

Biology Part 2 Quiz Answer Key PDF

Biology Part 2 Quiz Answer Key PDF

Disclaimer: The biology part 2 quiz answer key pdf was generated with the help of StudyBlaze AI. Please be aware that AI can make mistakes. Please consult your teacher if you're unsure about your solution or think there might have been a mistake. Or reach out directly to the StudyBlaze team at max@studyblaze.io.

What is the primary function of ribosomes in a cell?

- A. DNA replication
- B. Protein synthesis ✓**
- C. Lipid storage
- D. Energy production

What is the primary source of energy for the process of photosynthesis?

- A. Glucose
- B. ATP
- C. Sunlight ✓**
- D. Oxygen

Which cycles are considered biogeochemical cycles?

- A. Carbon cycle ✓**
- B. Water cycle ✓**
- C. Nitrogen cycle ✓**
- D. Oxygen cycle

Which organ system is primarily responsible for transporting nutrients and oxygen to cells?

- A. Nervous system
- B. Digestiv system
- C. Circulatory system ✓**
- D. Respiratory system

Which type of mutation involves the addition of one or more nucleotide base pairs into a DNA sequence?

- A. Deletion
- B. Insertion ✓**
- C. Substitution
- D. Translocation

Which of the following is a characteristic of prokaryotic cells?

- A. Presence of a nucleus
- B. Membrane-bound organelles
- C. Circular DNA ✓**
- D. Multicellular structure

Which process describes the division of a cell's nucleus into two genetically identical nuclei?

- A. Meiosis
- B. Mitosis ✓**
- C. Cytokinesis
- D. Binary fission

Which molecule is responsible for carrying genetic information in cells?

- A. RNA
- B. DNA ✓**
- C. Protein
- D. Lipid

How does the immune system respond to a pathogen entering the body, and what are the key components involved in this response?

When a pathogen enters the body, the immune system first activates the innate immune response, which includes physical barriers, phagocytes, and inflammatory responses. If the pathogen persists, the adaptive immune response is triggered, involving T cells and B cells that specifically target and remember the pathogen for future encounters.

What are the main differences between mitosis and meiosis in terms of their processes and outcomes?

1. Mitosis involves one division and produces two identical diploid cells, while meiosis involves two divisions and produces four genetically diverse haploid gametes. 2. Mitosis is used for growth and repair, whereas meiosis is used for sexual reproduction.

Which of the following are components of an ecosystem?

- A. Producers ✓**
- B. Consumers ✓**
- C. Decomposer ✓**
- D. Predators

How do human activities impact the carbon cycle, and what are the potential consequences for ecosystems?

Human activities impact the carbon cycle primarily through the release of carbon dioxide (CO₂) from fossil fuel combustion and land-use changes, which can result in climate change, habitat loss, and altered species interactions.

Which body systems are involved in maintaining homeostasis?

- A. Endocrine system ✓**
- B. Nervous system ✓**
- C. Digestiv system
- D. Muscular system

Which of the following are evidence for evolution?

- A. Fossil records ✓**
- B. Comparative anatomy ✓**
- C. Genetic drift
- D. Molecular biology ✓**

Explain the role of natural selection in the process of evolution.

Natural selection plays a crucial role in evolution by favorably selecting traits that enhance survival and reproduction in a given environment, resulting in the gradual change of species.

Which of the following are types of symbiotic relationships?

- A. Mutualism ✓**
- B. Parasitism ✓**
- C. Commensalism ✓**
- D. Predation

Which of the following is a product of cellular respiration?

- A. Oxygen
- B. Glucose
- C. Carbon dioxide ✓**
- D. Chlorophyll

Discuss the ethical considerations surrounding the use of genetic engineering in agriculture.

Key ethical considerations include the potential for unintended consequences on ecosystems, the moral implications of altering natural organisms, the risk of monopolization of seed patents by large corporations, and the need for transparent labeling and consumer choice.

Which processes are involved in gene expression?

- A. Transcription ✓**
- B. Translation ✓**
- C. Replication
- D. Mutation

Describe the process of DNA replication and its significance in cell division.

DNA replication occurs in several steps: first, the double helix unwinds and separates into two strands; then, each strand serves as a template for the synthesis of a new complementary strand, facilitated by enzymes like DNA polymerase. This process is significant because it ensures that each new cell receives an exact copy of the DNA, which is vital for maintaining genetic continuity during cell division.