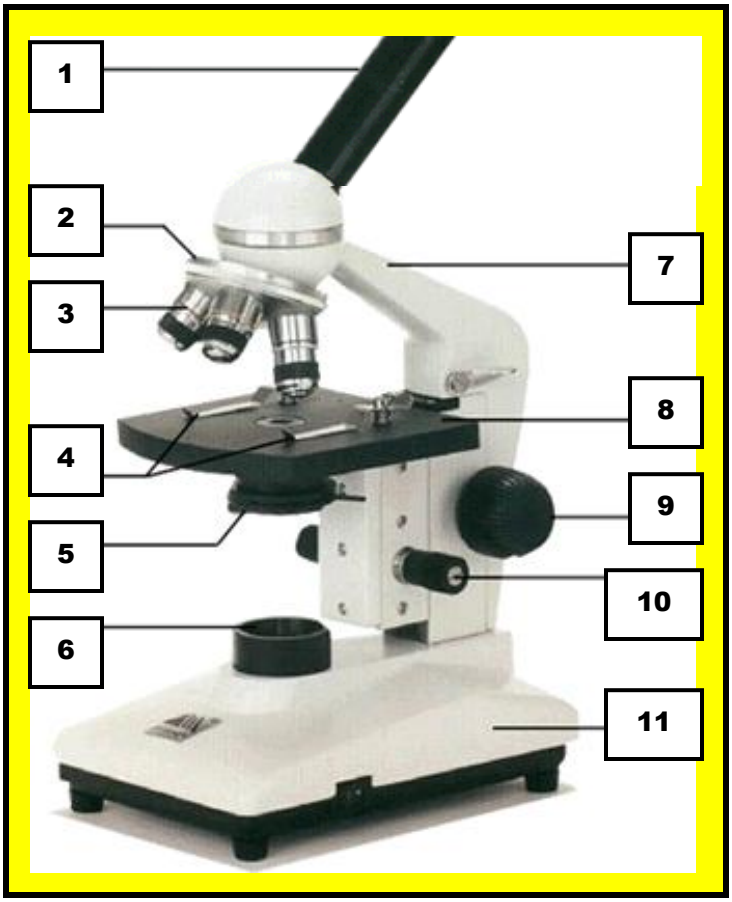
MICROSCOPE ANATOMY AND FOCUSING STEPS

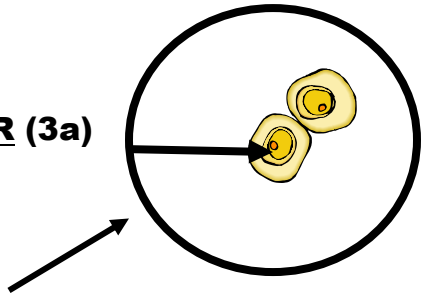
1. **EYEPIECE (10X LENS)**
2. **ROTATING NOSE PIECE**
3. **OBJECTIVES (LENSES)**
   a. **LOW POWER-4X (red)**
   b. **MEDIUM POWER-10X (yellow)**
   c. **HIGH POWER-40X (blue)**
4. **STAGE CLIPS**
5. **DIAPHRAGM (LIGHT CONTROL)**
   Or might be a wheel with holes of varying diameters.
6. **LAMP (LIGHT SOURCE)**
7. **ARM**
8. **STAGE**
9. **COARSE FOCUS KNOB** (**NEVER** w/HIGH)
10. **FINE FOCUS KNOB** (best w/ MED & HIGH)
11. **BASE**



CALCULATING TOTAL MAGNIFICATION

TOTAL MAG = (EYEPEICE) X (OBJECTIVE)
(10) (4, 10, or 40)

1. **"STARTING POSITION":**
   -STAGE (8) is all the way DOWN
   -LOW POWER (3a) objective in place
2. **Place slide on STAGE (8) under STAGE CLIPS (4)**
3. **Use the COARSE FOCUS KNOB (9) with LOW POWER (3a) objective to bring the slide into focus**
4. **Use THUMBS to move slide around to find an object of interest. Put the arrow tip on that object**



5. **Switch to MEDIUM POWER (3b) objective**
   ****TIP: If it appears to be too BRIGHT or too DIM, adjust the DIAPHRAGM (5)**
6. **REFOCUS. **ONLY USE FINE FOCUS KNOB (10) from this point on!!!**
7. **Switch to HIGH POWER (3c) objective and repeat step 6**
8. **Back to STARTING POSITION, REMOVE slide, and return or clean slide**

PRACTICE YOUR FOCUSING SKILLS

SLIDE 1: GENERAL FOCUSING

- **Use the steps to find and focus this slide with all three objectives (LOW, MEDIUM, & HIGH)**
- **DRAW a sketch of what you see with each power objective. BE NEAT!**

LOW POWER **MEDIUM POWER** **HIGH POWER**

What's the total magnification?

Low: _____

Medium: _____

High: _____

SLIDE 2: PLANES OF FOCUS – COLORED THREADS SLIDE

- **Can you tell which thread is on top, in the middle, and on the bottom with out using the microscope?**
- **Now use the microscope to determine the order (HINT: Use HIGH power)**
- **DRAW a sketch of what you see using HIGH POWER.**

Explain how you determined the order?

HIGH POWER

SLIDE 3: SLIDE ORIENTATION – THE LETTER "e"

- **Prepare a WET-MOUNT slide of the letter "e"**
- **Use LOW POWER and answer the following questions:**
  1. **When you move the slide UP on the stage, which way does it move in your view?**
  2. **When you move the slide to the RIGHT on the stage, which way does it move in your view?**
- **DRAW a sketch of what you see with each power objective.**

LOW POWER **MEDIUM POWER** **HIGH POWER**

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