

Biology K Lesson Plans Unit 6 19-20

UNIT OBJECTIVES: TEKS

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The basic idea of biological evolution is that populations of organisms change over time. The cumulative result of these changes alters the allele frequencies in future populations, leading to more variation, diversity, and speciation. The specific mechanisms that drive these changes are mutation, recombination, gene flow, genetic drift, and natural selection. Natural selection is generally the most powerful mechanism or process that causes evolution to occur, but it only selects among the existing variation already present in a population. It does not create new genetic variations or combinations.

The first two mechanisms, mutations and recombination, are changes at the gene (allele) level that can affect individuals and the populations they belong to. Gene flow, genetic drift, and natural selection are changes that happen at the individual level which lead to changes in the alleles that are present in populations. Altogether these changes in allele frequencies may lead to the adaptation of populations to their environments. The alleles present in populations more suited to their environment will be present in future generations at higher and higher frequencies because they provide a survival advantage to their organism.

Different selective pressures influence the way species evolve. If environmental pressures cause populations to become isolated from one another, adapting to their new unique environment will cause their characteristics to become different enough to be considered a new species (divergent evolution). When populations of not closely related organisms develop similar adaptations, usually because the organisms live in the same kind of environment or have a similar niche, we refer to these populations as converging (convergent evolution). Additionally, when one population's interaction with another lead to changes in each, they evolve together in a coevolutionary relationship. The theory of evolution supports the diversity of life on earth, both past and present

TEKS

(7) The student knows evolutionary theory is a scientific explanation for the unity and diversity of life.

7.F analyze other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination

7.D analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

7.C analyze and evaluate how natural selection produces change in populations, not individuals

7.E analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species

Unit Calendar: December

Monday	Tuesday	Wednesday	Thursday	Friday
2 "I am better than you" Stations	3 "I am better than you" Stations & Review	4 "I am better than you" Station Quiz Start Environmental Project (MG)	5 Environmental Project (MG)	6 Environmental Project (MG)
9 Environmental Project (MG) Progress report due @ 8	10 Environmental Project DUE (MG) DPM Review	11 DPM (MG) *Drop lowest test grade*	12 Final Review	13 Final Review
16 Final Review	17 Finals 6 th period No 7th	18 Finals 1 st & 7 th No 2nd or 6th	19 Finals 2 nd & 3 rd No 1 st , 6 th or 7th	20 Finals 4 th & 5 th <u>Half day</u> End of semester
23 Christmas Break	24 Christmas Break	25 Christmas Break	26 Christmas Break	27 Christmas Break