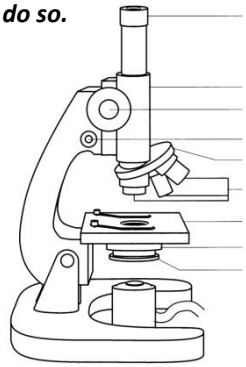
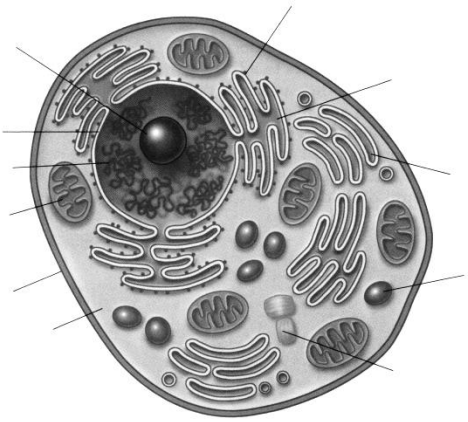
EXAM REVIEW: BIOLOGY SNC 2DI

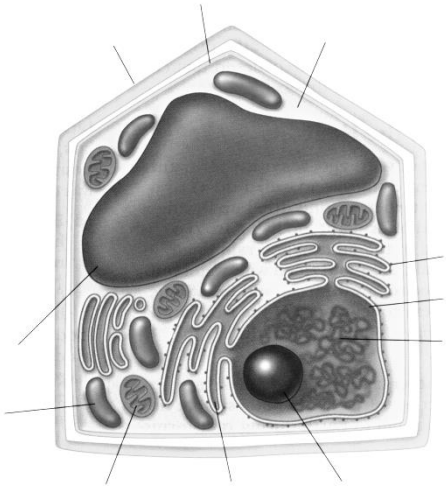
Answer the following in your notes, or on this review paper if there is room to do so.

1. Label the parts of the microscope and state the function of each.



2. Label the following parts of the cell in the diagrams below and state the function of each.
   - cell wall
   - cell membrane
   - centriole
   - chloroplast
   - cytoplasm
   - endoplasmic reticulum
   - Golgi body
   - Lysosome
   - nucleus
   - nucleolus
   - mitochondria
   - ribosome
   - vacuole





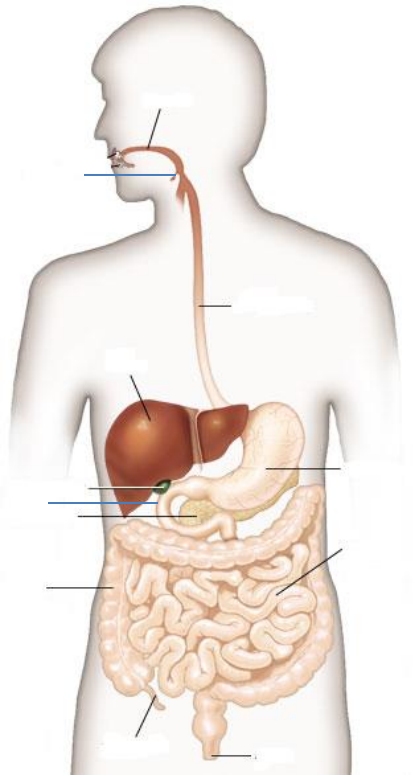
3. State three differences between plant and animal cells.
4. DNA:
   a. What is DNA? (where do you find it, what does it look like, what is its function)
   b. List the four nucleotides and explain how they pair.
   c. What is the complementary strand to: TTGAAC
5. Differentiate between diffusion and osmosis.
6. Stages of the cell cycle:
   Mitosis G1 G2 Cytokinesis DNA replication
   a. Put the stages of the cell cycle in order.
   b. Explain what occurs during interphase. Refer to the stages of interphase in your explanation.
   c. Differentiate between mitosis and cytokinesis.
7. Draw diagrams to represent the four stages of mitosis and write two points about what is happening in each specific stage. Make sure to put the stages in the correct order.
8. Put the terms below in order from the smallest in size to the largest in size.
   Organism Cells Organ Systems Tissues Organs
9. Describe the four different types of tissue in the human body and give one example of each.

10. Digestive system
    a. Label the following parts of the digestive system and state the function of each.
        - Epiglottis
        - Esophagus
        - Duodenum
        - Gall bladder
        - Large intestine
        - Small intestine
        - Liver
        - Pancreas
        - Stomach

    b. Write the correct order of food passage through the digestive system.

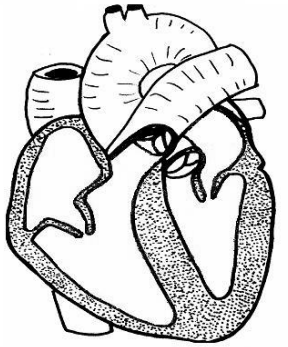
    c. Name three accessory organs in the digestive system and explain why they are called accessory organs.

    d. Describe the structure and function of villi.



11. Circulatory System
    a. State five functions of the circulatory system.

    b. Label the following structures in the diagram of the heart.



- Right atrium
- Left atrium
- Right ventricle
- Left ventricle
- Aorta
- Vena cava
- Pulmonary vein
- Pulmonary artery

    c. Show the path that the oxygenated blood takes through the heart, using arrows (choose red or blue, as appropriate). Show the path that the deoxygenated blood takes through the heart, using arrows (choose red or blue, as appropriate).

    d. Differentiate between arteries, veins and capillaries (regarding their function and structure).

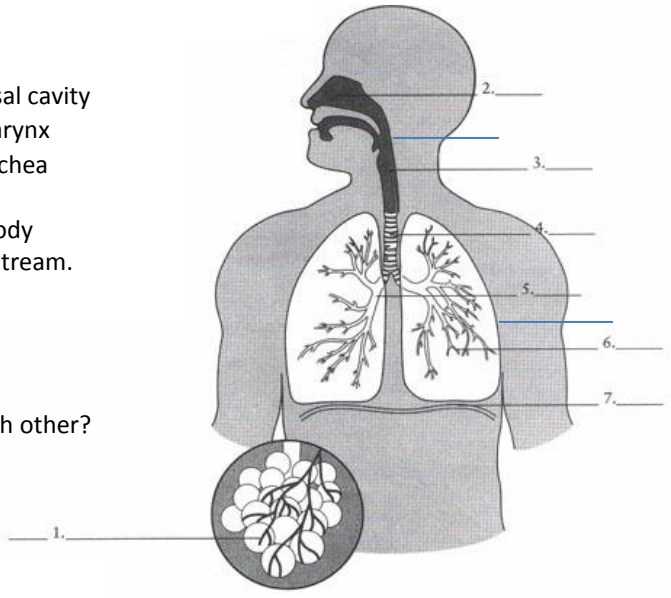
    e. Describe the different parts of blood (plasma, red blood cells, white blood cells and platelets), and give the function of each.

12. Respiratory System
    a. Label the following parts of the respiratory system.
        - Alveoli
        - Bronchi
        - Bronchioles
        - Diaphragm
        - Larynx
        - Lungs
        - Nasal cavity
        - Pharynx
        - Trachea

    b. List the structures, in order, from outside the body to inside the body that a molecule of oxygen travels through on its way to the bloodstream.

    c. Where in the respiratory system does the exchange of gas occur?

    d. Explain how the diaphragm controls your breathing.



13. How do the circulatory, respiratory and digestive systems relate to each other? (describe as many connections as you can think of, and explain in great detail the nature of that connection)

NOTES: