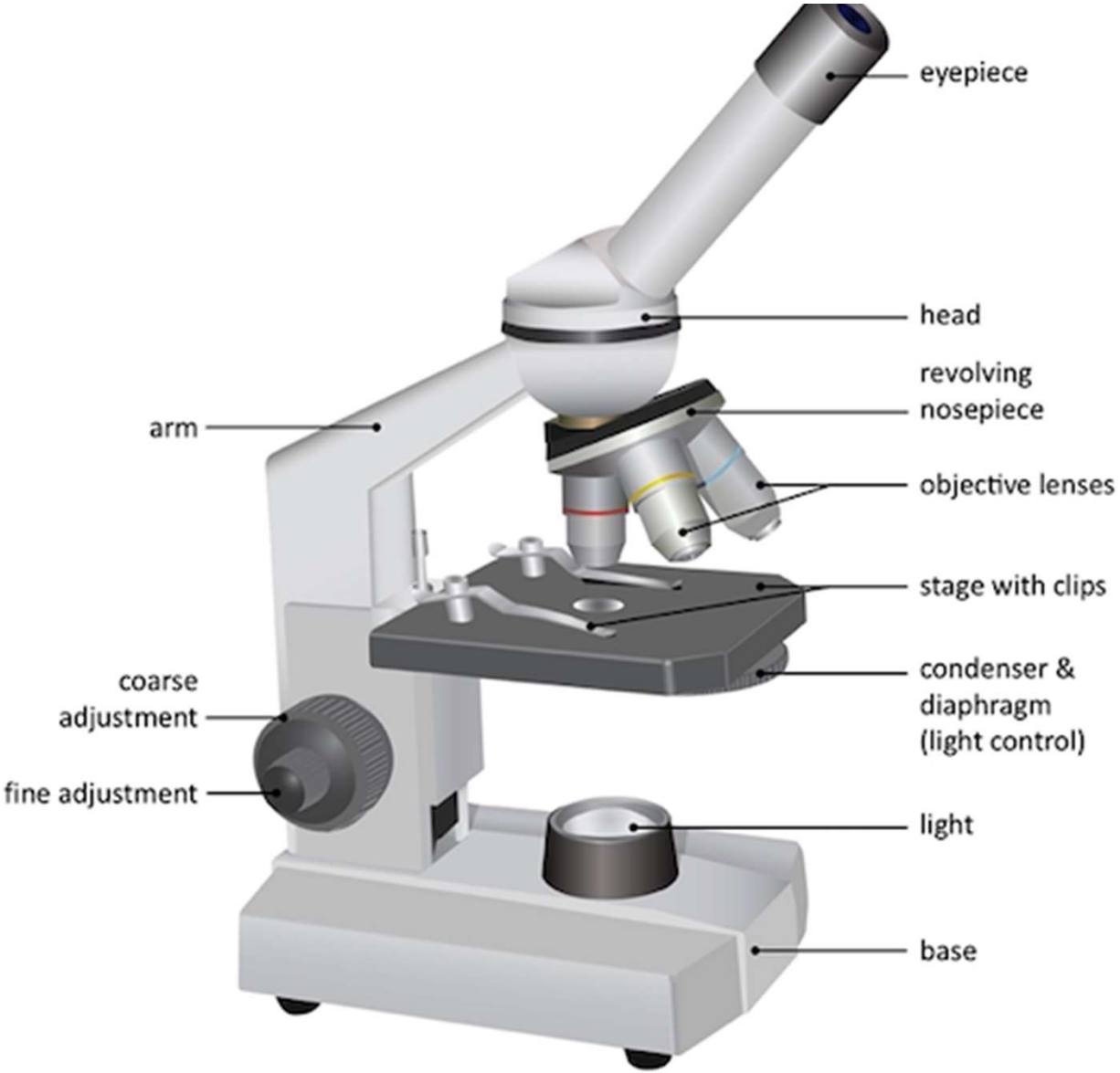
Light Microscope: Uses **compound lenses** to magnify objects. The lenses bend or refract **light** to make the object beneath them appear closer. Common magnifications: 40x, 100x, 400x


eyepiece
head
revolving nosepiece
arm
objective lenses
stage with clips
condenser & diaphragm (light control)
coarse adjustment
fine adjustment
light
base

