Living Environment – Spring 2020 Edward R. Murrow School
Exam 1 Review Sheet Mr. Sprague / Ms. Rivera / Ms. Khanum

Format: 20 multiple choice questions and 5 open ended questions

Concepts to Review:

- EVERYTHING FROM SEMESTER I
  - Designing a controlled experiment (hypothesis, control, independent/dependent variables, graphing)
  - Life functions (eight life functions and their definitions, homeostasis, metabolism)
  - Ecology (biotic/abiotic factors, food webs/chains, carrying capacity, biodiversity)
  - Cells (functions of all cell organelles, differences between plant/animal cells)
  - Transport (diffusion, osmosis, active transport, ATP energy)
  - Photosynthesis and respiration (definitions, chemical reactions, guard cells, O_2/CO_2 diffusion in lungs)
  - Enzymes and digestion (enzymes/substrates, denaturing, nutrient groups and their building blocks)
  - Regulation and communication (endocrine and nervous systems, hormones/receptors, nerve messages)
  - Immunity (antigens/antibodies, white blood cells, vaccines, HIV/AIDS, allergies)

- Asexual Reproduction
  - Be able to define the life function of *reproduction*.
  - Be able to explain why reproduction is important even though an individual can survive without reproducing.
  - Know the main differences between *asexual* reproduction and *sexual* reproduction.
  - Know why chromosomes are important, what they are made up of, and where they are found in the cell.
  - Be able to summarize the process of mitosis.
  - Be able to compare the number of chromosomes in a parent cell to the number in its daughter cells.
  - Be able to explain how cancer occurs.

- Sexual Reproduction
  - Be able to define the terms *gamete* and *zygote*, and identify the male and female gametes.
  - Be able to describe some ways in which *meiosis* is different from *mitosis*.
  - Know how to figure out the number of chromosomes in a gamete.
  - Know the structures and functions of the male and female reproductive systems in humans.
  - Be able to describe the roles of the hormones *testosterone*, *estrogen*, and *progesterone*.

- Development
  - Be able to define the term *differentiation*, and explain what happens to cells when they become differentiated.
  - Be able to explain how materials are exchanged between a pregnant woman and her fetus.
  - Be able to explain how a pregnant mother's behavior and environment can affect the development of the fetus.

- Lab Skills
  - Be able to construct and interpret a dichotomous key.

Practice Exam Questions:

- Visit the "Practice Exam Questions" page on the course website at www.spraguescience.com.
- Download the "Reproduction and Development – Exam" file and answer all practice questions in the file.
- Check your work by downloading the answer key.

First Exam Warning:

In order to be prepared for the exam, it is strongly recommended that you study your class notes (see the page "Suggested Study Strategies" on the course webpage) and practice with the questions on the "Sample Exam Questions" page. *Remember that this exam is cumulative (i.e., it covers all work from last semester and all work from this semester so far).*