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## Chapter 01 The Sciences of Anatomy and Physiology

Multiple choice:

- 1) If a scientist forms and tests a hypothesis, but gets unexpected results, what is a logical next step? Check all that apply.
  - A) Accept the original hypothesis
  - B) Reject the original hypothesis
  - C) Revise the original hypothesis
  - D) Design a new experiment based on a new or modified hypothesis.
  
- 2) Some researchers think pheromones are important tools in human communication. Pheromones are chemical signals that one individual sends to another. What research questions might be asked by anatomists, and what questions might be asked by physiologists, to determine if pheromones are important to humans?
  
- 3) Iron atoms help our blood transport oxygen. Describe each level of anatomical structural complexity for an iron atom in your blood, working from the simplest level (atom) to the most complex (organism).

4) If someone speaks too loudly into a microphone, a public address system will sometimes produce a loud whistle of amplified feedback. Explain whether this is an example of negative or positive feedback, and explain how the microphone, control box, and speaker of the system serve as the different components of a feedback loop.

5) The discipline known as \_\_\_\_\_ anatomy examines similarities and differences across species.

6) The discipline that studies the functions of the nervous system, including the way that impulses are conducted, is known as \_\_\_\_\_.

7) The discipline that associates changes in organ system function with disease or injury is known as \_\_\_\_\_.

8) The group of metabolic reactions in which smaller molecules are combined to form larger ones is \_\_\_\_\_.

9) Specialized subunits of cells that are made of macromolecules are called \_\_\_\_\_.

10) The organ system that transports and filters interstitial fluid while also participating in immune responses is the \_\_\_\_\_ system.

11) The pituitary, thyroid, and adrenal glands are typically grouped within the \_\_\_\_\_ system.

12) The appendix is in the right iliac region, and is therefore located in the \_\_\_\_\_ quadrant.

13) The level of organization one step more complex than the organ level is the \_\_\_\_\_ level.

14) The state of equilibrium, or fairly constant internal environment, in the body is called \_\_\_\_\_.

15) The \_\_\_\_\_ reproductive system produces oocytes.

16) The antecubital region is \_\_\_\_\_ to the brachial region.

- 17) The muscular partition that separates the thoracic and abdominopelvic cavities is the thoracic\_\_\_\_\_.
- 18) The hypogastric region is located\_\_\_\_\_to the right iliac region.
- 19) Sensory nerves that detect changes in a variable that is being regulated comprise the \_\_\_\_\_of the control mechanism.
- 20) In a homeostatic control mechanism, the receptor detects changes in the environment and relays that information to the\_\_\_\_\_.
- 21) The reinforcement of a stimulus so that a climax is reached is known as\_\_\_\_\_.
- 22) The word "anatomy" comes from
- A) Latin and means "to be born."
  - B) Hebrew and means "shape."
  - C) Greek and means "to cut apart."
  - D) German and means "body."
  - E) Italian and means "form."
- 23) A scientist who describes the layers of the heart wall and their relationship to the surrounding pericardium would be a(n)

- A) anatomist.
- B) physiologist.
- C) pathologist.
- D) pulmonologist.

24) \_\_\_\_\_ anatomy examines both superficial anatomic markings and internal body structures as they relate to the skin covering them.

- A) Regional
- B) Surface
- C) Radiographic
- D) Surgical
- E) Systemic

25) Which branch of microscopic anatomy is the study of tissues?

- A) Histology
- B) Cytology
- C) Embryology
- D) Developmental anatomy
- E) Surgical anatomy

26) Gross anatomy refers to the study of

- A) cells.
- B) structures formed by cells.
- C) structures not visible to the unaided eye.
- D) structures visible to the unaided eye.
- E) nasal secretions.