

AP BIO SUMMER ASSIGNMENT

Review the following topics before day 1!

Chemistry

- Bonds
- Properties of Water and pH
- Carbohydrates, lipids, protein, and nucleic acids
 - Structure of each, how can you tell from the formula what type of compound it is, function
 - Biological significance (processes they are involved in)

Cells

- The following parts AND functions.
 - The cell membrane, mitochondria, chloroplast, ribosomes, and the nucleus
- Active transport, passive transport, osmosis and diffusion
 - What each are, what they move, and if they use energy or not
- Mitosis phases, purpose, end result
- Meiosis phases, purpose, end result

Genetics

- Punnett squares: how to set them up and complete crosses (mono and di)
- Homozygous, heterozygous, hybrid, purebred (be very familiar with the use of these words)
- Non-Mendelian: codominant, incomplete dominant, multiple alleles
- Pedigrees (how to use)
- Common genetic disorders

Ecology

- Land and Water Biome characteristics (plants, animals, soil, and climate)
- Food webs/food chains and energy pyramid
- Symbiosis, commensalism, mutualism and parasitism
- Chemical cycles
 - Nitrogen, carbon and water