

Name _____

Block _____

Date _____

Group _____

Adaptations for Homeostasis Questions

Define

1. Stimulus _____

2. Dynamic Equilibrium _____

3. Feedback Mechanism _____

4. Positive Feedback _____

5. Negative Feedback _____

Questions

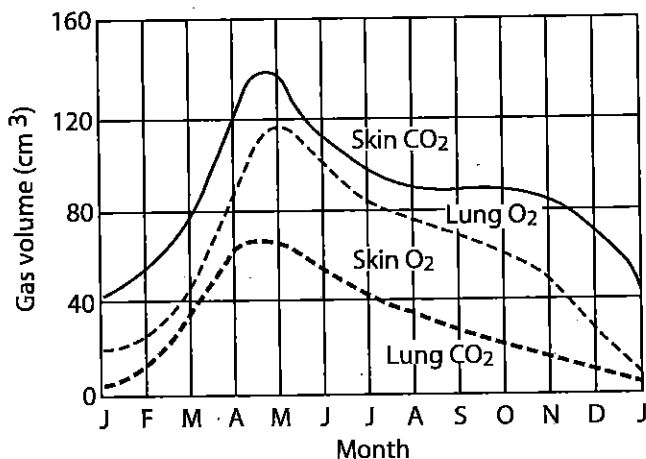
1. Give two examples of how protozoans respond to their environment. _____

2. Give two examples of how plants respond to their environment _____

1. A similarity between the nervous system and the endocrine system in humans is that they both (A) are composed of the same type of cells (B) are composed of many glands (C) help to maintain homeostasis (D) secrete chemicals directly into the blood
2. In complex animals, the activity of the body systems is coordinated by (A) the secretion of hormones and the nervous system (B) the interaction of nerve impulses with the excretory system (C) the movement of digested food by the circulatory system (D) the secretion of hormones and the circulatory system
3. Some plants respond to light with a sudden enlargement of their leaf pores. This response is important because it enables the plant to increase its intake of (A) carbon dioxide (B) water (C) oxygen (D) nitrogen
4. An increase in the blood's level of a thyroid gland hormone decreases the release of a hormone that stimulates the thyroid gland. This mechanism illustrates (A) negative feedback (B) enzyme action (C) immune response (D) positive feedback

5. Maintenance of the pH of human blood within a certain range is an example of (A) chemical digestion (B) synthesis (C) respiration (D) dynamic equilibrium
6. In the human body, homeostasis can be illustrated by the effects of insulin on the amount of (A) proteins digested (B) amino acids absorbed into the blood (C) oxygen transport to the lungs (D) glucose in the blood
7. The following chart shows the amount of oxygen and carbon dioxide exchanged through the skin and lungs of a frog over the course of one year.

The lowest rate of gas exchange is most likely the result of (A) increased mating activity (B) elevated



body temperature (C) environmental conditions (D) competition with other species

8. When a person is suffering from an infection, such as strep throat or chicken pox, his blood usually shows a significant increase in the number of (A) enzymes (B) antibodies (C) hormones (D) sugars
9. The body makes chemicals that can help destroy harmful viruses and bacteria. These chemicals are called (A) antibodies (B) vaccines (C) hormones (D) antibiotics
10. Uncontrolled cell division is known as (A) dynamic equilibrium (B) cancer (C) antibody production (D) homeostasis
11. The resistance of the body to a pathogen is called (A) immunity (B) antigen (C) cancer (D) infection
12. During hot weather and vigorous exercise, people sweat. As the water on their skin evaporates, the water molecules absorb heat energy. Why is this process important to the individual?

13. In desert environments, organisms that cannot maintain a constant internal body temperature, such as snakes and lizards, rarely go out during the hot, sunny daylight hours. They stay in the shade, under rocks, or in burrows during the day. Explain how this behavior helps maintain homeostasis in these organisms.

14. Explain the importance of cell-to-cell communication in a multicellular organism, such as a human.

Base your answer to this question 15 on the following technical passage.

Lyme Disease

Since 1980, the number of reported cases of Lyme disease in the United States has been increasing. The vector (carrier) of Lyme disease is the black-legged tick, *Ixodes scapularis*. The disease is spread from infected animals to ticks that bite these animals. Humans bitten by these ticks may then become infected.

The symptoms of Lyme disease do not always occur immediately after a tick bite. An individual may develop a skin rash several days to weeks after being bitten by a tick. Flu-like symptoms, such as headaches, muscle aches, joint pain, and fever, may also develop. Generally, these symptoms clear up even if the individual does not seek medical help. Also, in some cases, there may be no symptoms other than a sudden onset of arthritis. However, in a small number of cases, if the infection is not treated, it may lead to chronic arthritis, disorders of the heart and nervous system, or in a few cases, death. A blood test can help to confirm a diagnosis, and antibiotics are used to treat the infection.

People may take preventive action by frequently checking themselves and their pets for ticks, tucking their pant legs into socks when walking through woods or high grass, wearing light-colored clothing to aid in spotting a tick, and using insect repellent.

15. Summarize some of the key information in the passage.

- Explain how Lyme disease is transmitted.
- Describe one way that people might protect themselves from Lyme disease.
- Describe two symptoms that may occur if a person has Lyme disease.
- Identify one danger of ignoring any symptoms that may develop after a tick bite.

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