Glossary

Abbe condenser: a condenser invented by Ernst Abbe, a German physicist. It consists of two lens elements, the top element being removable for low power observation or photography.

achromatic objectives: objectives designed to bring the red and blue parts of the visible light spectrum into the same focus while bringing green and other colors into a shorter focus.

arm: the main vertical section supporting a microscope.

coaxial coarse and fine focus: having both the coarse and fine focus operate on a single axis, so the knobs are concentric (usually with the coarse focus being the larger of the two knobs on the same side).

coarse focus adjustment knob: the control used to move the objective lens or stage up and down during initial focusing on a specimen. The amount of movement of the stage or lens is greater in proportion to the movement of the knob than for the fine focus adjustment knob.

compound microscope: an instrument fitted with objective and ocular (eyepiece) lenses and used for viewing small objects.

condenser: a mirror, lens or combination of lenses located under the microscope stage; used to gather light and direct it onto the object being viewed.

depth of field: the vertical distance that can be sharply focused on a specimen. As the power of magnification increases, the depth of field decreases for any given microscope.

disc diaphragm: A disc with five or six different sized holes fitted under the stage of a microscope. As the disc is turned, one after another of the holes swings in place beneath the opening on the stage for the light. It controls the amount of light that passes up through the specimen slide.

eyepiece (ocular): the lens system closest to the eye. It is the component of the compound microscope that magnifies the primary image of the objective.

field of view: the area visible through the microscope. As the power of the objective increases, the size of the field of view decreases for any given microscope.

fine focus objective knob: the control used to bring the specimen into sharp focus by moving the objective or stage up and down in very small increments.

high power objective: a lens with greater magnification ability.

iris diaphragm: a device under the microscope stage that uses a series of metal leaves that work together to control the size of the opening through which light passes into the condenser.

low power objective: lens with lower magnification ability.

magnification: the number of times that a microscopic image appears larger that the original specimen.

mechanical stage: a device to hold the specimen slide and move it to bring any part into the optical path or field of view.

nosepiece: the rotating device that holds the objective lenses.

objective: lens closest to the object being magnified.

oil immersion objective: an objective lens system used for obtaining very high magnification. In use, the objective lens is immersed in a drop of oil that is in contact with the cover glass on the slide.

parfocal lenses: lenses that remain in focus when the magnification is changed.

resolution: the ability of a lens to distinguish and separate one tiny structure from another.

wide field eyepiece: an eyepiece with an entrance lens larger that on most types of eyepieces; it lends itself to varying eyepoint requirements.

working distance: the distance between the front end of the objective and the specimen, when the specimen is in sharp focus.