Khan Items Worth Reviewing for the Keystone Biology Exam

Module 1

1. Water, acids and bases
    a. Hydrogen bonding in water
    b. Cohesion and adhesion
    c. Temperature and state changes in water
2. Properties of carbon
    a. Carbon
        i. Carbon as a building block of life
3. Macromolecules
    a. Introduction to macromolecules
    b. Carbohydrates
        i. Carbohydrates
    c. Lipids
        i. Lipids
    d. Nucleic acids – All sections
    e. Proteins
        i. Introduction to proteins and amino acids
4. Energy and Enzymes
    a. Energy in metabolism
        i. Overview of metabolism
    b. Introduction to enzymes
        i. Activation energy
        ii. Enzymes and the active site
5. Structure of a cell – All sections and Practice
6. Membranes and transport
    a. The plasma membrane – All sections
    b. Diffusion and osmosis – All sections and Practice
    c. Passive transport – All sections and Practice
    d. Active transport
        i. Sodium potassium pump
    e. Bulk transport – All sections and Practice

Module 2

1. Cell division – All sections and Practice
2. Classical and molecular genetics – All sections
3. DNA as the genetic material – All sections
4. Central dogma (DNA to RNA to protein) – All sections
5. Evolution and the tree of life
    a. Evolution and natural selection

        i. Introduction to evolution and natural selection
        ii. Darwin, evolution, & natural selection
        iii. Variation in a species
        iv. Evidence for evolution
        v. Evidence for evolution
    b. Speciation and evolutionary trees
        i. Species and speciation
6. Ecology
    a. Intro to ecology – All sections
    b. Population growth and regulation
        i. Exponential and logistic growth in populations
        ii. Predator-prey cycles
    c. Intro to community ecology – All sections
    d. Community structure and diversity
        i. Invasive species
        ii. Ecological succession
        iii. Ecological succession
    e. Intro to ecosystems – All sections
    f. Biogeochemical cycles – All sections