Magnification

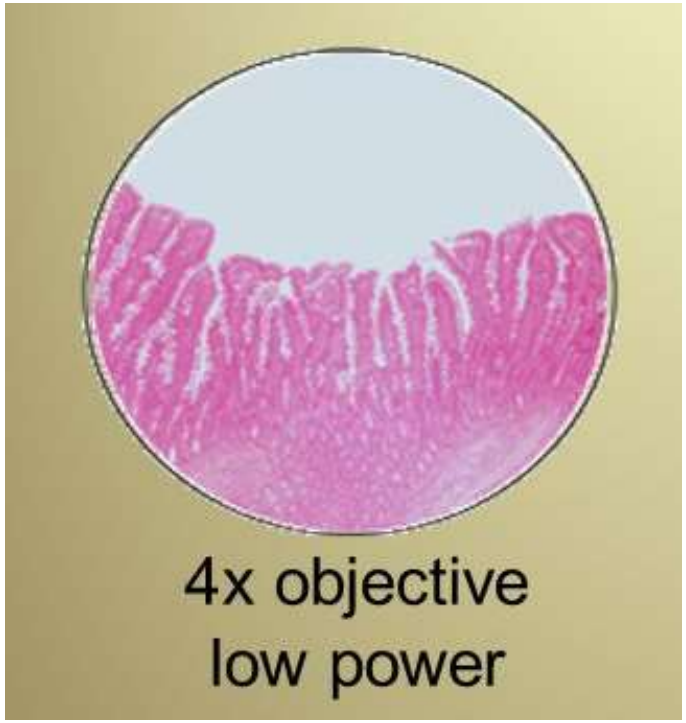
Your microscope has 3 magnifications: **Low** , **Medium**, **and High.**
In addition to this, the ocular lens (eyepiece) has a magnification.
The total magnification is the ocular x objective

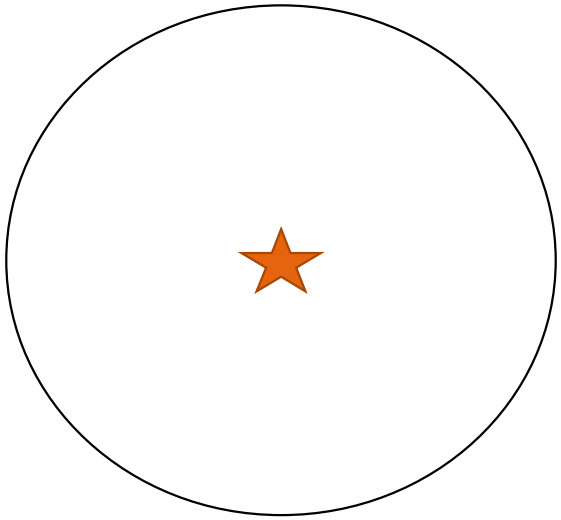
	Magnification	Ocular lens	Total Magnification
Low Power	4x	10x	**40x**
Medium Power	10x	**10x**	100x
High Power	**40x**	10x	400x

