AP BIOLOGY
ANIMALS FORM & FUNCTION
ACTIVITY #4

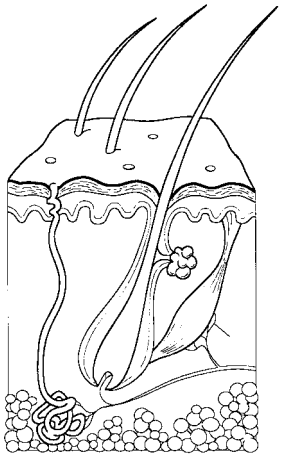
NAME_____

DATE_____HOUR_____

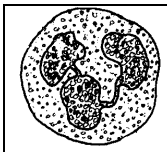
BODY DEFENSES

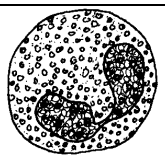
NONSPECIFIC DEFENSES

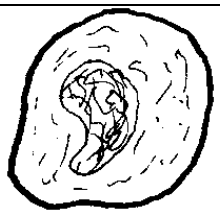
PHYSICAL BARRIERS

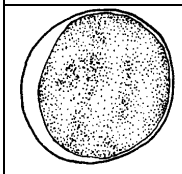


PHAGOCYTES

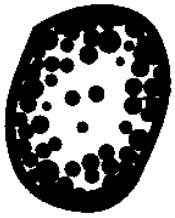








Inflammatory Response

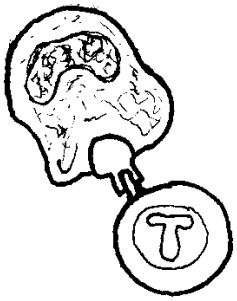


Antimicrobial Proteins

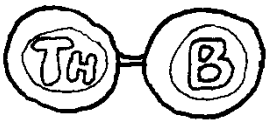
Specific Defenses

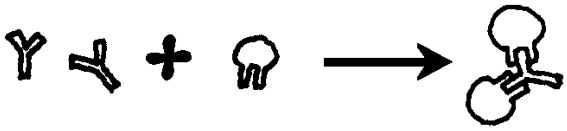
Cell-Mediated Immunity	Antibody-Mediated Immunity

