

# **Biology 11 Adaption and Evolution Review Sheet**

1. Describe in your own words:

- DNA
- Gene
- Chromosome
- Nucleotide
- Evolution
- Sexual reproduction
- Mutation
- Fossil
- Fossil record
- Natural selection
- Survival of the fittest
- Species
- Adaptation
- Adaptive radiation
- Speciation
- Allele
- Genotype
- Phenotype
- Allelic / Relative Frequency
- Heterozygous
- Homozygous
- Dominant / recessive allele
- Non-random mating
- Gene pool
- Gene flow
- Recombination (crossing over)
- Genetic drift
- Convergent evolution
- Analogous structures
- Divergent evolution
- Homologous structures
- Vestigial structures
- Gradualism
- Punctuated equilibrium
- Endangered species
- Extinction
- Stabilizing / directional / disruptive selection

2. Know the structure and function of DNA including Chargaff's Rule.

3. Describe how different genotypes (dominant/recessive homozygous vs heterozygous) manifest as phenotypes.

4. Explain the role of DNA in evolution.

5. Explain the role of sexual reproduction in genetic variation and evolution.

6. What are the key pieces of evidence for evolution?

7. Describe Darwin's theory of natural selection and its main ideas.

8. Compare and contrast the three different types of adaptation (structural/physiological/behavioral).

9. Explain factors that increase genetic variation.

10. Explain factors that decrease genetic variation including the Bottleneck effect and the Founder Effect.

11. Compare and contrast convergent evolution and divergent evolution.

12. Differentiate between gradualism and punctuated evolution.

13. How is extinction involved in evolution?

14. Understand the geologic timeline and the relationship between the age of the Earth and the length of time life has existed here.

15. Know the difference between punctuated equilibrium and gradualism.

