# Topics for Mid-Year Exam

## Cells & Reproduction

* know the definitions for: chromosomes, DNA, genes, haploid, diploid, infertility, FSH, LH, primary sex characteristics and secondary sex characteristics
* know the differences between mitosis and meiosis
* know the functions of cell division
* know the factors that affect genetic diversity
* know the steps of cellular organization (cell->tissue->organ->system->organism)
* know the steps of the menstrual cycle (including the names of the phases)
* know the stages of ovulation (including hormones)

## Nutrition and Digestion

* definitions: absorption, peristalsis, mastication, chemical digestion, mechanical digestion, metabolism, enzyme
* be able to label the parts of the digestive system
* know the functions of each part of the digestive system (including glands)
* know the 6 main nutrients, their functions and what they are broken down into
* know where each nutrient is digested and absorbed
* be able to calculate energy content of different foods (calories)
* know what GMOs are and how they are created

## Organization of Matter

* definitions: chemical change, physical change, pure substance, mixture, characteristic property, non-characteristic property, element, compound
* be able to calculate density
* know the different types of chemical reactions
* know the different identification tests and what their results mean (gas ID, nutrient ID, pH, etc)

## Respiratory System

* definitions: osmosis, diffusion, pressure, fluid, solid, gas, liquid, incompressible fluid, compressible fluid
* be able to label the parts of the respiratory tract
* know the parts of the digestive system and their functions
* know the mechanics of breathing (how breathing works)
* know the factors affecting pressure in a gas and in a liquid

## Circulatory System and Lymph

* definitions: vaccination, antibodies, antigen, immunity
* be able to label the parts of the heart
* know the pathways for the systemic and pulmonary circulation
* know the characteristics of the different blood vessels
* know the components of blood and their functions
* be able to identify a blood type based on coagulation
* be able to determine who can donate blood to whom
* know who the universal donor and universal recipient are (blood type)