

## Review Sheet Final

### Chapter 22

Evolution

Early Philosophy and Natural Theology

Linneaus and Taxonomy

Fossils and Georges Cuvier

Catatrophism

James Hutton, Thomas Lyell, gradualism and uniformitarianism

Jean Baptiste Lamarck

Charles Darwin, the HMS Beagle and *On the Origins of Species by Means of Natural Selection*

Descent with Modification

Natural Selection

Artificial selection

The five lines of evidence supporting evolution

Homologous structures and vestigial organs

### Chapter 23

Population genetics, the modern synthesis

Populations and species

Gene pool, allele frequencies and genetic structure

Hardy-Weinberg

Microevolution

Genetic drift

    Bottleneck effect

    Founder effect

Gene flow

Mutation

Nonrandom mating

    Inbreeding

    Assortative mating

Natural selection

Polymorphism

Geographical variation

    Cline

What causes genetic variation?

What preserves genetic variation?

Balance polymorphism

    Heterozygous advantage and hybrid vigor

    Frequency dependent selection

Fitness

Selection - stabilizing, directional and diversifying

Sexual selection and sexual dimorphism

Why not perfection?

### Chapter 24

Macroevolution

Anagenesis

Cladogenesis

Prezygotic barriers and postzygotic barriers to interspecies mating

Allopatric speciation

    Why allopatric speciation?

Adaptive radiation  
Sympatric speciation  
Autopolyploidy and allopolyploidy  
Punctuated equilibrium  
Exaptation  
Allometric growth  
Paedomorphosis  
Heterochrony  
Homeosis  
Species selection

Chapters 1-17

Study your old tests. All questions will come directly from the old tests. See below for test keys.

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