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| **Biology 11**  **Rules for Biological Drawing** | **Name: Date:**  **Block:** |

The ability to draw accurately and neatly is a useful skill, especially in Biology. Most artists follow some basic rules to make their drawings attractive and easy to read. Below are some rules, which will improve your drawing skills.

1. Use unlined paper
2. Draw in PENCIL
3. Draw what you see, not what you think should be there
4. Each drawing needs to have a TITLE
5. Use lines, not arrows to label
6. Drawing should be labeled to the left of the drawing
7. Labels beside the lines (horizontally), not on top
8. Lines should never cross when labeling the drawing
9. Include TOTAL magnification (when using a microscope)
10. Include actual size
11. Include drawing magnification (include calculations)

**Total Magnification = eye piece x lens**

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| **Lens** | **Lens magnification** | **Eye piece magnification** | **Total magnification** |
| Low power | 4x | 10x |  |
| Medium power | 10x | 10x |  |
| High power | 40x | 10x |  |

**Actual size**

1. Measure organism using a ruler (for non-microscopic drawings)
2. If using a microscope, follow the steps below:
   1. Measure the field of view (FOV) using a ruler under the microscope (use mm and convert to µm) \* This will be different for each lens

**Field of view**

|  |  |  |
| --- | --- | --- |
| **Low power** | **Medium power** | **High power** |
|  |  |  |

* 1. Estimate how many times the object would fit across the FOV
  2. Actual size = field of view / # of times the objects fits across FOV

**Drawing Magnification**

1. Measure drawing using a ruler. This is the drawing size.
2. Convert cm to µm (1 cm = 10,000 µm)

\*\* If drawing from a microscope

1. Determine the actual size of the organism
2. Drawing magnification = drawing size / actual size

\*\*Make sure units are the same