

AS90717 Speciation Key Words

Print out these sheets, then fold the page over on the dotted line to hide the answers, fill in the key word(s) and then open it up to mark your work. Good luck.

Definition	Word	Answer
A group of organisms that normally interbreed in nature to produce fertile offspring and belong to the same gene pool		Species
Speciation occurring where organisms are initially capable of actually interbreeding but cannot because they are geographically separated		Allopatric speciation
Two type of reproductive barriers		Prezygotic , Postzygotic
A zygote is forms but does not develop properly		Hybrid inviability
Two apparently distinct species that are connected by a series of intermediate geographical and structural subspecies between which interbreeding can occur.		Ring species
The development of superficially similar structures in unrelated organisms, usually because the organisms live in the same kind of environment		Convergent evolution
Structures that are superficially similar but have evolved in different ways, e.g. wings of birds, bats and insects		Analogous structures
The type of evolution where a common ancestor divides into two or more lines with dissimilar characteristics due to the environments they live in		Divergent evolution
The development of related organisms along similar evolutionary paths due to strong selective pressure acting on all of them in the same way		Parallel evolution
A hybrid forms but is sterile e.g. a sterile mule		Hybrid sterility
The gradual process by which the present diversity of plants and animals arose from the earliest and most primitive organisms		Evolution
A gradual variation in the characteristic of a species or population over its geographical range		Cline
Structures that have similar evolutionary history but have developed to suit different functions, e.g. wing of bat, flippers of dolphins, arms of humans		Homologous structures
Isolating mechanism that acts after fertilization to prevent the exchange of genes between populations, by impairing development or fertility of the offspring		Postzygotic
This is a form of divergent evolution in which there is a rapid proliferation of forms from an ancestral type because of the sudden availability of niches		Adaptive radiation
Speciation occurring where organisms living within the same area are theoretically capable of interbreeding, but cannot because of difference in behaviour, flowering times etc.		Sympatric speciation

Formation of a new species through autopolyploidy or allopolyploidy, because the chromosome numbers of new “instant’ species do not match that of the original species, they cannot interbreed		Instant speciation
A chance change in allele frequency which occurs when a small group of individuals become detached from the main population		Founder effect
There are long periods of little evolutionary change (stasis) interrupted by short bursts of rapid speciation		Punctuated equilibrium
The hybrid offspring are fertile but produce infertile or non-viable offspring		Hybrid breakdown
Fossils preserved in sedimentary rock layers that can be used to trace the evolutionary history of a species		Geological record
Natural selection acting against the extremes of a range of variation, resulting in resistance to change in allele frequencies		Stabilising selection
The formation of a completely new species, genera etc.		Macro-evolution
The process that brings about new species by the elimination of the less adapted individuals and the survival of the organisms which are better adapted.		Natural selection
Any part of an organism that has diminished in size during its evolution because the function it serves has decreased in importance, e.g. appendix in humans		Vestigial organ
A barrier to breeding that exists due to differences in mating seasons or mating organs		Reproductive isolation
Mutation producing more than twice the normal haploid number of chromosomes		Polyploidy
The accumulation of (through mutation) new characteristics in a species		Micro-evolution
Natural selection acting against the middle of a range of variation		Disruptive selection
Isolating mechanism that acts to prevent the fusion of gametes from different populations		Prezygotic
Evolution proceeds slowly but continuously. Eventually the accumulated changes result in speciation		Gradualism
The change in allele frequency due to the accumulated effects of chance		Genetic Drift
Natural selection against one end of a range of variation, resulting in a progressive change in allele frequency		Directional selection
Found only in that country		Endemic