Unit 5 Study Guide

The following topics are the major points we covered for this test. If you study your notes and papers, focusing on these topics and bulleted points, you will be prepared for the test. Good Luck! ☺

Characteristics of Life

* Understand the difference between living, non-living and dead
* Know the characteristics of life: growth, metabolism, made of cells, response to environment, homeostasis, reproduction

Types of Reproduction

* Know the basic characteristics of sexual reproduction and examples of organisms that use it
  + 2 parents (sperm and egg cells)
  + Genes get mixed in offspring
  + Offspring are unique individuals
  + Gene pool is large with many variations
  + Used by all large, complex organisms (humans, mammals, reptile, birds, etc)
* Know the basic characteristics of asexual reproduction and examples of organisms that use it
  + 1 parent
  + offspring is a genetic copy of the parent
  + gene pool is small and limited… variation only happens by mutations
  + Used by simple microscopic organisms (bacteria, hydra plants, planaria)

Traits, Inheritance and Genes

* Explain the difference between inherited and acquired traits
* Understand that inherited traits are linked to genes
* Understand the terms homozygous and heterozygous
* Be able to define and explain the two types of genes
  + Dominant
  + Recessive
* Be able to explain, in terms of genes, why organisms that reproduce sexually have offspring that are unique
* Be able to do s simple genetic cross using a Punnett square
* Know what an organism’s genotype is (actual genes that code for a specific trait)
* Know what an organism’s phenotype is (physical expression of a genetic trait)

Traits, Adaptations and Survival

* Be able to identify a specific organism’s traits that help it to survive in its own environment both Behavioral and Structural
* Explain the difference between and inherited and an acquired trait
* Be able to explain why camouflage is a useful trait for survival
* Explain how populations of organisms can change their traits over long periods of time
* Be able to state and explain the theory of “Survival of the Fittest” in your own words
* Differentiate between natural and human-forced changes in environment or organism populations: natural vs artificial selection