Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Due Date \_\_\_\_\_\_\_\_\_\_\_\_

**“Maintaining Homeostasis” Review Packet**

Immunity and Lymphatic System

**A. Disease**

1. Define disease and give an example

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1. Define pathogen and give an example

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1. Define symptoms and give an example

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1. How do the words symptoms, disease and pathogens differ?

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1. Examples of pathogens are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How does the body discriminate a pathogen from its own body cells?

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1. what is a vector and why is it important to know the vector of diseases?

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**B. Innate** **Immunity**

1. Innate immunity is also called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ immunity, this means that everyone is born with it and have the same innate defenses.
2. Our first line of defense is our \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which keeps pathogens out of the body, it has a layer of dead cells and oils that trap and kill pathogens.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are found at our mucus membranes and contain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, an enzyme responsible for the destruction of bacterial cell walls.
4. One last outer defense we have is massive amounts of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bacteria living all over our body, these organisms \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with harmful pathogens for living space and nutrients.
5. Our body’s second line of defense includes the inflammatory response which is characterized by
 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. In the inflammatory response \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is released by damaged body cells and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_cells.
2. How are blood vessels affected by histamine? Why is this helpful in terms of immunity?

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1. Specific white blood cells are involved in the phagocytosis of pathogens, two examples of them are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Describe the process of phagocytosis of a pathogen

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**C. Acquired Immunity**

1. How is acquired immunity different from innate immunity?

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1. Describe the humoral response (antibody immunity)

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1. Describe how the cellular response (cell mediated immunity) differs from humoral.

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1. Explain why a person is not likely to get the same disease twice

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**D. Immunity**

1. Explain the difference between active immunity and passive immunity

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1. What is a vaccination? Is this passive or active immunity? Why?

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1. Give two examples of passive immunity

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**E. Allergies and organ transplants**

1. Sometimes the body’s immune system will react to harmless substances in the environment. These reactions are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. The harmless substance such as mold, mildew, pollen, peanut butter or animal dander are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. The immune system responds to an allergen by releasing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, medicines that contain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can alleviate such symptoms
4. A person’s immune system may attack a transplanted organ because it contains foreign \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. This is called organ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Patients are placed on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ medication to prevent this.
5. Why may a doctor use your own skin or tissue for a graft instead of a donor’s?

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**F. Blood and blood typing**

|  |  |  |
| --- | --- | --- |
| **Component** | **Description** | **Function** |
| **Red blood cell** |  |  |
| **White blood cell** |  |  |
| **Platelet** |  |  |
| **Plasma** |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Blood Type** | **Antigen present** | **Antibody in plasma** | **Can give to** | **Can receive from** |
|  |  |  | A, AB, B, O |  |
|  |  |  |  | A, AB, B, O |
|  |  | Anti-A |  |  |
|  | A |  |  |  |

1. Which blood type is the universal donor and why?

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1. Which blood type is the universal recipient and why

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**Lymphatic System**

1. Cells are bathed in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, also known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ . This is important because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ works best across moist surfaces.
2. This fluid is drained into special vessels called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ vessels
3. Once inside these vessels the fluid is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and it is eventually returned to the blood stream as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the liquid part of blood.
4. What is the function of the lymph?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ filters the blood of pathogens and damaged blood cells.
2. What is the role of the lymph nodes in the immune system?

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1. Sketch a diagram to illustrate the location of the ICF (Intercellular fluid)

**Diseases of the immune system**

1. Describe H.I.V. and its effect on the body.

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1. How is H.I.V prevented? Treated?

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1. What is leukemia?

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1. How is leukemia treated?

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1. It is often said “people do not die from AIDS”. Explain why AIDS is considered a lethal disease.

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