

Name: Homeostasis Quiz

Modified True/False Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

1. Contractions that increase in strength during pregnancy are an example of a *negative feedback mechanism*. positive
2. Some animals sun themselves or retreat to shade as a way of *regulating their body temperature*. true
3. An increase in body temperature is detected by sensors in the brain. The brain sends a *nerve message to the hypothalamus*. true
4. Kidneys remove waste, *balance blood pH*, and maintain water balance. true
5. Adrenal cortex releases the hormone aldosterone that *increases water reabsorption*. *True*
6. *Large amounts* of hormones are required to induce a change. small amounts
7. Insulin is produced *when blood sugar is low*. high
8. Calcitonin and parathyroid hormone regulate *calcium levels* in the blood. true

Multiple Choice Identify the choice that best completes the statement or answers the question.

10. The nitrogen that must be excreted in urine comes from
 - a. the metabolic breakdown of carbohydrates
 - b. the nitric buffer system
 - c. the deamination of proteins
 - d. the atmosphere
11. Which of the following analogies would best fit the action of the kidney?
 - a. selecting those items not useful and excreting them
 - b. removing all the items and returning 10% of them
 - c. removing all the items and *returning* none of them
 - d. removing all the items and returning what is still useful

12. Which one of the following is a part of the circulatory system?

- a. distal tubules
- c. collecting duct
- b. Bowman's capsule
- d. glomerulus

13. Which of the following statements about hormones is incorrect?

- a. they are produced by glands such as the thyroid
- b. they travel to different areas of the body
- c. they are carried by the blood
- d. they are used to communicate between different individuals
- e. they elicit specific biological responses from target cells

14. The adrenal medulla secretes which of the following?

- a. acetylcholine
- c. epinephrine
- b. cortisol
- d. cortisone

15. In an emergency/ stressful situation

- a. digestion of sugars is accelerated
- b. glycogen is converted to glucose
- c. glucose is converted to glycogen
- d. endocrine suppression of glucose metabolism is experienced

16. Adrenaline affects the flow of blood by which of the following?

- a. stimulating the blood cells
- b. stimulating the muscle of the heart
- c. increasing the amount of blood in the system
- d. causing the veins and arteries to constrict

17. Which organ systems are the most important systems for maintaining homeostasis?

- a. muscular and digestive
- b. nervous and endocrine
- c. nervous and excretory
- d. excretory and integumentary

18. Which of the following is an effector activated by the hypothalamus when the temperature of the body is lower than the set point?

- a. sweat glands initiate sweating
- b. move to a warmer location or put on a sweater
- c. skeletal muscles contract
- d. skin blood vessels dilate

19. What part of the kidney is considered to be the functional unit?

- a. renal medulla
- b. nephron
- c. glomerulus
- d. Bowman's capsule

20. Where does the filtrate go after the distal convoluted tubule?

- a. Bowman's capsule
- b. proximal convoluted tubule
- c. loop of Henle
- d. collecting duct

21. Which of these glands is not an endocrine gland?

- a. adrenal gland
- b. pituitary gland
- c. thyroid gland
- d. sweat gland

22. Which gland is the "master gland?"

- a. parathyroid gland
- b. hypothalamus
- c. pituitary gland
- d. thyroid gland

23. Glucagon is to insulin as parathyroid hormone is to what hormone?

- a. antidiuretic hormone
- b. thyroxine
- c. thyroid hormone
- d. calcitonin

24. What triggers the production of insulin?

- a. an increase in glycogen
- b. an increase in the blood glucose level
- c. an increase in the levels of glucagon
- d. the act of digestion

25. Which statement about insulin is true?

- a. Insulin instructs target cells to take glucose from the blood.
- b. Insulin promotes protein synthesis.
- c. Insulin inhibits the breakdown of glycogen.
- d. All of the above.

26. Which statement about glucagon is true?

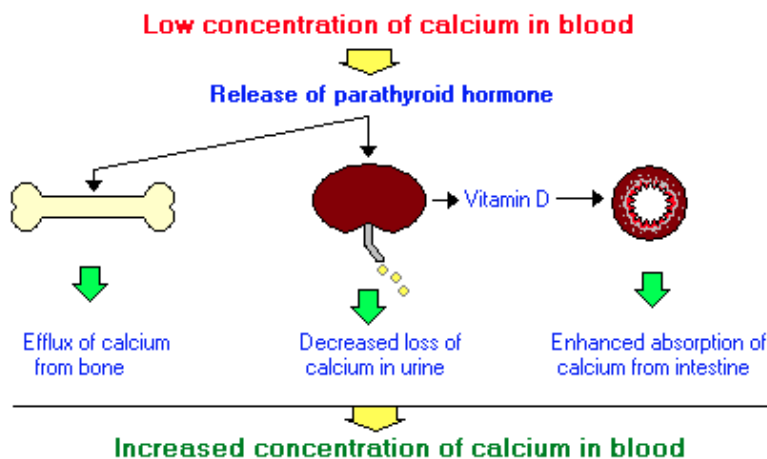
- a. Glucagon stimulates the breakdown of proteins and fats.
- b. Glucagon increases the level of glucose in the blood.
- c. Glucagon stimulates the breakdown of glycogen in the liver.
- d. All of the above.

Short Answer

2. Suppose a person is being chased by a dog. Decide which hormones would be released in the person's body and outline the effects what their effects would be on the body.

Discuss the fight or flight response, the hormones and their actions on the body

3. How is the parathyroid hormone regulated? Use a diagram in your answer.



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