BIOLOGY FINAL REVIEW

CH.9

* The ratio of surface are to volume of cells (smaller cells functions better)
* Cell cycle (cellular reproduction
* Which phase do cells spend most of their lives in?
* Mitosis
* Stages of mitosis- PMAT
* Cytokinesis
* Checkpoints occurring in cell division
* What is cancer, apoptosis and stem cells?
* VOCAB
  + Cell cycle
  + Interphase
  + Cytokinesis
  + Chromosomes
  + Chromatin
  + Prophase
  + Sister chromatid
  + Centromere
  + Spindle fiber
  + Metaphase
  + Anaphase
  + Telophase
  + Cyclin
  + Cancer
  + Carcinogen
  + Apoptosis
  + Stem cells

CH. 10

* DNA replication during meiosis
* How many sets of division does meiosis consist of? What are they?
* What does meiosis produce?
* Gregor Mendel
* Law of segregation and law of independent assortment
* Punnet squares
* Genetic recombination
  + Crossing over
  + Independent assortment
* VOCAB
  + Gene
  + Homologous chromosome
  + Gamete
  + Haploid
  + Fertilization
  + Diploid
  + Dominant
  + Recessive
  + Homozygous
  + Heterozygous
  + Genotype
  + Phenotype
  + Hybrid

CH. 12

* DNA structure
* Location of DNA
* DNA replication
  + DNA helicase
  + DNA polymerase
  + Leading strand
  + Lagging strand
* Transcription
  + How does it happen?
  + Where does it occur?
  + Participants on the process? (Name the parts of the process)
* Translation
  + How does it happen?
  + Where does it occur?
  + Participants on the process? (Name the parts of the process)
* Major types of RNA
  + mRNA
  + tRNA
  + rRNA
* Codon, anticodon, mutation, protein synthesis

CH.14

* What is a fossil and how do they help scientists to determine past life?
* How do you determine age of fossils?
  + Relative dating and radiometric dating
* Divisions of geologic time scale
  + Eras, periods, and epochs
* Major events in the geologic time scale include both biological and geological changes.
* What is:
  + Fossil
  + Paleontologist
  + Relative dating
  + Law of superposition
  + Geologic time scale
* Spontaneous generation
* Origin of life hypothesis
* How are amino acids might have been formed from simpler molecules on early Earth
* First cells
  + Autotrophic and prokaryotic

CH. 15.1

* Natural selection is based on ideas of excess reproduction, variation, inheritance
* Beagle ship
* Charles Darwing
* Principles of natural selection
* Hypothesis about new species of animals
* Artificial selection, natural selection, evolution
* Galapagos island
  + Organisms
  + Importance

CH. 17

* Aristotle first classification system
* Linneaeus used:
  + Morphology and behavior to classify plants and animals
* Binomial nomenclature
* Phylogeny, evolutionary history of species
* Molecular clock
  + Uses DNA sequences
* Cladistics analysis models (Cladograms)
* Characteristics of Domain
  + Bacteria
  + Archea
* Domain
  + Eukarya contains 4 kingdoms of eukaryotes
* Viruses no living things

CH. 18

* Prokaryotes as first organisms on earth
* Prokaryotes divided into 2 domains
  + Bacteria
  + Archea
    - Thermoacidophiles, halophiles, and methanogens
* What are the names of prokaryotic cells in different environments
* Anatomy and function of a prokaryotic cell
  + Nucleid
  + Capsule
  + Pili
  + Cell walls
  + Flagella
* Reproduction of prokaryotes
  + Binary fission
  + Conjugation
* Food that are contain bacteria

CH. 19

* Protist – Unicellular and multicellular eukaryotes
* Prostis classification – how are they classify?
* Endosymbiosis
* Protist might have been the first eukaryotic cells with chloroplasts and mitochondria

CH.21

* Characteristics of plants
* Classification of plants
  + Vascular
  + avascular
* Characteristics of green algea and how they are ancestors of present day-play
* Plant adaptation
* Anatomy of the plant leaf
  + Cuticle
  + Vein
  + Stoma
  + Guard cells