

APOLLO

Integration of body systems

SL

Biology

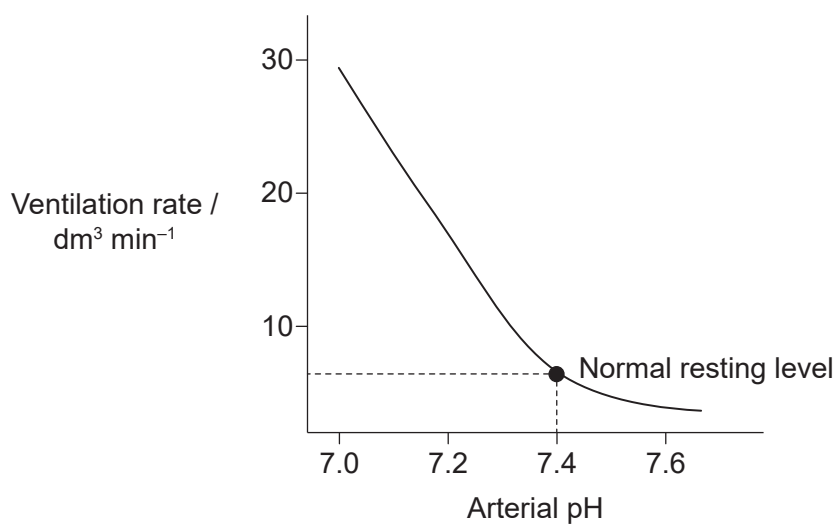
First assessment 2025

6 questions | questions

16. Which row has the correct information regarding the endocrine system?

	Gland	Hormone	Action
A.	pineal	melatonin	controls circadian rhythm
B.	adrenal	Epinephrine (adrenaline)	controls circadian rhythm
C.	adrenal	melatonin	prepares the body for vigorous activity
D.	pineal	Epinephrine (adrenaline)	prepares the body for vigorous activity

15. The graph shows ventilation rate as a result of change in arterial pH. Blood is normally maintained at approximately pH 7.4 in response to changes detected by receptors.



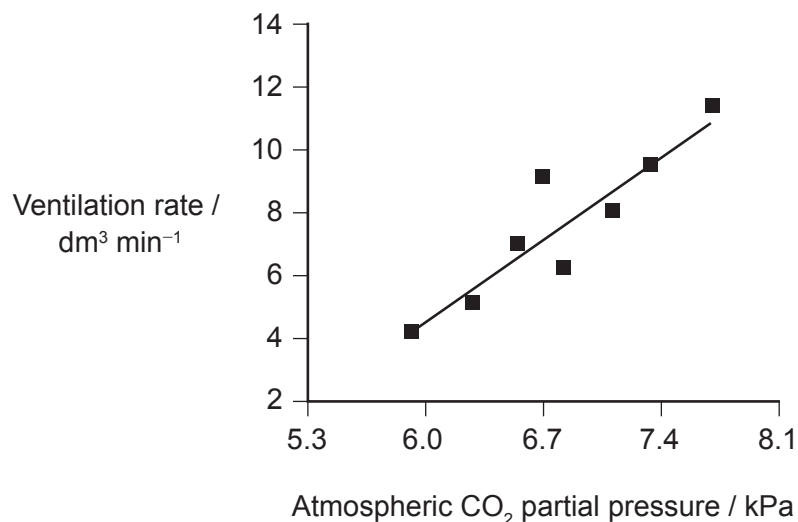
What is happening in the blood below pH 7.4?

- A. Transmembrane receptors detect increased O_2 concentration.
- B. Baroreceptors detect increased CO_2 concentration.
- C. Thermoreceptors detect increased O_2 concentration.
- D. Chemoreceptors detect increased CO_2 concentration.

- 16.** What describes the control mechanisms for peristalsis that ensure coordinated passage of material through the digestive system?
- A. Voluntary control by the central nervous system
 - B. Involuntary control by the enteric nervous system
 - C. Involuntary control by the central nervous system
 - D. Voluntary control by the enteric nervous system

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18. The graph shows the effect of atmospheric carbon dioxide (CO_2) concentration (measured as partial pressure) on the ventilation rate (measured as total volume of air breathed in and out from the lungs in one minute) of a mammal.



Which of the following explains the results obtained at high atmospheric CO_2 concentration?

- A. The brainstem stimulates increased contraction of the diaphragm and intercostal muscles when chemoreceptors detect a drop in blood pH.
- B. Stretch receptors in the brainstem send impulses to the lungs to increase ventilation rate.
- C. Baroreceptors sense a build-up of CO_2 and send signals to the diaphragm and intercostal muscles.
- D. The pituitary gland stimulates the brainstem when blood plasma becomes more acidic.

- 19.** What conveys messages from the central nervous system to an endocrine gland?
- A. Sensory neurons
 - B. Hormones
 - C. Interneurons
 - D. Motor neurons