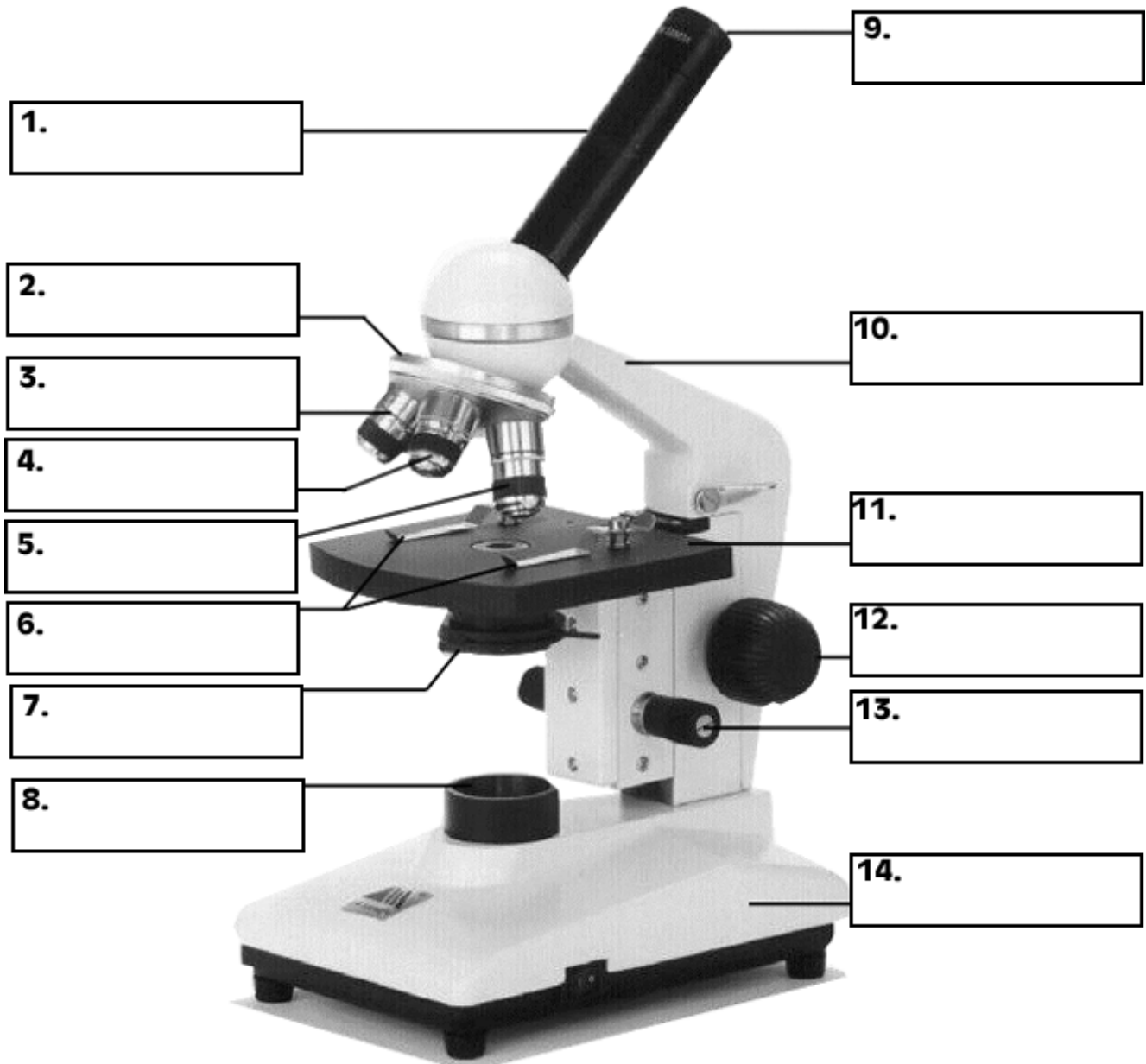


**Microscopic Measurement**

Using the worksheet provided, In each box, label all the parts of the compound light microscope that you will be using in lab and write what that part does.

1. How can we calculate the total magnification of a specimen under the microscope?
2. How did the development of the compound light microscope change the way that people viewed the natural world?



3. List the steps involved when focusing the compound light microscope.
4. Why is it advisable to start first with the low power lens when viewing a slide?
5. What is the relationship between magnification and field of view?
6. Why is the metric system used to measure objects under the microscope?

## Measuring the Field of View under Low Power using the Metric Ruler

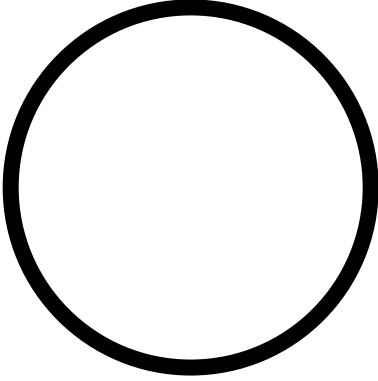
Procedure:

Complete the worksheet provided by measuring the field of view under low power first. Once you have this information, you will be able to calculate the field of view under high power. You will then use this calculation to estimate the size of the cell of the specimen in the investigation.

Focus the metric ruler under the scanning (4x) objective first before switching the objective to low power (10x). Sketch in the circle below what the field of view looks like under low power (10x).

Low power

10 X



Using the following equation:

Low field = High Objective

High field      Low Objective

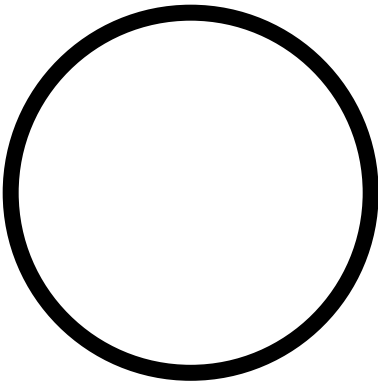
Calculate the high power field in micrometers

\_\_\_\_\_

Focus the specimen given under the scanning objective first before switching the objective to low power. Sketch in the circle below what the field of view looks like under low power.

Low power

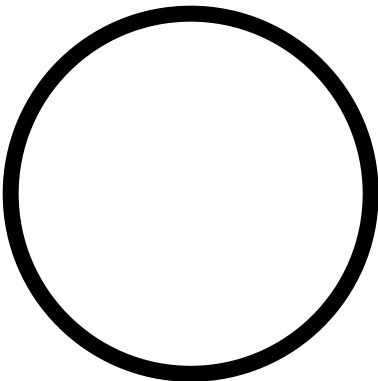
10X



Sketch in the circle below what the field of view looks like under high power.

High power

40X



Using the calculation of your high power field, estimate the size of the cell of this specimen in

Micrometers \_\_\_\_\_

Centimeters \_\_\_\_\_

Millimeters \_\_\_\_\_

Kilometers \_\_\_\_\_