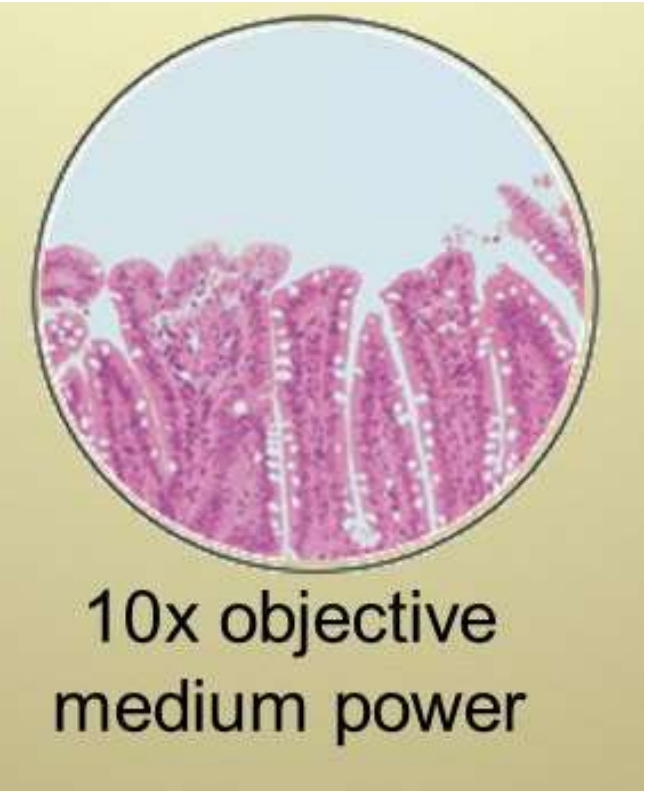
Focusing Specimens

Always start with the LOW Power objective lens.

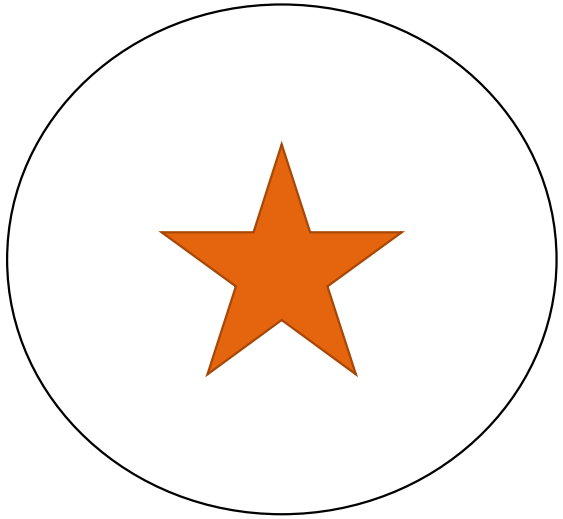
Use the **Coarse Focus Knob** to focus, image may be small at this magnification. Try moving the slide around until you find something.







Focusing Specimens

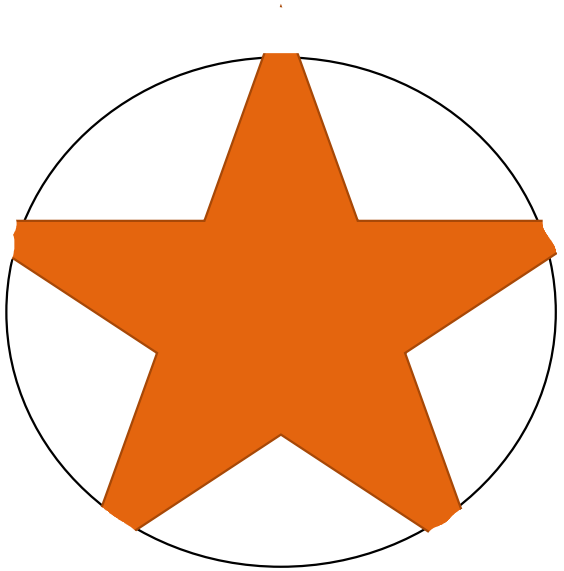


Once you've focused on Low Power, switch to Medium Power.

Use the Fine Focus Knob to refocus. Again, if you haven't focused on this level, you will not be able to move to the next level.

