Name: _____ **Class Period:_____**

Cell Organelle Quiz

Cells are the basic building blocks of all living organisms. Each cell contains several organelles, which are specialized structures that perform different functions. Some common organelles include the nucleus, mitochondria, chloroplasts, endoplasmic reticulum, and Golgi apparatus. Understanding the function of each organelle is crucial for learning how cells operate.

Fill in the Blank: Fill in the blank with the correct words.

1. The _____is the control center of the cell and contains the cell's DNA.
2. _____ are known as the powerhouse of the cell because they produce energy.
3. Plant cells contain _____to perform photosynthesis.
4. The _____helps in the synthesis and transport of proteins and lipids.
5. The _____ packages and distributes proteins and lipids within the cell.

Word bank: Golgi apparatus, nucleus, chloroplasts, mitochondria, endoplasmic reticulum

Multiple Choice Questions: Choose the correct answer from the choices for each question.

1. Which organelle is responsible for photosynthesis in plant cells?
    - a) Nucleus
    - b) Mitochondria
    - c) Chloroplasts
    - d) Golgi apparatus
2. What is the function of mitochondria in the cell?
    - a) Control center
    - b) Energy production
    - c) Protein synthesis
    - d) Waste removal
3. Where is the cell's genetic material stored?
    - a) Mitochondria
    - b) Nucleus
    - c) Endoplasmic reticulum
    - d) Golgi apparatus
4. Which organelle is involved in modifying, sorting, and packaging proteins and lipids?
    - a) Nucleus
    - b) Chloroplasts
    - c) Golgi apparatus
    - d) Endoplasmic reticulum
5. The endoplasmic reticulum is primarily involved in:
    - a) Photosynthesis
    - b) Energy production
    - c) Protein and lipid synthesis

- d) Genetic storage

Open Ended Questions: Answer the following questions in complete sentences:

1. Explain the role of the nucleus in a eukaryotic cell.
2. Describe how mitochondria contribute to cellular functions.
3. Why are chloroplasts important for plant cells?

Answer Key:

Fill in the Blank:

1. The **nucleus** is the control center of the cell and contains the cell's DNA.
2. **Mitochondria** are known as the powerhouse of the cell because they produce energy.
3. Plant cells contain **chloroplasts** to perform photosynthesis.
4. The **endoplasmic reticulum** helps in the synthesis and transport of proteins and lipids.
5. The **Golgi apparatus** packages and distributes proteins and lipids within the cell.

Multiple Choice Questions:

1. c) Chloroplasts
2. b) Energy production
3. b) Nucleus
4. c) Golgi apparatus
5. c) Protein and lipid synthesis

Open Ended Questions:

1. The nucleus acts as the control center of the cell, housing the cell’s DNA and coordinating activities like growth, metabolism, and reproduction.
2. Mitochondria generate most of the cell's energy by converting glucose and oxygen into ATP, which is used to power various cellular activities.
3. Chloroplasts are important for plant cells because they capture light energy and convert it into chemical energy through photosynthesis, producing glucose and oxygen.