; homologous structures (related species), analogous structures (unrelated species).	Different species living in a similar environment come to look similar.
Biogeography	Co-evolution	Comparative anatomy	Pattern of evolution
A localised population.	When one extreme is selected for.	Where both extremes are selected for against the middle range. This ultimately produces two new species.	When one species branches to form two or more species.
Deme	Directional selection	Disruptive selection	Divergent evolution
Organisms don't interbreed because of niche differences.	Evidence for evolution; geological layers show species increasing different to modern species the deeper (older) you go.	Caused by reproduction between populations.	All the genes in a reproducing population.
Ecological isolation	Fossil evidence	Gene flow	Gene pool

Random changes in allele frequencies because of small population size.	Organisms can't reproduce due to physical separation.	Pattern of evolution; slow changes between populations occur as a result of slightly different selection pressures.	Structures with common ancestry, now used for differing functions.
Genetic drift	Geographical isolation	Gradualism	Homologous structure
Speciation resulting from polyploidy.	Evidence for evolution; DNA (& ∴ proteins) are more similar, the more similar (& more recently diverged) 2 species are.	An unrepaired change in DNA - the origin of all variation.	The best adapted individuals have a greater chance of reproductive success.
Instant Speciation	Molecular biology	Mutation	Natural selection
When cells have more than 2n chromosomes. Results from mutation (non-disjunction), can result in instant speciation.	Factors that prevent a hybrid persisting as a new species – includes hybrid inviability, hybrid infertility and hybrid breakdown.	Factors that prevent a hybrid from being conceived – includes behaviour, structure, temporal, gamete incompatibility, geographical.	Pattern of evolution; consists of long periods of stability, followed by rapid changes as a result of critical selection pressures.
Polyploidy	Post-zygotic Isolation	Pre-zygotic Isolation	Punctuated equilibrium
Populations unable to interbreed.	The environmental factors that favour certain phenotypes.	Formation of a new species.	A group of individuals that will interbreed in nature to produce fertile offspring.
Reproductive isolation	Selection pressure	Speciation	Species

Selection for the middle range against the extremes.	Organisms are unable to reproduce due to differences in their genital organs.	Groups that are very different from each other, but can still interbreed.	Due to isolating mechanisms other than geography - happens in the same place (due to a number of niches).
Stabilising selection	Structural isolation	Subspecies	Sympatric speciation
Organisms don't reproduce due to differences in timing (active/ breeding at different times).	Structures which have the same job but have different bone make-up. Do not share a common ancestor.	A gradual variation in the characteristics of a species or population over a geographical range.	The study of how embryos develop, looking at which genes are turned on and when.
Temporal isolation	Analogous structures	Cline	Embryology
Only found naturally in a certain country or area.	Gradual process by which the present diversity of plants & animals arose from earliest and most primitive organisms.	Random fluctuation in the frequency of alleles due to chance events.	Environmental factor that selects certain phenotypes.
Endemic	Evolution	Genetic drift	Selective pressure
Having more than two haploid sets of chromosomes that are derived from the same ancestral species.	Having three or more complete sets of chromosomes derived from different species.	An individual formed by mating between genetically different populations or species.	Comparison of the DNA sequences allows organisms to be grouped and show relatedness.
Autopolyploid	Allopolyploid	Hybrid	DNA comparison