Focusing Specimens

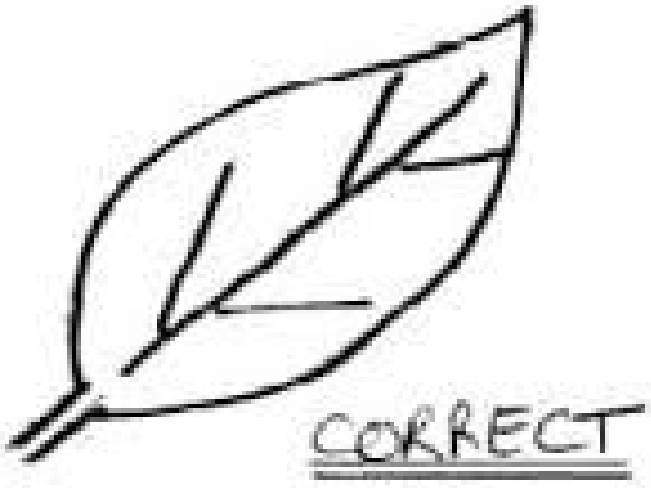
Now switch to High Power. (If you have a thick slide, or a slide without a cover, do NOT use the high power objective). At this point, ONLY use the **Fine Focus Knob** to focus specimens.



If the specimen is too light or too dark, try adjusting the Diaphragm

Drawing Specimens

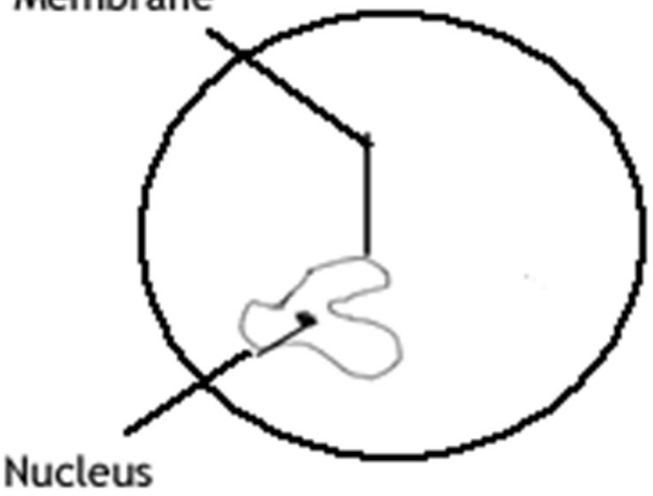
Use **pencil** - you can erase and shade areas
All drawings should include clear and proper labels (and be large enough to view details).
Drawings should be labeled with the **specimen name** and **magnification**.



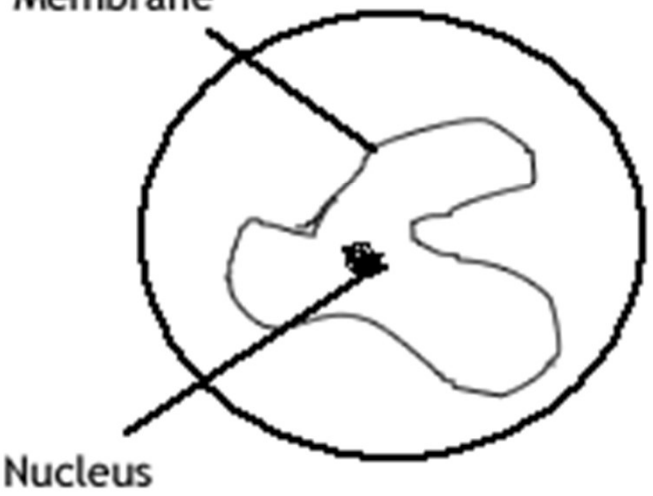
Labels should be written on the outside of the circle. The circle indicates the viewing field as seen through the eyepiece, specimens should be drawn to scale.

If your specimen takes up the whole viewing field, make sure your drawing reflects that.

