

# PATHWAYS

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## VOCABULARY LIST

**autoclave** (*noun*): a machine that can be set to a certain pressure and temperature for various applications.

**bacteria** (*noun*): one-celled organisms that can be found everywhere. They can be dangerous, such as when they cause infection, or beneficial, such as in the process of fermentation (making cheese or vinegar) and decomposition.

**centrifuge** (*noun*): a machine that spins samples at high speeds to separate fluids of different densities (e.g., cream from milk) or liquids from solids.

**chromosome** (*noun*): a cellular structure in the nucleus containing genes. Each chromosome is made up of DNA tightly coiled many times around proteins called histones that support its structure.

**circadian rhythms** (*noun*): the physical, mental, and behavioral changes that follow a daily cycle. They are important in determining the sleeping and feeding patterns of all animals, including humans.

**colorimeter** (*noun*): a device that measures the absorbance of particular wavelengths of light by a specific solution.

**confocal microscopy** (*noun*): an imaging technique that uses laser light to scan dyed samples and shows the magnified image on a computer screen. These images can be used to create two- or three-dimensional structures.

**cryo-electron microscopy** (*noun*): an imaging technique that captures images of a rapidly frozen sample (e.g., a virus), then creates clear images of the molecular structure of the sample.

**DNA** (*noun*): the molecule found in cells that carries instructions for cell structure and processes in the body. DNA contains genes that are passed on from parents to offspring and gives living things their inherited characteristics. The letters DNA stand for deoxyribonucleic acid.

**epithelial** (*adjective*): relating to the thin tissue forming the outer layer of a body's surface and lining the throat, intestines, blood vessels, and all internal organs.

**gel electrophoresis** (*noun*): a laboratory method that uses an electrical current to separate molecules of different sizes by pushing them through a gel. Colored stains in the gel allow the molecule to be seen.

**gene** (*noun*): a small section of DNA that contains the instructions for making a specific protein. Proteins control the processes that occur in the body's cells.

**genome** (*noun*): the complete set of genetic information in an organism. It provides all of the information the organism needs to function.

**graduated cylinder** (*noun*): a container for measuring the volume of liquid. It has straight sides, two circular ends, and a base. Each marked line on the graduated cylinder represents the amount of liquid that has been measured.

**hypoglycemia** (*noun*): a condition caused by an abnormally low level of blood sugar.

**incubator** (*noun*): a device that provides a controlled environment to grow and maintain microbiological cultures or cell cultures.

**membrane** (*noun*): a semi-fluid layer that encloses cells and organelles and controls passage of materials into and out of them.

**mitochondria** (*plural noun*): organelles found in large numbers in most cells that convert food and oxygen into energy to fuel the cell.

**organelle** (*noun*): a specialized, membrane-bound structure (e.g., the nucleus) that has a defined function in the cell.

**pipette** (*noun*): a slender tube with a bulb to suction and transfer or measure out small quantities of liquid.

**spirillum** (*noun*): a bacterium with a rigid spiral structure, found in stagnant (nonflowing) water and sometimes causing disease.

**vacuum** (*noun*): an empty space in which there is no air or other gas.

**vortex mixer** (*noun*): a simple device used commonly in labs to mix small vials of liquid. The mixer has a rubber cup that spins rapidly in a circle and, when the vial is pressed into the cup, the motion swirls and mixes the liquid.