

Review for the Final

Immune System

1. Understand and be able to explain the purpose, structure and function of the immune system.
2. Know the non-specific immune responses, including the barriers, as well as the internal responses. Be sure to understand and be able to explain the inflammatory and fever response.
3. Understand and be able to explain the specific immune response, including the (step 3) the cell mediated response. Understand the primary and secondary response within each of these. Be able to name and explain the functions of the different types of cells involved, including B cells, T cells, helper T cells, killer T cells and suppressor T Cells. Know where these cells are produced and where they mature.
4. Understand and be able to explain how vaccines work and what an autoimmune disease is.

Digestive System:

5. Understand the purpose and function of the digestive system. Know what “digestion” means and how it is different than absorption.
6. Know the names and functions of the various organs found in the digestive system. Be able to explain the role of surface area in digestion, and what organs show specific adaptations for lots of surface area. Know the names and functions of the enzymes and hormones released during the digestive process. Know which organ produces each enzyme or hormone, and where in the digestive system these molecules actually function. Know where in the digestive system the various components of food are broken down and where they are absorbed.
7. Understand where and how ulcers and heart burn occur and why.
8. Be able to explain how a complete meal is broken down in the digestive system—proteins, carbohydrates, and fats. Where are each of these molecules are broken down, what hormones/enzymes are involved, what are the breakdown products and where are the products absorbed.

Circulatory System

9. Including purpose, STRUCTURE and FUNCTION of arteries, capillaries, veins, chambers and valves of the heart.
10. Understand and be able to explain the various components of the blood, and the function of plasma, red blood cells, white blood cells and platelets. Particular attention to the pros and cons of RBC's.
11. Be able to explain what makes the heart contract, and the role played by the heart valves in the process. Know the position and function of the SA and AV nodes.
12. Be able to explain the pathway of blood as it flows into the heart, goes to the lungs, returns to the heart and then goes out to the tissues of the body. Be able to name the structures/organs through which the blood flows, including heart chambers, valves and vessels. Be sure you can explain if these structures are on the right or left side of the heart.

AKA Big Themes: Tie it all together:

****How does SA improve the function?**

Cells	Molecules	Ecology	Plants	Animals

How does the structure of a _____ fit its function?

DNA	Enzyme	Water	Root Hair	Animal Blood Vessel
Structure:	Structure:	Structure:	Structure:	Structure:
Function:	Function:	Function:	Function:	Function:
How does structure fit function:	How does structure fit function:	How does structure fit function:	How does structure fit function:	How does structure fit function: