

ATI Test of Essential Academic Skills (TEAS) Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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SAMPLE

Questions

SAMPLE

- 1. What is the primary purpose of the skeletal system?**
 - A. To regulate body temperature**
 - B. To provide structure and support to the body**
 - C. To produce energy**
 - D. To generate blood cells**
- 2. Which system is primarily responsible for processing foods and absorbing nutrients?**
 - A. Circulatory System**
 - B. Endocrine System**
 - C. Digestive System**
 - D. Respiratory System**
- 3. What is the term for the largest part of the brain?**
 - A. Cerebellum**
 - B. Brainstem**
 - C. Hippocampus**
 - D. Cerebrum**
- 4. How is the momentum of an object calculated?**
 - A. It is equal to force divided by velocity**
 - B. It is equal to mass of the object times the velocity of the object**
 - C. It is equal to weight times gravitational acceleration**
 - D. It is equal to velocity divided by time**
- 5. Which substance is commonly measured to evaluate kidney function?**
 - A. Hemoglobin**
 - B. Albumin**
 - C. Cholesterol**
 - D. Glucose**

- 6. In statistics, what is the mean?**
- A. The mode of a set of numbers**
 - B. The median of a set of numbers**
 - C. The average of a set of numbers**
 - D. The range of a set of numbers**
- 7. Which layer of the epidermis provides protection against UV radiation?**
- A. Stratum Corneum**
 - B. Stratum Lucidum**
 - C. Stratum Spinosum**
 - D. Stratum Basale**
- 8. What process do plants use to convert sunlight into energy?**
- A. Cellular respiration**
 - B. Fermentation**
 - C. Photosynthesis**
 - D. Transpiration**
- 9. What effect does hyperventilation have on carbon dioxide levels in the blood?**
- A. Causes them to increase**
 - B. Has no effect**
 - C. Causes them to decrease**
 - D. Balances them**
- 10. What is a characteristic of an alkaline solution?**
- A. pH greater than 7**
 - B. pH equal to 7**
 - C. pH less than 7**
 - D. None of the above**

Answers

SAMPLE

1. B
2. C
3. D
4. B
5. B
6. C
7. D
8. C
9. C
10. A

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Explanations

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1. What is the primary purpose of the skeletal system?

- A. To regulate body temperature
- B. To provide structure and support to the body**
- C. To produce energy
- D. To generate blood cells

The primary purpose of the skeletal system is to provide structure and support to the body. This system consists of bones, cartilage, ligaments, and tendons, which work together to form a framework that supports the body's soft tissues and organs. The skeletal system enables us to maintain our shape and posture, allowing for movement and stability. It also serves as an attachment point for muscles, facilitating locomotion and various physical activities. While other functions, such as the production of blood cells and protection of vital organs, are important roles of the skeletal system, they are secondary to its foundational role in providing structural integrity. The skeletal system ensures that the body can withstand forces and stress while allowing for a range of movements, making its primary function crucial for overall bodily function and health.

2. Which system is primarily responsible for processing foods and absorbing nutrients?

- A. Circulatory System
- B. Endocrine System
- C. Digestive System**
- D. Respiratory System

The digestive system is the primary system responsible for processing foods and absorbing nutrients. It encompasses a series of organs that work together to break down food into smaller, absorbable components. The journey begins in the mouth, where food is mechanically broken down by chewing and mixed with saliva, which contains enzymes that initiate digestion. As food travels through the esophagus to the stomach, it undergoes further digestion through both mechanical and chemical processes, including the action of gastric acids and enzymes. Once the food reaches the small intestine, the majority of nutrient absorption occurs. Here, specialized structures called villi and microvilli increase the surface area, allowing nutrients to be effectively absorbed into the bloodstream to be utilized by the body. The remaining waste material is then transported to the large intestine, where water is reabsorbed, and the remaining waste is prepared for elimination. This entire process emphasizes the digestive system's critical role in overall health by ensuring that the body receives the nutrients it needs for energy, growth, and cellular repair.

3. What is the term for the largest part of the brain?

- A. Cerebellum
- B. Brainstem
- C. Hippocampus
- D. Cerebrum**

The cerebrum is indeed the largest part of the brain and plays a crucial role in many high-level functions. It is divided into two hemispheres and is responsible for processing sensory information, coordinating voluntary movements, and facilitating cognitive functions such as thinking, learning, and memory. The cerebrum encompasses various regions, including the frontal, parietal, temporal, and occipital lobes, each serving specific roles in processing information and controlling different functions of the body. Understanding this structure's significance helps clarify why it is the largest part of the brain. It handles complex tasks that are essential for everyday functioning and decision-making, distinguishing it from the other brain structures listed. The cerebellum, although vital for motor control and coordination, is smaller and located at the back of the brain. The brainstem, fundamental for basic life functions such as breathing and heart rate, is also significantly smaller in comparison. The hippocampus is a crucial part of the limbic system related to memory formation, but it is much smaller than the cerebrum.

4. How is the momentum of an object calculated?

- A. It is equal to force divided by velocity
- B. It is equal to mass of the object times the velocity of the object**
- C. It is equal to weight times gravitational acceleration
- D. It is equal to velocity divided by time

Momentum is a fundamental concept in physics that quantifies the motion of an object. It is directly related to both the mass of the object and its velocity, and is mathematically expressed as the product of these two quantities. When calculating momentum, the formula used is: $\text{Momentum} (p) = m \cdot v$ where (p) represents momentum, (m) denotes the mass of the object, and (v) is its velocity. This relationship shows that an increase in either the mass or the velocity of an object will result in a corresponding increase in momentum. Understanding momentum in this way is critical, as it provides insight into how objects behave when they are in motion, particularly in collision scenarios. The principle of momentum conservation is also foundational in physics, indicating that in a closed system, the total momentum remains constant. Other options presented do not accurately reflect how momentum is calculated, as they describe different physical concepts or relationships unrelated to the definition of momentum.

