**The Compound Light Microscope**

8.

6.

12.

11.

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2.

1.

Microscope Parts

**Functions of microscope parts:**

1. Ocular =
2. Body tube =
3. Revolving nosepiece =
4. Objective lenses =
5. Stage =
6. Stage clips =
7. Iris diaphragm =
8. Light =
9. Base =
10. Fine adjustment knob =
11. Coarse adjustment knob =
12. Arm =

**Microscope Do’s and Don’ts**

* Carry microscope by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Lenses should be cleaned with: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Coarse adjustment knob only used on \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ power.
* When finished using scope for the day, return to \_\_\_\_\_\_\_\_\_\_\_\_\_\_ objective for storage.
* When moving the slide on the stage, object moves to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ direction as seen in the ocular.
* Object viewed must be on a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and covered with a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; specimen must be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**What’s MY POWER?**

* To calculate the power of magnification, *multiply the power of the ocular lens by the power of the objective*.

**Scanning Power**

* Ocular lens = 10X
* Objective = 4X
  + TOTAL magnification for SCANNING power = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Low Power**

* Ocular lens = 10X
* Objective = 10X
  + TOTAL magnification for LOW power = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

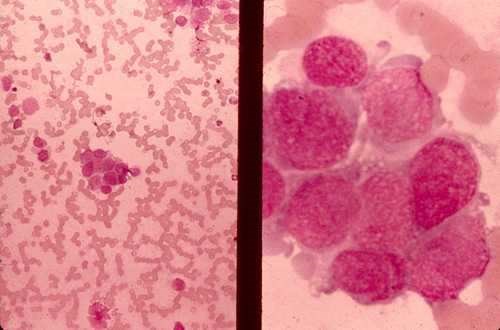
**High Power**

* Ocular lens = 10X
  + Objective = 40X
  + TOTAL magnification for HIGH power \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
|  | We can see better details with  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_** powers of magnification, but we **can’t** see as much of the image |

* **Comparing Powers of Magnification:**

**Which of these images would be viewed at a higher power of magnification?**



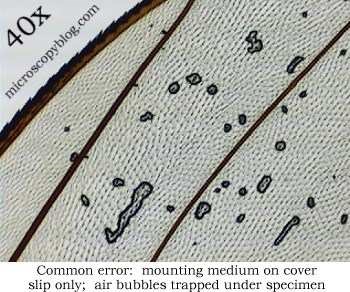
**Compound Light Microscope:**

* You will be using compound light microscope in several labs.
* These microscopes have a maximum magnification of \_\_\_\_\_\_\_\_\_
* So you \_\_\_\_\_\_\_\_\_\_ see most of the organelles like ribosomes, Golgi bodies,

lysosomes, etc.

* More powerful microscopes are needed (2,000 X plus)

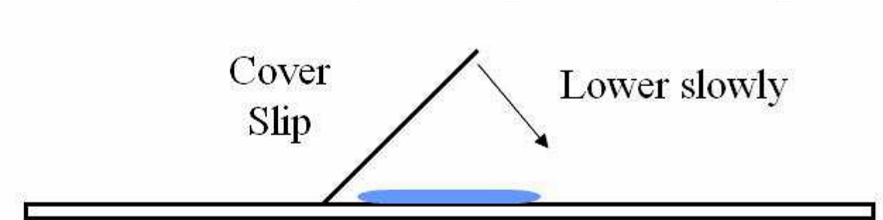
**Common Problem……AIR BUBBLES:**



AIR

BUBBLES

**How to Make a Wet-Mount Slide:**

1. – Get a clean slide and cover slip from your supply box.
2. – Place ONE drop of water/stain in the middle of the slide. Don’t use too much or the water/stain will run off the edge and make a mess!
3. – Place the edge of the cover slip on one side of the water/iodine drop.
4. - Slowly lower the cover slip on top of the drop.
5. – Place the slide on the stage and view it first with the SCANNING power objective. Once you see the image, you can rotate the nosepiece to view the slide with the different objectives.

**YOU DO NOT NEED TO USE THE STAGE CLIPS WHEN VIEWING WET-MOUNT SLIDES!**

**Stereo Microscope (Binocular)**

* Used to view objects in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Object does not : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Object does not have to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Eyepiece magnifies \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Objective lenses are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ magnification
* Object moves in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_direction.