

## VOCABULARY LIST

## GENETICS

**amino acids** (*noun*): a molecules that combine to form proteins.

- Amino acids are present in all living organisms, from viruses to humans, and are often called the building blocks of life.

**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 give living things their inherited characteristics. The letters DNA stand for **deoxyribonucleic acid**.

**encode** (*verb*): when referring to a gene, to encode is to be responsible for producing a substance or behavior.

**gene** (*noun*): a small section of DNA that contains instructions, usually for making a specific protein.

**genome** (*noun*): the complete set of genes in an organism.

**messenger RNA** (*noun*): a type of molecule that delivers genetic instructions in DNA so that cells can produce proteins according to the instructions.

- Also known as mRNA, it is naturally found in every cell in your body. The letters RNA stand for **ribonucleic acid**.

**sequence** (*noun*): a particular order (such as, among the base components that make up DNA; different sequences form different genes).

## IMMUNITY

**antibody** (*noun*): a blood protein produced by the immune system to counteract a specific antigen.

**antigen** (*noun*): a substance that is recognized as foreign by the immune system, such as an outer piece of a virus.

**clinical trial** (*noun*): a research study involving human participants, used to gather data on the safety and effectiveness of a health treatment.

**muscle cell** (*noun*): a type of animal cell that can change its length, and in groups, helps the body move.

- Muscles are good sites for vaccines to enter the body because they contain important immune cells.

**memory cell** (*noun*): a type of white blood cell that “remembers” antigens as well as which antibodies the immune system should produce to defend against those specific antigen.

**vaccine** (*noun*): a substance that helps protect against certain diseases by helping the immune system recognize and destroy specific microbes.

## SCIENTIFIC RESEARCH

**cryo-electron microscope** (*noun*): a type of microscope that blasts a beam of electrons into a frozen specimen, such as a virus. A specialized camera detects how the electrons interact with the atoms in the specimen, which tells scientists where the atoms are located.

- This technology allows scientists to determine the 3D structure of specimens that are too tiny to be seen with light.

**machine learning** (*noun*): a type of artificial intelligence in which computer algorithms (sets of rules and procedures) are developed to analyze and make predictions from data that’s fed into the system.

## TAKE IT FURTHER

Choose five vocabulary words that you think will be hardest to remember, then write a paragraph with them (nonfiction or fiction).