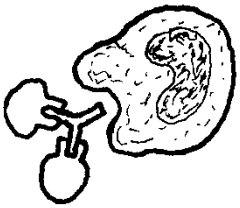
CELL-MEDIATED IMMUNITY



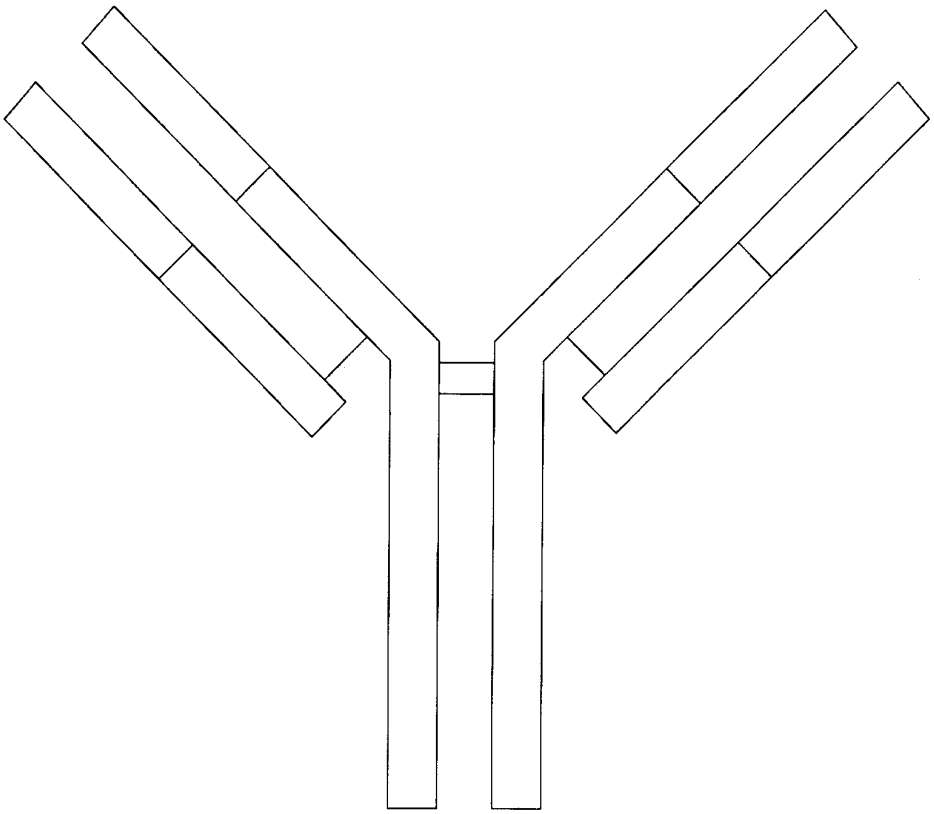
ANTIBODY-MEDIATED IMMUNITY







ANTIBODY STRUCTURE



QUESTIONS:

1. Match the description with the correct compound or process.

A.	Antibodies	F.	Interferons
B.	Antigen	G.	Lysozyme
C.	Complement	H.	Perforin
D.	Cytokines	I.	Phagocytosis
E.	Histamine	J.	Pyrogens

_____ Enzyme that digests the cell walls of many kinds of bacteria; present in some mucus secretions

_____ Ingestion of invading organisms by certain types of white blood cells

_____ Released by basophils and mast cells in response to tissue injury; triggers dilation and increased permeability of nearby capillaries

_____ Molecules that set the body's thermostat at a higher temperature

_____ Group of 20 or more blood proteins that cooperate with other defense mechanisms; may amplify inflammation, enhance phagocytosis or lyse pathogens; activated by immune response or exposure to antigens

_____ Proteins produced by virus-infected cells; induce other cells to produce chemicals that inhibit viral reproduction

_____ Foreign molecule that triggers a specific response by lymphocytes

_____ Proteins, produced by plasma cells that bind to specific antigens

_____ Proteins or peptides that serve to stimulate lymphocytes

_____ Protein that forms pores in a target cell's membrane

2. Match the description/function with the correct cell.

A. B lymphocytes
B. Basophils
C. Cytotoxic T cells
D. Eosinophils
E. Helper T cells
F. Mast cells
G. Memory B cells
H. Memory T cells
I. Monocytes
J. Neutrophils
K. NK cells
L. Plasma cells
M. Suppressor T cells
N. T lymphocytes

_____ 60% to 70% of all white blood cells; phagocytic cells; engulf and destroy microbes in infected tissues

_____ 5% of all white blood cells; exit circulation and enlarge to become macrophages; engulf and destroy bacteria and dead cells

_____ 1.5% of all white blood cells; defense against larger parasitic invaders; target foreign compounds or pathogens coated with antibodies

_____ Lymphocytes that destroy virus-infected body cells and abnormal cells; destroy cells by attacking the cell's membrane and causing the cell to rupture

_____ Cells found in connective tissue that produce and release histamine

_____ White blood cells that produce and release histamine

_____ Lymphocytes responsible for antibody-mediated immunity

_____ Lymphocytes responsible for cell-mediated immunity

_____ Cells that produce antibodies; derived from B cells

_____ Cells held in reserve; differentiate to form plasma cells with second exposure to antigen

_____ Responsible for cell-mediated immunity; track down and attack bacteria, fungi, protozoa and foreign tissues that contain targeted antigen

_____ Release cytokines that coordinate specific & nonspecific defenses and stimulate cell-mediated and antibody-mediated immunity

_____ Remain in reserve; differentiate into cytotoxic T cells with second exposure to antigen

_____ Depress the action of other T cells and B cells by secreting suppression factors; limit the degree of the immune system action in response to a single exposure to an antigen

3. How are lymphocytes able to distinguish self from nonself?

_____

_____

_____

_____

_____

_____

4. How is the primary immune response different from the secondary immune response?

Primary Immune Response	Secondary Immune Response

5. How is active immunity different from passive immunity?

Active Immunity	Passive Immunity

6. Match the description with the correct term.

A. Allergens
B. Allergies
C. Autoimmune disorders
D. Immunodeficiency disease

_____ Immune system fails to develop normally or the immune response is blocked

_____ Develop when the immune response mistakenly targets normal body cells & tissues

_____ Inappropriate or excessive immune responses to antigens

_____ Antigens that trigger allergic reactions

_____ AIDS/HIV

_____ Psoriasis, rheumatoid arthritis, myasthenia gravis, multiple sclerosis, narcolepsy, Type 1 diabetes, Graves' disease, Addison's disease, pernicious anemia, lupus