

Unit 1 - Test #1

Topics:

1. the seven steps used in designing an experiment and appropriate vocabulary (hypothesis, manipulated variable, etc.)
2. contributions of Redi, Needham, Spallanzani and Pasteur in the discrediting of the theory of abiogenesis in favor of biogenesis
3. observations and conclusions of Robert Hooke, Anton van Leeuwenhoek, Matthias Schleiden, Theodor Schwann and Rudolph Virchow to the current understanding of the cell theory
4. the cell theory
5. - the parts of a compound microscope
- the functions of the parts of a compound microscope
- calculating total magnification
- measuring/calculating field of view
6. two characteristics of all cells
7. eukaryotes vs prokaryotes
8. eukaryotic cell structures

Eukaryotic Structures to Know

nucleus	mitochondria
nucleolus	chloroplasts
nuclear envelope	cytoskeleton
chromatin	microtubules
chromosomes	microfilaments
ribosomes	centrioles
smooth endoplasmic reticulum	cell membrane
rough endoplasmic reticulum	cell wall
Golgi apparatus	
lysosomes	
vacuoles	

9. cell wall
10. cell membrane: fluid mosaic model, lipid bilayer (hydrophobic tails and hydrophilic heads), embedded proteins
11. - concentration, concentration gradient
 - types of membranes (permeable, impermeable, selectively permeable)
 - types of transport: passive transport and active transport
 - diffusion, equilibrium
 - osmosis, types of solutions, effects on cell
 - facilitated diffusion
 - molecular transport, endocytosis (phagocytosis, pinocytosis), exocytosis