Name _____
Human Biology Lab Manual Lab Report
Laboratory Exercise 1: Microscopy, Cellular Structure and Body Tissue

MICROSCOPY

Activity 1: Identifying the Parts of a Microscope:

Provide the parts of a compound light microscope from Figure 1.3 of the lab manual:

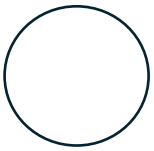
1.	8.
2.	9.
3.	10.
4	11.
5.	12.
6.	13.
7.	14.

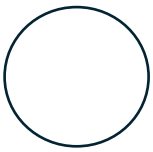
Provide the calculations for total magnification in this table:

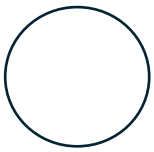
Table: Total Magnification

Objective	Ocular Lens Magnification	Objective Lens Magnification	Total Magnification
Scanning power (lowest power)			
Low power			
High power			

Activity 2: Inversion
Draw your field of view of the letter *e* under the instructions of the lab manual:

1. 

2. 

3. 

Answer the following questions:

a. What difference do you notice between viewing the letter *e* with the unaided eye (Space 1 above) compared to viewing under the microscope (Space 2)?

_____

b. After you move the slide to the right, which way does the image appear to move within your field of view?

_____

c. What difference do you observe in your field of view of the letter *e* when increasing the magnification (moving from the 4x objective to the 10x objective)?

_____

Activity 3: Depth of Field

Table: Order of Threads	
Depth	**Thread Color**
Top	
Middle	
Bottom	

Activity 4: Identifying the cellular components on an animal cell model

1.	6.
2.	7.
3.	8.
4.	9.
5.	

Activity 5: Function of Cell Organelles

Write the letter and cell organelle to match with its function.

1.	8.
2.	9.
3.	10.
4	11.
5.	12.
6.	13.
7.	14.

Activity 6: How to Prepare a Wet Mount Slide

Label the cell parts that you see for the animal and plant tissue samples:

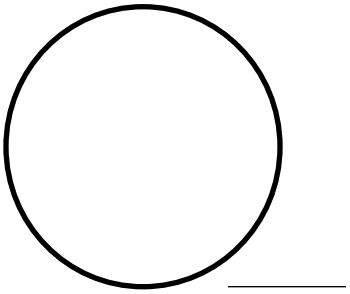
Animal Tissue (Human Cheek Cell)	**Plant Tissue (Onion Cell)**
1.	1.
2.	2.
3.	

List as many labeled parts of the *Euglena* that you can view through your microscope:

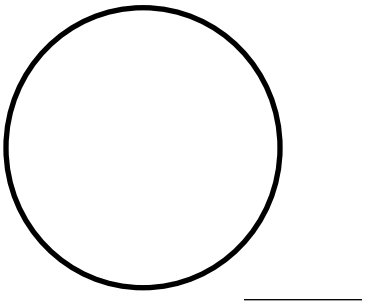
1.	**5.**
2.	6.
3.	7.
4.	8.

Activity 7: Viewing Examples of Body Tissues under the Microscope

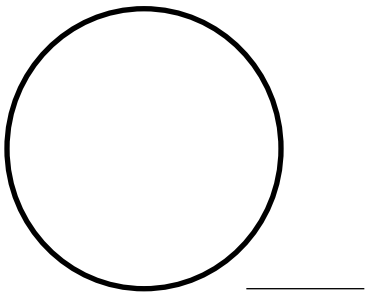
Sketch your field of view for each body tissue type on the Lab Report in the corresponding section. Write the magnification that you are viewing and sketching on the line provided.



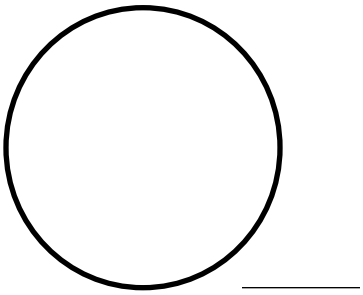
c. Stratified Squamous (skin)



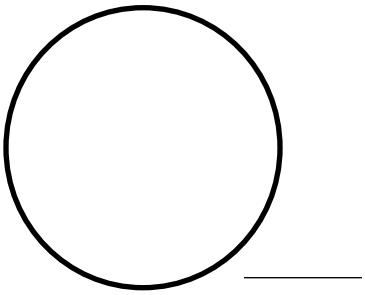
a. Pseudostratified Ciliated Columnar



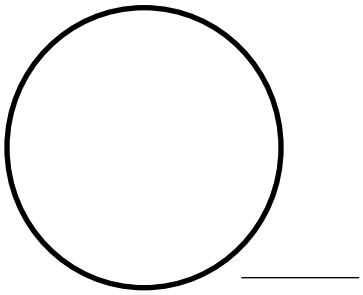
b. Compact bone



e. Hyaline Cartilage



f. Skeletal Muscle



d. Neuron

Activity 8: Lab Review

1. What is the name of the lenses that your eyes are closest to when using the microscope?
   _____
2. Which objective always should be in place, both when beginning to use the microscope and also when putting it away?
   _____
3. A total magnification of 100x requires the use of the 10x ocular lens with which objective?
   _____
4. Which parts of the microscope regulate the amount of light?
   _____
5. What word is used to indicate that if the object is in focus at low power, it will also be in focus at high power?
   _____

6. What adjustment knob is used with high power?

7. If a *Euglena* is swimming to the left, which way should you move your slide to keep it in view?

8. What are the key components of the cell theory?

9. What membrane-bound organelle has the role of producing the cell's energy?

10. Which organelle has the role of intracellular digestion?

11. What regulates the movement of molecules into and out of the cell?

12. What is the final item placed on a wet mount before viewing with a light microscope?

13. What is a group of similar cells that work together to perform a specific function within the body?

14. What type of muscle tissue consists of branched striated fibers that are connected by intercalated disks?

15. What type of epithelial tissue is a single layer of rectangular-shaped cells but appears multilayered?

16. What type of connective tissue are tendons and ligaments?

17. What type of nervous tissue transmits electrical signals to a target?