

A 2.2: Eukaryotic Cells

- 1. What is the role of histone proteins in eukaryotic cells?**
 - a) Energy production
 - b) DNA compartmentalization
 - c) DNA structure and regulation
 - d) Waste elimination
- 2. Which structure encloses the DNA in a eukaryotic cell?**
 - a) Ribosome
 - b) Nuclear envelope
 - c) Endoplasmic reticulum
 - d) Golgi apparatus
- 3. What is the primary function of the mitochondrion in a cell?**
 - a) Synthesizing proteins
 - b) Storing genetic information
 - c) Site of aerobic respiration
 - d) Packaging and secretion of cellular products
- 4. What type of ribosomes are found on the rough endoplasmic reticulum?**
 - a) Free ribosomes
 - b) Unbound ribosomes
 - c) Bound ribosomes
 - d) Floating ribosomes
- 5. What is the primary function of free ribosomes in a cell?**
 - a) Synthesizing proteins for secretion
 - b) Synthesizing proteins for intracellular use
 - c) Controlling membrane permeability
 - d) Modifying cellular proteins
- 6. What is the role of the plasma membrane in a cell?**
 - a) Synthesizing proteins
 - b) Controlling the entry of substances
 - c) Modifying cellular proteins
 - d) Repackaging proteins
- 7. What is the function of the Golgi apparatus in a cell?**
 - a) Synthesis of DNA
 - b) Modification and repackaging of proteins
 - c) Cellular respiration
 - d) Intracellular transport of materials
- 8. What is the primary function of lysosomes in a cell?**
 - a) Energy production
 - b) Synthesis of DNA
 - c) Breakdown of cell waste and pathogens
 - d) Intracellular transport of materials

- 9. Which organelle contains the region with CHROMOSOMES composed of DNA BOUND to HISTONE proteins?**
- a) Nucleus
 - b) Lysosome
 - c) Endoplasmic reticulum
 - d) Golgi apparatus
- 10. What is the primary composition of the cytoplasm?**
- a) Lipids
 - b) Water
 - c) Proteins
 - d) Carbohydrates
- 11. Which components make up the cytoskeleton?**
- a) Nucleotides and enzymes
 - b) Microtubules and microfilaments
 - c) Ribosomes and vesicles
 - d) DNA and histones
- 12. What is the primary function of the cell wall in plant cells?**
- a) Energy production
 - b) Structural support
 - c) DNA storage
 - d) Waste elimination
- 13. What is the key organelle involved in photosynthesis in plant cells?**
- a) Nucleus
 - b) Golgi apparatus
 - c) Chloroplast
 - d) Vacuole