Ameba (100x)



Ameba (400x)



Important Reminders!

Always carry a microscope with **TWO** hands.

Make sure to support the microscope at the base.

A

Store microscopes with the **LOW** power objective in place.

Wrap cords and **cover** microscopes.

Always place your slides back in the slide boxes to be used later.

Troubleshooting

Image is too dark!

*Adjust the **diaphragm**, make sure your light is on.*

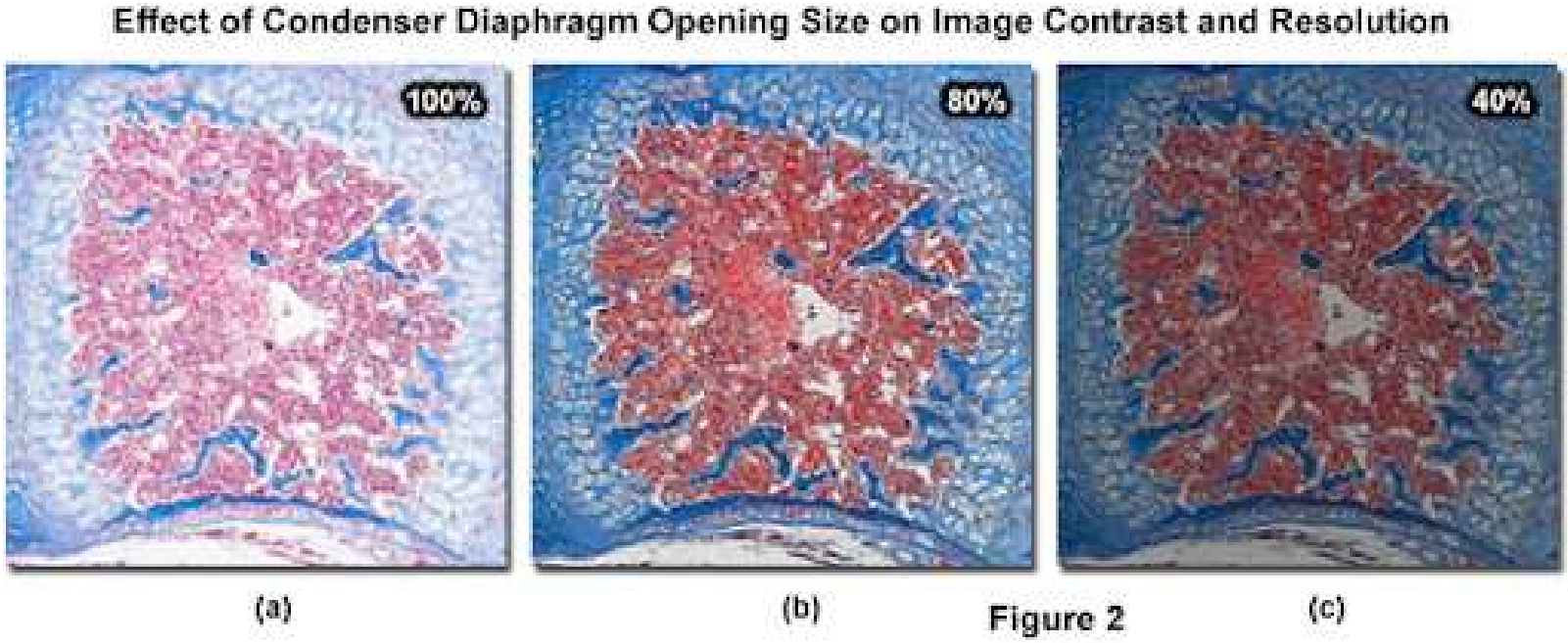
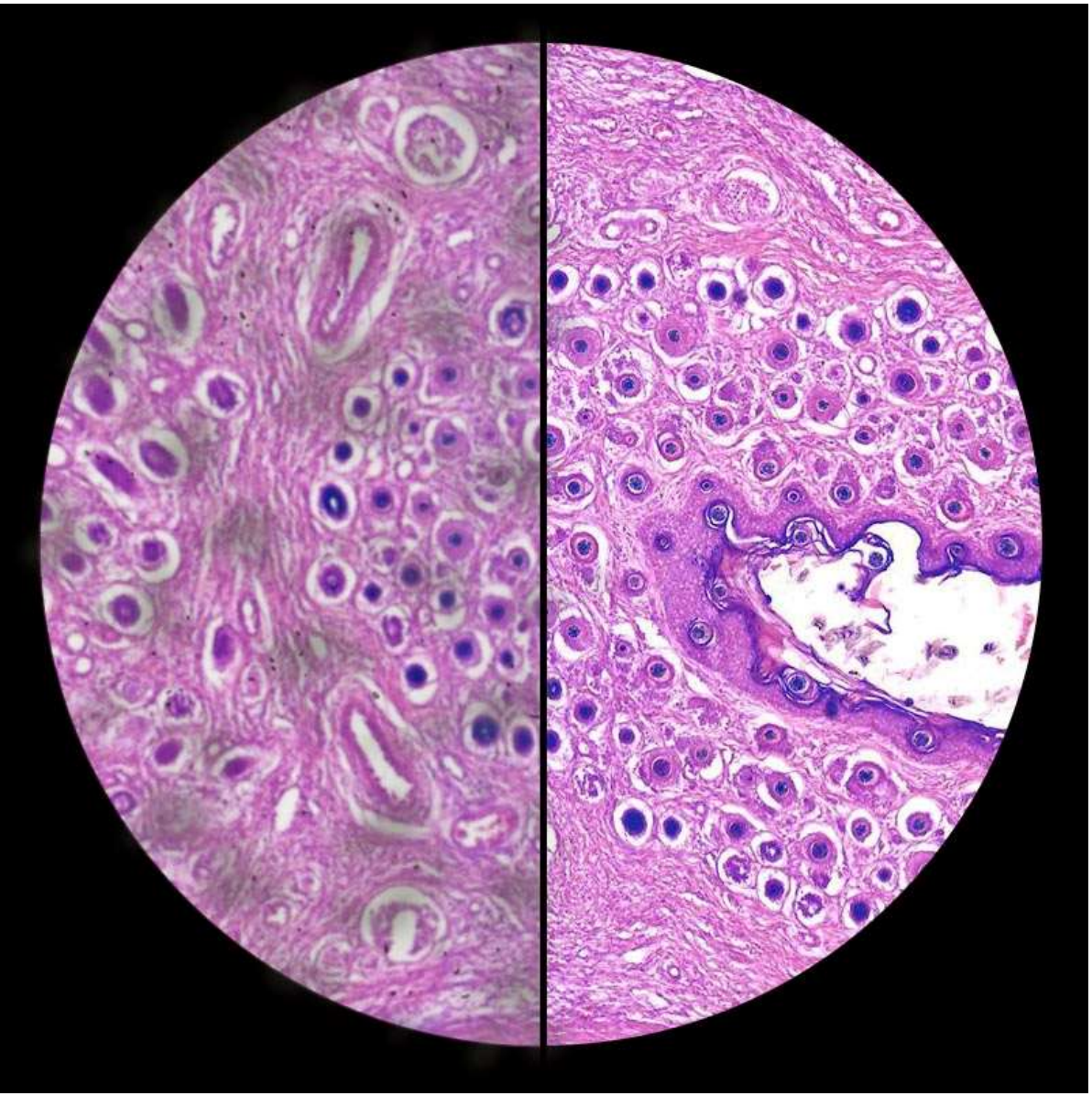


