SNC 2DI Exam Review: Biology.

1. Understand the meaning of the following terms. Be able to recognize their definitions:

Apoptosis	Differentiation	Phloem
Cancer	Golgi apparatus Homeostasis	Photosynthesis Regeneration
Cell membrane	Immunization	Ribosome
Cell specialization	Lysosomes	Rough ER
Cell wall	Meristematic cells Mitochondria	Smooth ER
Centriole	Mitosis	Stem cells
Chloroplast	Nucleus	Tissue
Cloning	Organ	Vacuole
Cytokinesis	Organ system	Xylem
Cytoplasm	Organelle	

2. Know the general rules for using and focusing a microscope:

~~a) outline the steps to follow when you put a cover slip onto a specimen when preparing a wet mount~~

b) which objective lenses can be focused using the coarse adjustment knob? Low/medium/high

c) which objective lenses can be focused using the fine adjustment knob? Low/medium/high

d) when you are done with the microscope, how should you leave the stage?

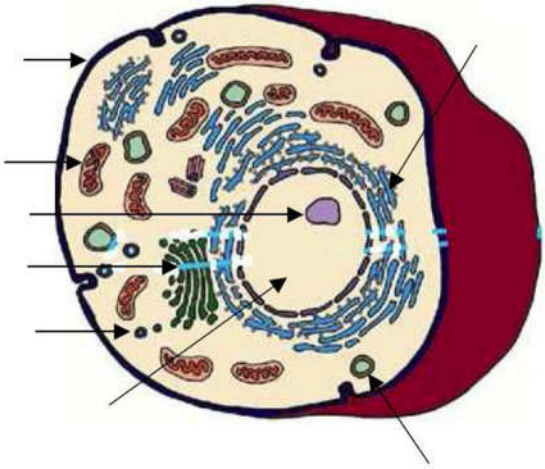
3. Calculate the total magnification of the following combinations of lenses:

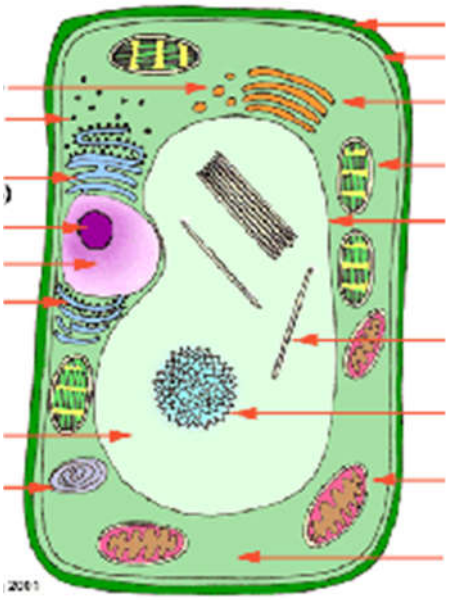
a) Ocular lens is 4x power and objective lens is 10x power. Total magnification is _____

b) Ocular lens is 10x power and objective lens is 20x power. Total magnification is _____

c) Ocular lens is 5x power and objective lens is 40x power. Total magnification is _____

4. Label the parts of the animal and plant cells:





5. Know the basic parts of the cell and their function: Function Found in Animal Cells?

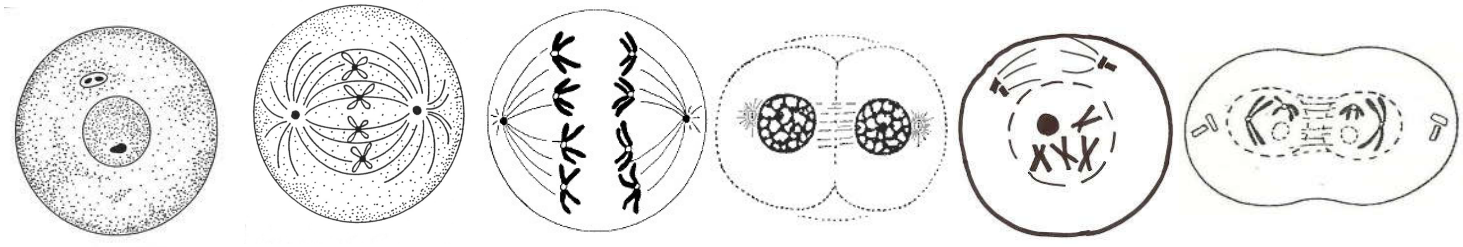
Cell part	Function	Found in Animal Cells?	Found in Plant Cells?
Cell Membrane			
Cell Wall			
Cytoplasm			
Nucleus			
Nucleolus			
Chromatin			
Mitochondria			
Chloroplasts			
Centrioles			
Endoplasmic Reticulum			
Golgi Apparatus			
Ribosomes			
Vacuoles			
Central Vacuole			
Lysosomes			

6. Why can cells not get too large?

7. Know the six stages of the cell cycle, how to recognize each stage in a diagram and what events take place during each stage:

Stage of Cell Cycle	**How can you recognize this stage?**	**What takes place during this stage?**

8. For each of the following diagrams, identify the stage of the cell cycle that is represented. The diagrams are in no particular order.

