**BIOLOGY UNIT REVIEW – PART 1**

**The Microscope:**



Match the part of the microscope with the correct function:

\_\_\_\_\_ Fine Adjustment

Knob

\_\_\_\_\_ Coarse Adjustment

Knob

\_\_\_\_\_ Base

\_\_\_\_\_ Arm

\_\_\_\_\_ Body Tube

\_\_\_\_\_ Stage

\_\_\_\_\_ Stage Clips

\_\_\_\_\_ Diaphragm

\_\_\_\_\_ Lamp

\_\_\_\_\_ Revolving

Nosepiece

\_\_\_\_\_ Objectives

1. Supports the microscope
2. Provides light for the slide
3. Controls the amount of light shining on the slide
4. Holds the slide
5. Holds the slide in place to prevent it from slipping
6. Lenses that magnify; low, medium and high power
7. Supports the body tube and eyepiece
8. Holds the objective lenses
9. Used to focus on low power only; moves the stage quickly
10. Used for fine focusing; moves the stage by very small amounts
11. Allows the light to pass from the slide to the eyepiece
12. The first lens you look through

Describe the steps you would take to focus a slide using a microscope.

Examine the biological drawing below. Circle the errors and describe how to correct them.



**Cells:**

State the three parts of the Cell Theory:

1.

2.

3.

Match the organelle with the correct definition.

\_\_\_\_\_ Cell Wall

\_\_\_\_\_ Cell Membrane

\_\_\_\_\_ Nucleus

\_\_\_\_\_ Vacuole

\_\_\_\_\_ Mitochondria

\_\_\_\_\_ Cytoplasm

\_\_\_\_\_ Chromosomes

\_\_\_\_\_ Ribosome

\_\_\_\_\_ Lysosome

\_\_\_\_\_ Chloroplast

\_\_\_\_\_ Endoplasmic

Reticulum

\_\_\_\_\_ Nucleolus

\_\_\_\_\_ Golgi Apparatus

\_\_\_\_\_ Centrioles

1. Surrounds the cell membrane, protects and supports plant cells
2. Jelly-like material
3. Sac-like structure that breaks down and destroys things
4. Filled with water and other things the cell needs
5. Control centre of the cell, stores information, tells the cell what to do
6. Spherical structure in the nucleus, probably helps make proteins
7. Also called DNA; like threads, found in the nucleus; contains all of the genetic information
8. Only in plant cells; where photosynthesis occurs
9. Oval shaped; power house of the cell – provides cells with energy
10. Series of canals to carry things throughout the cell
11. Only in animal cells; help with cell division
12. Controls what enters and leaves the cell
13. Like a stack of pancakes; stores proteins
14. Small “balls” attached to the rough ER, help make proteins

What type of cell is this? How do you know? Label the diagram.



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**Diffusion and Osmosis:**

Define diffusion.

Why is diffusion important to cells?

Give some examples of where diffusion occurs in at least 2 different organ systems.

Define osmosis: How is it different from diffusion?

Give an example of where osmosis occurs in the body.

**Cell Division:**

What are the three reasons that cells divide?

1.

2.

3.

What will happen if the cell does not divide?

Why is this statement important: IPMATC

Identify the stage of cell division shown in each picture:

  

  

Describe what happens at each stage of cell division:

Interphase:

Prophase:

Metaphase:

Anaphase:

Telophase:

Cytokinesis:

What is a mutation? How is it caused?

**Specialized Cells:**

What is a specialized cell? Why are they necessary?

Give an example of how the following cells are specialized to do their job:

muscle:

nerve:

cheek:

Put the following in the correct order in the diagram below: organ, cell, organ system, tissue.

Define each of the terms above and give an example of each.