11/08

* Making RNA
  + Step one, unzip the DNA
    - TAC GCG TGC ATT ACT AAA ATC ACT
  + Step two, take the complement
    - ATG CGC ACG TAA TGA TTT TAG TGA
  + Replace T’s with U’s
    - AUG CGC ACG UAA UGA UUU UAG UGA
    - Voila RNA
* Making Proteins
  + The ribosomes read the RNA three letters at a time and each sequence codes for a specific amino acid
    - AUG – met/start
    - CGC – arg
    - ACG – Thro
    - UAA – Stop
    - UGA – Stop
    - UUU – pheno
    - UAG – Stop
    - UGA – Stop
  + Ribosomes look for a start
    - It won’t make amino acids from “junk” DNA
    - Finds the start and creates, and connects amino acids
    - Processes until “stop” code
  + DNA replication
    - When,
      * Interphase
        + Most of the cell’s life span is spent in interphase
        + It’s getting bigger and copying it’s DNA, preparing for miosis
      * And mitosis
        + It’s the splitting of the cell
    - where,
      * It’s where the DNA is
        + The nucleus
    - and how does it happen?
      * Easy
        + DNA molecule unzips
        + Bases are read
        + Complementary bases are paired on each of the two strands
        + Both strands are proofread
        + Mistakes are cut out and corrected
        + Process resumes
      * And ta-da, new DNA
* Mutations
  + Bad reputation
  + Tend to be disruptive
  + Fairly common
  + Causes and effects of mutation
    - Alteration of the sequence of bases in DNA
      * Can lead to changes in the structure and function of the proteins produced
      * Can have a range of effects
    - Mistakes in copying DNA
      * Nothing you can do about it
    - Chemical exposures
      * Prop 65 posters in CA
    - Radiation

Gametes – sex cells (sperm and eggs)

Somatic Cells – cells that make up your body