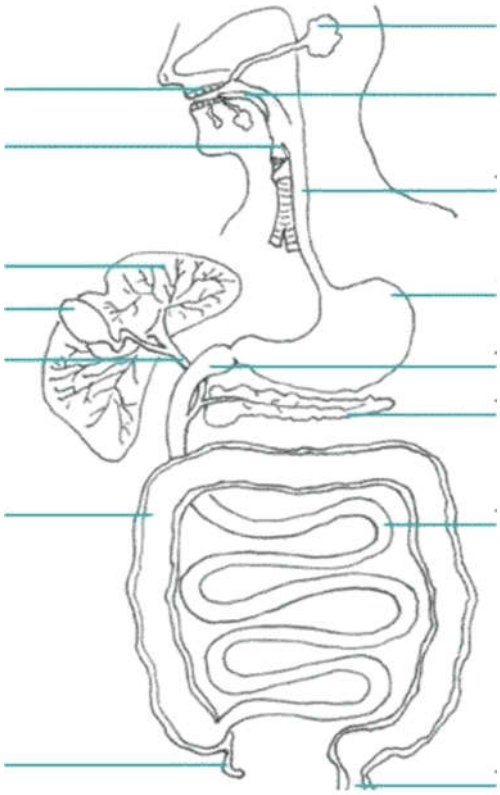


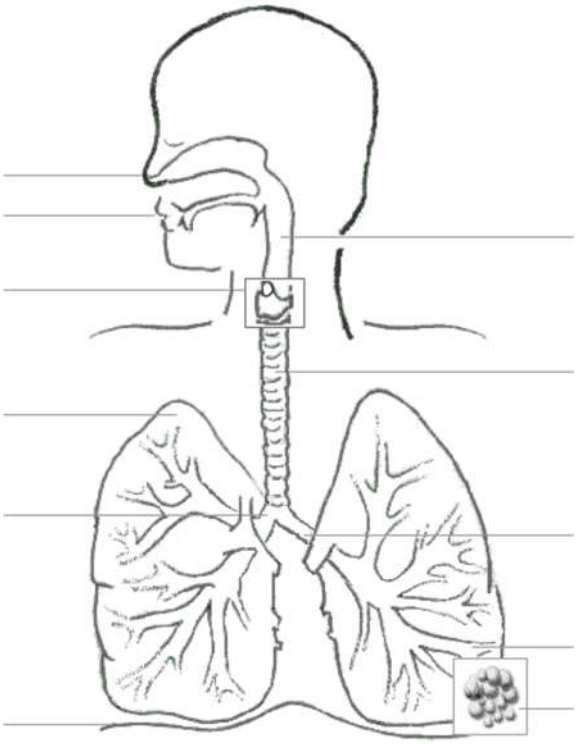
_____ _____ _____ _____ _____ _____

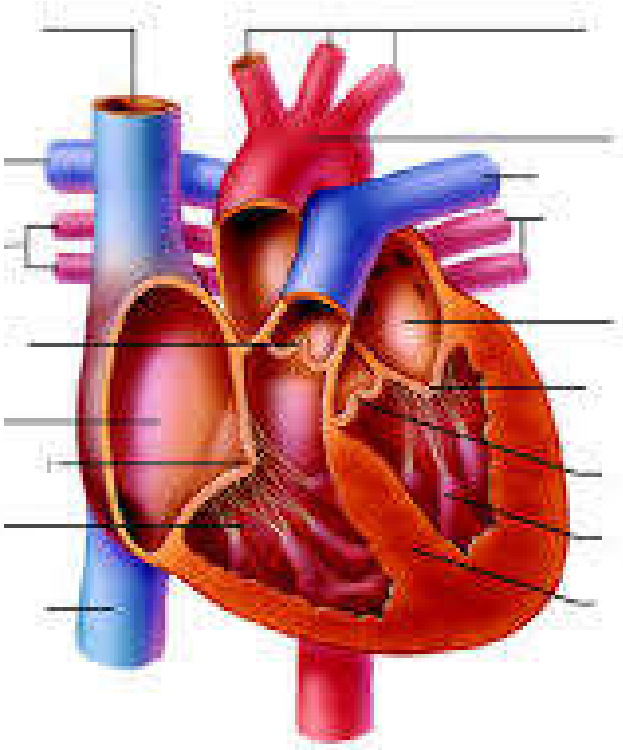
9. What are the three reasons that mitosis occurs?

10. Explain how cancer differs from regular cell division

11. Label the diagrams of the digestive system, respiratory system, and heart:







12. Complete the following charts

Animal Tissues

Tissue Type	**Function**	**Where is it found?**
Epithelial		
Connective		
Nervous		
Muscle		

Plant Tissues

Tissue Type	**Function**	**Where is it found?**
Ground		
Dermal		
Vascular		
Meristematic		

13. What is the importance of stem cells in human development?

14. Complete the following chart regarding human organ systems:

Organ System	**Organs Involved**	**Basic Function**
Integumentary System		
Muscular-Skeletal System		
Digestive System		
Respiratory System		
Circulatory System		
Nervous System		
Excretory system		

15. Explain how organ systems work together within the body during the “fight or flight” response.

16. Review your frog dissection answer sheet focusing on the diagrams, structures and function.