5. Which substance is commonly measured to evaluate kidney function?

- A. Hemoglobin**
- B. Albumin**
- C. Cholesterol**
- D. Glucose**

Albumin is commonly measured to evaluate kidney function because it is a protein that can indicate how well the kidneys are filtering blood. In healthy kidneys, albumin should remain in the bloodstream; however, when the kidneys are damaged or diseased, they can allow albumin to leak into the urine. This is often assessed through a urine test that measures the amount of albumin present, and elevated levels can be a sign of kidney dysfunction or disease. Hemoglobin is primarily measured to assess oxygen-carrying capacity in the blood, not kidney function. Cholesterol levels can indicate cardiovascular health but do not provide direct information about kidney performance. Glucose levels are used to evaluate blood sugar control and can indicate diabetes but do not directly assess renal function.

6. In statistics, what is the mean?

- A. The mode of a set of numbers**
- B. The median of a set of numbers**
- C. The average of a set of numbers**
- D. The range of a set of numbers**

The mean refers to the average of a set of numbers, which is computed by adding all the values in the dataset together and then dividing by the total number of values. This measure provides a central value that summarizes the data set, making it a commonly used statistic in various fields, including education and healthcare. Understanding the mean is critical because it offers insight into the overall level of the data, allowing for comparisons and interpretations that are essential in fields that rely on statistical analysis. In contrast, other options represent different statistical concepts: the mode is the most frequently occurring number in a dataset, the median is the middle value when the numbers are ordered, and the range is the difference between the highest and lowest values in the set. Each of these metrics serves a unique purpose in data analysis, but only the mean specifically refers to the average.

7. Which layer of the epidermis provides protection against UV radiation?

- A. Stratum Corneum**
- B. Stratum Lucidum**
- C. Stratum Spinosum**
- D. Stratum Basale**

The layer of the epidermis that provides protection against UV radiation is the Stratum Basale. This deepest layer is crucial for producing new skin cells, specifically keratinocytes, which migrate upwards through the layers of the epidermis. While the Stratum Basale itself does not directly absorb UV radiation, it is responsible for the production of melanin, a pigment that is essential for protecting the skin from damaging effects of ultraviolet light. Melanin absorbs and dissipates UV radiation, thereby reducing the risk of DNA damage that can lead to skin cancer. In contrast, the Stratum Corneum serves primarily as a barrier to water loss and external pollutants, while the Stratum Lucidum is typically found only in thick skin areas like palms and soles, offering minimal UV protection. The Stratum Spinosum plays a role in the immune response and skin strength but is not directly involved in UV protection. Thus, the Stratum Basale's function in melanin production is key to its role in shielding the skin from harmful UV rays.

8. What process do plants use to convert sunlight into energy?

- A. Cellular respiration**
- B. Fermentation**
- C. Photosynthesis**
- D. Transpiration**

Plants use photosynthesis to convert sunlight into energy. This process occurs mainly in the chloroplasts of plant cells, where chlorophyll captures sunlight. During photosynthesis, plants take in carbon dioxide from the air and water from the soil. Using the energy from sunlight, they convert these raw materials into glucose (a type of sugar) and oxygen. The glucose produced during this process serves as an energy source for the plant, allowing it to grow and carry out various functions, while the oxygen generated is released into the atmosphere, contributing to the air we breathe. Photosynthesis is essential not only for the plants themselves but also for nearly all life on Earth, as it serves as the primary source of organic matter in the food chain. The other processes listed, such as cellular respiration and fermentation, are primarily associated with breaking down glucose for energy rather than creating it, while transpiration involves the movement of water through plants, not energy conversion.

9. What effect does hyperventilation have on carbon dioxide levels in the blood?

- A. Causes them to increase**
- B. Has no effect**
- C. Causes them to decrease**
- D. Balances them**

Hyperventilation refers to a condition where a person breathes at an abnormally fast rate, leading to an excessive expulsion of carbon dioxide (CO₂) from the body. When hyperventilation occurs, the rate of breathing surpasses the body's metabolic demand for oxygen, resulting in a significant decrease in CO₂ levels in the blood, a condition known as hypocapnia. As CO₂ is a byproduct of cellular respiration, its levels are tightly regulated by the respiratory system. When you hyperventilate, you are essentially blowing off CO₂ too quickly for the body to replace it, thereby reducing the concentration of carbon dioxide in the bloodstream. This decrease in CO₂ levels can also lead to a rise in blood pH, resulting in respiratory alkalosis, which can affect physiological processes in the body. Thus, the correct understanding of the effect of hyperventilation is that it causes a decrease in carbon dioxide levels in the blood.

10. What is a characteristic of an alkaline solution?

- A. pH greater than 7**
- B. pH equal to 7**
- C. pH less than 7**
- D. None of the above**

An alkaline solution is characterized by having a pH greater than 7. In the pH scale, values below 7 indicate acidity, while a pH of 7 is neutral, such as pure water. Therefore, any pH value above 7 signifies that the solution is alkaline (or basic). This property is important in various fields, including chemistry, biology, and environmental science, as it affects chemical reactions, biological processes, and the behavior of substances in different environments. The notion of alkalinity is crucial, particularly in contexts such as soil health, maintaining aquatic ecosystems, or formulating certain cleaning products, where an alkaline environment can lead to specific desirable outcomes.