**WORKING WITH A MICROSCOPE
 NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **SPECIMEN NAME : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (view on medium power)**

**Power of Magnification: \_\_\_\_\_\_\_\_\_\_\_ X**

**Field of View on that power
in micrometers : \_\_\_\_\_\_\_\_\_\_\_\_**

**Estimated length (or width if you
choose) of cell : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**DRAWING Magnification: \_\_\_\_\_\_\_\_\_\_ X**

1. **SPECIMEN NAME : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (View on High Power)**

**Power of Magnification: \_\_\_\_\_\_\_\_\_\_\_ X**

**Field of View on that power
in micrometers : \_\_\_\_\_\_\_\_\_\_\_\_**

**Estimated length (or width if you
choose) of cell : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**DRAWING Magnification: \_\_\_\_\_\_\_\_\_\_ X**

1. **SPECIMEN NAME : \_\_POND WATER\_ (View on Suitable Power and state it below)**

**Power of Magnification: \_\_\_\_\_\_\_\_\_\_\_ X**

**Field of View on that power
in micrometers : \_\_\_\_\_\_\_\_\_\_\_\_**

**Estimated length (or width if you
choose) of organism : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**MORE PRACTICE on Microscopy:**

1. **Place the letter of the scope part by the correct name in the word bank.**

\_\_\_\_\_\_\_ = Stage

\_\_\_\_\_\_\_ = Disc Diaphragm

\_\_\_\_\_\_\_ = Objective Lens

\_\_\_\_\_\_\_ = Ocular Lens

\_\_\_\_\_\_\_ = Coarse & Fine Focus

\_\_\_\_\_\_\_ = Revolving Nose Piece

\_\_\_\_\_\_\_ = Light/Mirror

\_\_\_\_\_\_\_ = Base

\_\_\_\_\_\_\_ = Arm

\_\_\_\_\_\_\_ = Clamps or Mechanical Stage Apparatus



1. **Fill in the table below:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Power** | **Ocular Lens**  | **Objective Lens** | **Total Power** |
| **LOW** | **10 X** | **4 X** |  **X** |
| **MEDIUM** |  | **10 X** | **100 X** |
| **HIGH** | **10 X** |  | **400 X** |

1. **If you wrote the word "dod" like this on a very tiny piece of paper and put it under your microscope on low power. What would it read when you look at it through the scope?**

**\_\_\_\_\_\_\_\_\_\_\_**

1. **As you increase your power of magnification what happens to the size of your field of view?
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
2. **Convert the following measurements into the specified units:
A) 5 cm 🡪 \_\_\_\_\_\_\_ mm
B) 1 mm 🡪 \_\_\_\_\_\_\_ um
C) 3.5 mm 🡪 \_\_\_\_\_\_ um
D) 0.7 mm 🡪 \_\_\_\_\_\_\_ um
E) 250 um 🡪 \_\_\_\_\_\_\_ mm
F) 5750 um 🡪 \_\_\_\_\_\_\_\_ mm
G) 2.2 cm 🡪 \_\_\_\_\_\_\_\_ mm 🡪 \_\_\_\_\_\_\_\_\_ um
H) 0.9 cm 🡪 \_\_\_\_\_\_\_ mm 🡪 \_\_\_\_\_\_\_ um**
3. **Calculating Drawing Magnification**

**SHOW YOUR CALCULATION**

1. **- Actual size of specimen = 50 um**
* **Diagram size = 2.0 cm**

 **Drawing Mag = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ X**

1. **Actual Size of Specimen = 200 um
- Diagram size = 3.5 cm**

**Drawing Mag = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ X**

1. **Complete all the calculations using the image below

Specimen (*Euglena gracilis*) was viewed on high power (400 X) and field of view was 440 um**



 **A) Estimated length of real specimen: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ um**

**Show your calculation:**

**B)Drawing Magnification of sketched specimen : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_X**

**Show your calculation:**