

Stereo microscopes / Dissecting microscopes

Stereo microscopes or dissecting microscopes, are really two compound microscopes, focusing on the same point from slightly different angles. Specimen can be viewed in three dimensions. In stereo microscopes, the optics do not invert images so the image is upright and laterally correct (not upside down and backwards). Stereo microscopes generally have a much lower power as compared to compound microscopes, usually below 100x.

To obtain the correct interpupillary distance for your eyes you must adjust the distance between the two oculars by gently pushing or pulling the oculars until you see the object as a single image.

Note that the dissecting microscope is not parfocal and must be re-focused when the magnification is changed. You should be happy about this if you are someone who gets caught using the coarse focus on high power with the compound microscope.

1. List 4 differences between a compound microscope and a stereo microscope or dissecting microscope that was not listed above.
2. Determine the total magnification of your stereo microscope/dissecting microscope at each objective.
3. Determine the number of micrometers each field of view covers.
4. In what situations would a stereo microscope/dissecting microscope be more useful than a compound microscope?
5. Examine 3 objects (make sure one of them is money. ..pennies, and five dollar bills are awesome, so is Mrs. Donley's wedding ring!) Measure at least one "structure" on each item you observe and record this data.
6. Draw good microscope drawings for each of the objects that you viewed. Be sure to label at least 2 items for each object and draw in an accurate scale bar that relates one centimeter to the proper number of micrometers.