How to Use a Microscope

You Will Learn:

- the parts of a microscope
- how to use a microscope to look at hair and a piece of newspaper
- new vocabulary related to microscopes

Vocabulary:

tweezers: used to hold small things

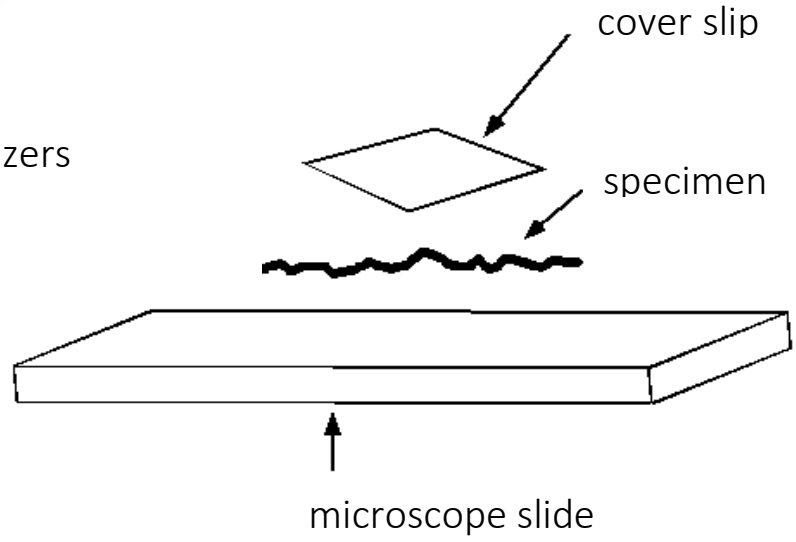
eye dropper: hold liquid (usually water) and lets out one drop at a time.

specimen: the small thing you are using the microscope to look at (example: hair, cells)

microscope slide: rectangular piece of glass that holds the small thing you are using the microscope to look at.

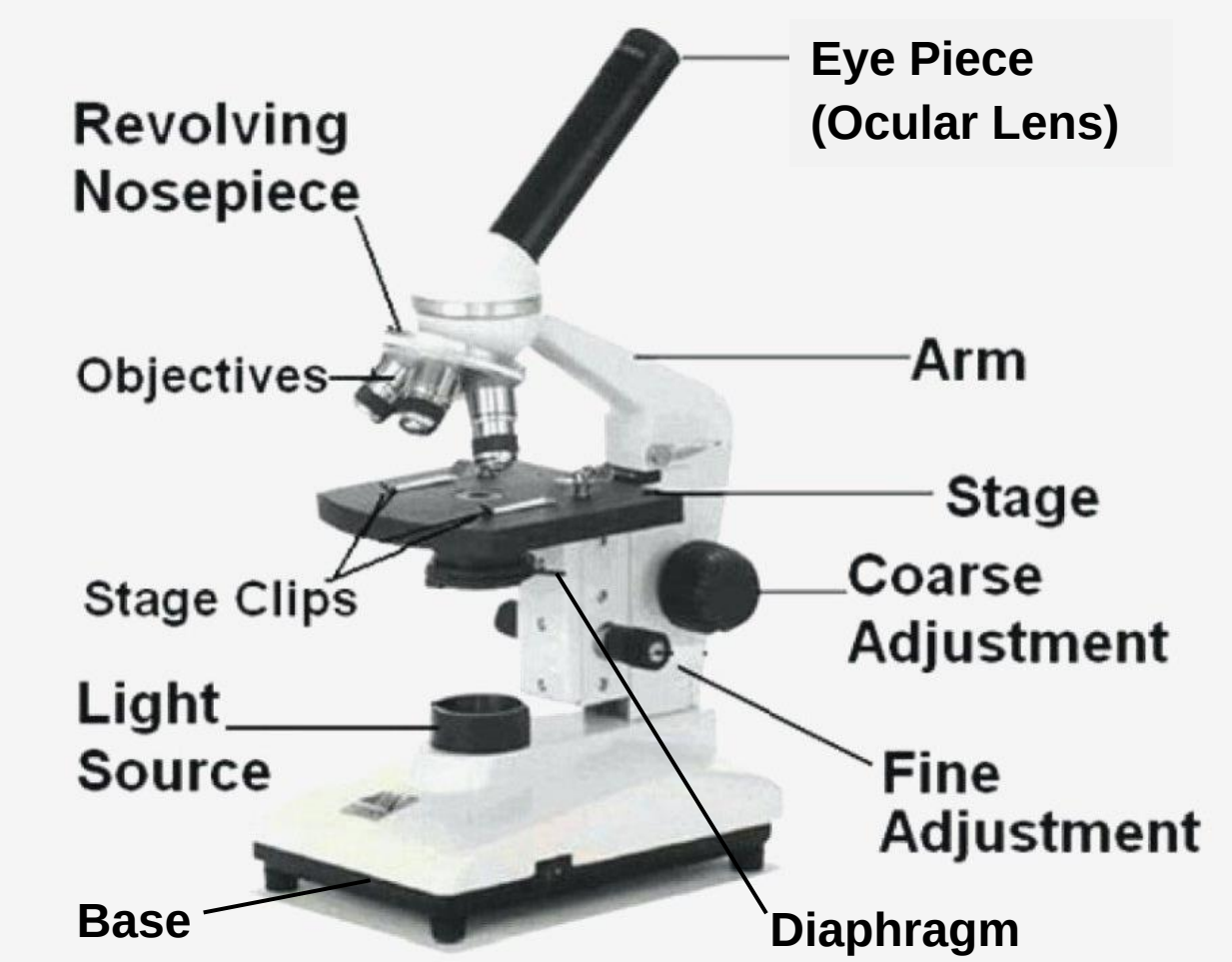
cover slip: small square piece of plastic that goes on top of the specimen.

