

Anatomy and Physiology

FOR ENGLISH LANGUAGE LEARNERS

Chapter 1: Introduction to Anatomy and Physiology

Organizational structures

The level of organization of the body's building blocks is as follows (from smallest to largest): molecule, cell, tissue, organ, organ system.

Homeostasis

Homeostasis is the way the body keeps in balance. For example, when you're cold, you shiver, which in turn warms your body. When you're hot, you sweat and the sweat on your skin cools your body.

Negative Feedback

Homeostasis occurs when your body senses a negative condition. The communication process that informs about that negative condition is known as negative feedback. Homeostasis is maintained by the body responding to negative feedback in the form of a reflex.

A Reflex

There are five steps involved in a reflex. 1. A negative condition is sensed. 2. A message about the condition is sent to the spinal cord or brain. 3. The spinal cord or brain interprets the message and makes a decision. 4. The spinal cord sends a message to the organ that will fix the problem. 5. That organ (usually muscles or endocrine glands) receives the message and reacts.

Sending Messages

Messages take two forms: nerves or hormones. Hormonal messages are slower but their effect lasts longer. Neural messages are faster but their effect doesn't last as long.



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