

## **Parts of the Compound Microscope**

Use Figure 2 as a guide to locate the major parts of the compound microscope.

**a. Base:** The bottom, flat part that supports the microscope.

**b. Arm:** The straight or curved vertical part that connects the base to the upper portion.

**c. Body Tube:** Extends from the arm and contains the ocular lens and the rotating nosepiece with the objective lenses.

**d. Eyepieces (ocular lenses):** Two removable lenses that you look through to observe the specimen or object on the slide.

The magnifying power of the ocular lenses on your microscope is 10X.

The circle you can see through the eyepiece is called the *field of view*.

*Note:* one of the oculars may have a pointer used to identify a specific area on the slide.

**e. Objective Lenses:** Three or four objective lenses mounted on a *revolving nosepiece* ( f ).

1. *Scanning power objective:* This is the shortest of the objective lenses and is used to scan a whole slide.

The magnifying power of the scanning lens is 4X.

2. *Low-power objective:* Used to view objects in greater details. The magnifying power of the low-power objective lens 10X.

3. *High-power objective:* If your microscope has three objective lenses, this lens will be the longest. It is used to view an object in even greater details. The magnifying power of the high-power objective lens is 40X.

4. *Oil immersion objective* (on microscopes with four objective lenses): Usually it has a 100X magnification. It is used together with immersion oil to view objects with the greatest magnification. Does your microscope have an oil immersion objective?

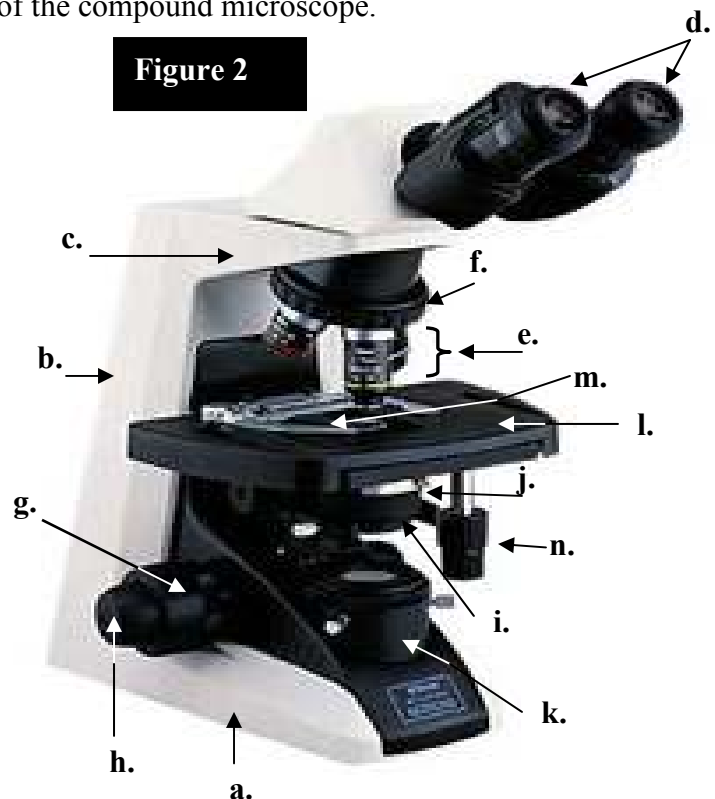
**NOTE:** Lens paper or a cotton swab may be used to clean dirty lenses.

**f. Revolving Nosepiece:** Rotating device holding the objectives. **NOTE:** use the revolving nosepiece to rotate and position an objective lens.

**g. Coarse-Adjustment Knob:** On each side of the microscope (close to the base) is a large knob with a smaller knob in the middle. This large knob is used to bring an object into close focus as it moves the *stage* ( l ) up or down. **NOTE:** the coarse-adjustment knob is used ONLY with the scanning or low-power objective lenses.

**h. Fine-Adjustment Knob:** The smaller knob on each side of the microscope (close to the base). This knob is used to bring an object into fine and final focus. **NOTE:** all focusing using the high-power objective (40X) lens is done ONLY with the fine-adjustment knob.

**i. Condenser:** Located below the *iris diaphragm* ( j ). It focuses light from the *light source or substage lamp* ( k ) onto the specimen being viewed. It needs to be in the highest position near the *stage* ( l ) when viewing an object through the microscope.



**j. Iris Diaphragm:** Located just below the *stage* ( l ). It is used to adjust the amount of light passing through the *condenser* ( i ), thus controlling the contrast.

**k. Light Source (Substage Lamp):** an attached lamp that directs light to the *condenser* (i). It is usually on the *base* ( a ) and has a dial on one side to control the light intensity.

**l. Stage:** a platform that supports the slide while being viewed. It has a hole so that light can shine up to the specimen. Always center the specimen over this hole. The slide is held in place by the *stage clip* ( m ).

**m. Stage Clip:** a metal clip that holds the slide on the *stage* ( l ).

**n. Mechanical Stage Knob:** Two knobs located either to the left or to the right of the *stage* ( l ). One knob controls forward/reverse movement of the slide. The other knob controls right/left movement of the slide.

**o. Field of View:** the circular area that you see when seeing through the *eyepieces* ( d ).