Figure 2



Troubleshooting

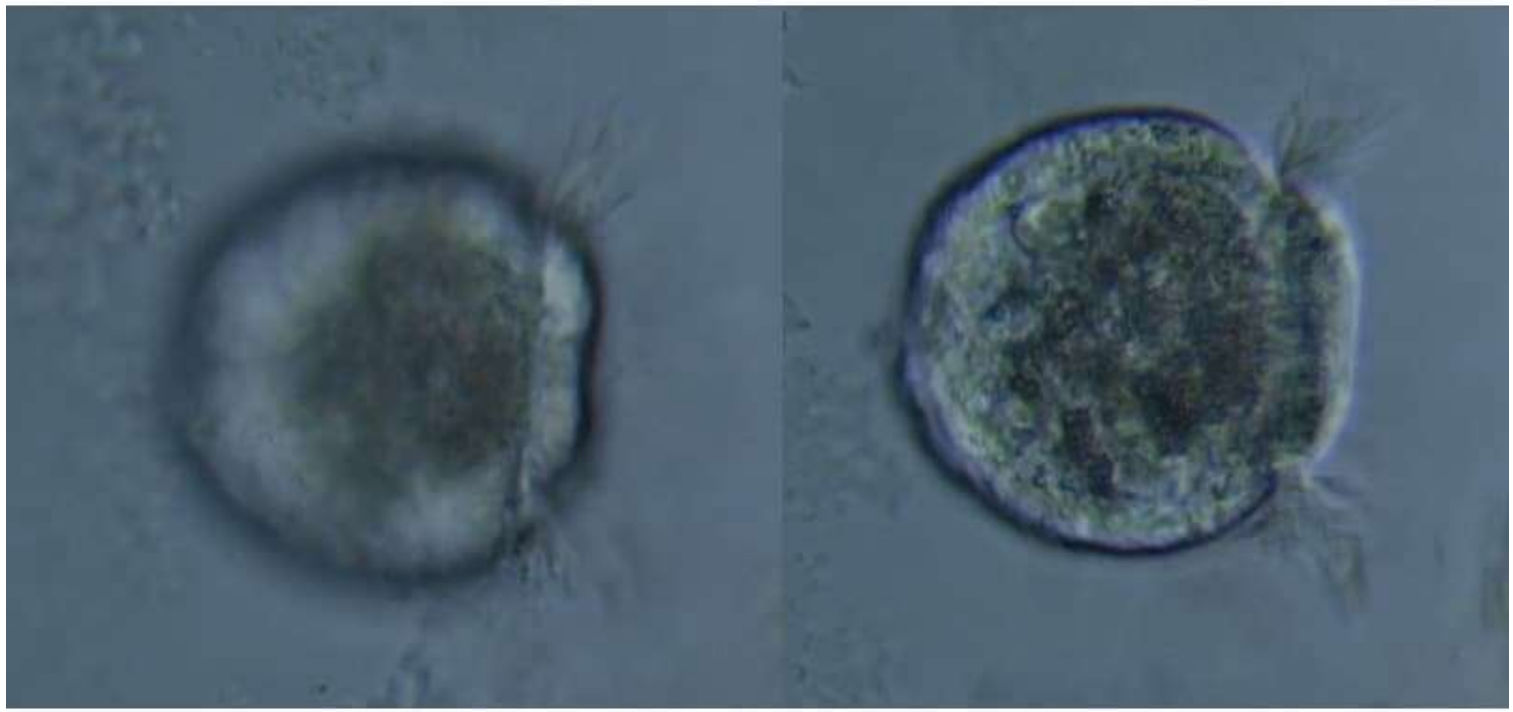
There's a spot in my viewing field, even when I move the slide the spot stays in the same place!

Your lens might be dirty. Call over your teacher.

Troubleshooting

I can't see anything under high power!

*Remember the steps, if you can't focus under **low** and then **medium** power, you won't be able to focus anything under **high** power.*



Only half of my viewing field is lit, it looks like there's a half-moon in there!

*You might not have your **objective lens** fully clicked into place.*