

AP Biology: Spring Fun Pack!
Due April 07, 2007

Directions: Complete the notes/activities about the topics listed. Lecture will either extend from your base-knowledge of these topics or that these topics may not be covered in class. Be prepared to have these concepts committed to memory for the AP exam on May 9th!! You will not have time to do all of this in one day. Break it up throughout the break.

I. Chapter 40 ~ Intro to Animal Structure and Function (pages 834-845)

A. Explain identifying characteristics of various types of tissues below:

1. epithelial tissue
 - definition and function
 - simple vs. stratified
 - cuboidal, columnar, vs. squamous
 - glandular
2. connective tissue
 - definition and function
 - types of connective tissue fibers: collagen, elastin, reticular
 - types of connective tissues: loose, fibrous, cartilaginous, bone, blood
3. nervous tissue
 - definition and function
4. muscle tissues
 - definition and function
 - types of muscle tissues: skeletal, cardiac, smooth

B. Organs and Organ Systems

1. What are organs and organ systems?
2. List the 11 types of organ systems, their functions, and sample organs that are part of each system

C. Homeostasis

1. Define homeostasis
2. What is the difference between negative and positive feedback systems?

D. Thermoregulation

1. What is the difference between ectotherms and endotherms?-

IV. Chapter 43 ~ Immune System (Pages 900-921) Your 10th grade biology notebook may be very helpful!

- A. Non-specific and specific defenses of the immune system: define the difference
- B. How does the skin provide protection?
- C. How do phagocytes, inflammatory response, and antimicrobial proteins fight early infection?
- D. What are the different types of lymphocytes and what are their roles?
- E. Explain the relationship between antigens and antibodies. How do antigens interact with specific lymphocytes to fight infection?
- F. How does the immune system distinguish self from non-self?
- G. What is the difference between humoral and cell-mediated immunity. Explain in detail humoral immunity and cell-mediated immunity.
- H. Explain the immune system of invertebrates. Contrast this from vertebrate immune response.
- I. How can immunity be achieved (either naturally or artificially)
- J. Why is it always important to match the correct blood-type when a person needs a blood transfusion? What complications might arise from a person needing an organ or tissue transplant?
- K. What is an allergy? How is this related to the immune system?
- L. Explain the mechanism of how HIV breaks down the immune system