tweezers



eye dropper

Parts of a Microscope



STRUCTURE	FUNCTION
Eye piece (Ocular lens)	Observe the specimen by looking through
Coarse adjustment knob	Moves the stage up and down. Use only with low power.
Fine adjustment knob	Makes the image sharper and clearer. Use with medium and low power.
Revolving nosepiece	Holds(supports) the objective lenses.
Objective lenses	Different levels of magnification power (low 4x, medium 10x, high 40x)
Stage	Is where the slide is placed for support and viewing.
Stage clips	Holds the slide in place
Diaphragm	Regulates the amount of light passing through the stage opening.
Light source	Supplies the light for viewing the specimen on the slide.
Arm	Supports the revolving nosepiece & body tube. Used to carry the microscope.
Base	Supports the entire microscope and is also used when carrying the microscope.

Instructions

1. Get a microscope from the cupboard. Carry it by the **base** and **arm**.

2. Plug in and turn on your microscope (there is a small **on/off switch** on the **base**).

3. Find the **stage**. Find the **coarse adjustment** knob. Turn the coarse adjustment knob up and down. What happens?

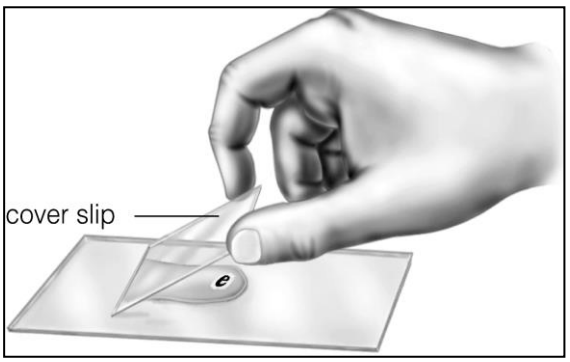
4. Find the **eye piece**. Look through it. What do you see?

5. Get a **microscope slide** and **cover slip** from the front table. **Be careful**: the microscope slide is made of glass and can be sharp.

6. Remove one strand of hair from your head (or find one on your clothes) and use **tweezers** to place it on the microscope slide.

7. Fill the **eyedropper** with water from the sink. Put **one drop** of water on the hair in the middle of the slide.

8. Hold the **cover slip** at an angle, so that one end touches the slide and the other is in your hand, above the drop of water. Slowly lower the cover slip until it rests on the water and specimen.



9. On the microscope, use the **coarse adjustment knob** to lower the **stage** as far as it will go.

10. Move the **stage clips** out of the way and place the slide on the **stage**. Put the stage clips back in place so it holds the slide.

11. Find the **revolving nose piece** and the **objective lenses**. Turn them until the smallest objective lens is in place on top of the slide.

12. Have one hand on the **coarse adjustment knob** as you look into the **eyepiece**. Turn the coarse adjustment knob slowly until you start to see the **specimen**. This will not be easy! Keep playing around with the coarse adjustment knob, and make sure the specimen is directly under the objective lens.

13. Turn the **revolving nosepiece** so that the next biggest objective lens is in place. Repeat the process of turning the **coarse adjustment** knob until you can see the specimen. You may also want to use the **fine adjustment knob**. Draw your specimen again (it should be larger).

14. **Draw** your **specimen** on your lab sheet.

15. Clean and dry your microscope slide and cover slip.

16. Cut out a small letter “e” from the newspaper. Use it as your new specimen and use tweezers to place it on the clean, dry microscope slide.

17. Use **eyedroppers** to put a drop of water on the “e”. Cover it with a **cover slip**.

18. Repeat the process of looking at your specimen under the microscope. **Draw** your specimen as you see it through the microscope.

19. **Clean and dry** your **microscope slide** and **cover slip**. Turn off your microscope, unplug it, wind the cord around the base, and return it to the cupboard.