Quiz: Mechanisms of Homeostasis

Read each question. Circle the letter of the correct answer.

1. What is the role of a receptor in helping an organism maintain homeostasis?

A. receives messages sent by the control center

B. carries out a response to restore internal conditions

C. detects stimuli and sends information to the control center

D. compares current conditions with ideal values for those conditions

2. Which of these does homeostasis most directly relate?

A. stability

B. evolution

C. scale and structure

D. interacting systems

3. Which of these is an example of a positive feedback loop?

A. plants closing their stomata in response to water loss

B. the removal of salt from a saltwater fish during osmoregulation

C. the release of glucose by the liver in response to low blood sugar

D. platelets stimulating the activation of more platelets during clotting

4. Internal control systems maintain homeostasis by regulating which of these?

A. pH of body fluids

B. external conditions

C. receptors in the body

D. the body's control centers

5. On a hot day, which of these is an outward sign that thermoregulation is taking place?

A. sunburn

B. sweating

C. dry mouth

D. slow breathing

6. How does the liver help to regulate glucose levels in the blood?

A. by storing glucose

B. by producing insulin

C. by releasing glucagon

D. by excreting excess water

7. The body works to maintain homeostasis in response to what conditions?

A. tissue and cell formation

B. production of key vitamins

C. internal and external changes

D. cell differentiation and determination

8. Which of the following are most important for an organism to maintain homeostasis?

A. reproduction and development

B. dependence on other organisms

C. behaviors and negative feedback

D. interactions with nonliving things

9. The body's internal environment must stay _____.

A. exactly the same at all times

B. the same as its external environment

C. within narrow ranges that support human life

D. away from sudden outside temperature changes

10. The long-term effects of a disruption of homeostasis include _____.

A. destruction of organ systems

B. the immune system's taking control

C. regulation of the internal environment

D. establishment of feedback mechanisms

Read each statement. Write your answer on the lines.

11. Why is osmoregulation different in saltwater fishes than in freshwater fishes?

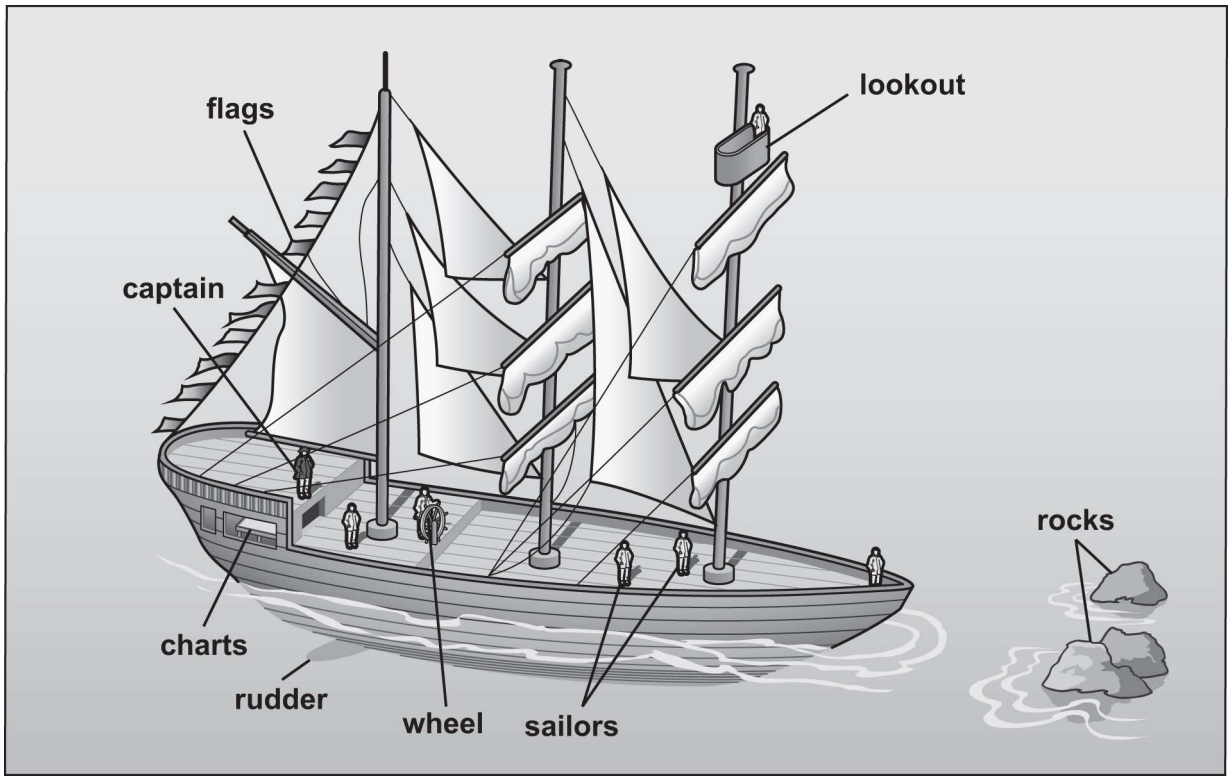
12. The human body is made of different systems. Explain and provide an example of how a problem with one system would affect other body systems.

13. Identify an example of an animal behavior that is used to maintain homeostasis in response to an external factor.

Directions: Read the passage, then answer the questions that follow.

Body Metaphor

The diagram shows a ship and its crew sailing across the ocean. The ship and its crew can serve as a metaphor for the parts of the human body working together to keep the body functioning properly.



14. How is a sudden storm at sea like a virus? Use the word *homeostasis* in your explanation.

15. A crew tries to keep a sailing ship on course despite all the changes in the sea and in the weather. How is the crew like the internal control systems in the human body?