herbivore
An animal that extracts its energy only from plants. Simply put, a plant-eater.

homeostasis
The maintenance of a stable internal environment in order for an organism to live.

hypothesis
An educated statement that explains observations. A hypothesis statement is made early on in the scientific method.

International System of Units, or SI Units
A standard set of units that are used by all scientists around the world.

light microscope
A system of connected lenses which acquires an image by reflecting light off of, or shining light through, the object.

magnification
The amount by which an image is enlarged by a microscope.

metabolism
The process by which an organism extracts energy from its surroundings and uses it to sustain itself.

microscope
An instrument that produces enlarged images of very small objects.

multicellular organisms
Organisms that are composed of two or more cells.

offspring
The organism that receives the genetic material and is formed as a result of reproduction.

omnivore
An animal that can extract its energy from either plants or animals.

organism
The resulting structure that is formed when one or more cells are grouped together to carry on the activities of life. Examples range from a one-celled bacterium to a trillion-celled human being or tree.

parent
The organism(s) that supplies the genetic material during reproduction.

photosynthesis
The process by which the energy of the sun is captured and used to make sugar molecules.

population
A group of similar organisms that live in the same area.

producer
An organism that uses photosynthesis to produce its own energy source. All plants are examples of a producer.

receptor
Specialized molecules or organs that all life forms possess that allow them to sense and respond to changes in their environments.

resolution
The ability to see an image's fine detail.

reproduction
The formation of a new organism or cell from already living organisms or cells in order to propagate—or spread—the species or make new cells.

scientific method
The systematic collection and analysis of data.

sexual reproduction
The production of one or more offspring as a result of a male and female of the species combining their genetic material. This type of reproduction results in changes in genetic material from parent to offspring and requires two parent organisms.

taxonomy
The orderly classification of plants and animals according to their observed natural relationships to one another as well as similarities in structure and function.

theory
A hypothesis which has undergone extensive experimentation and has been found to completely explain a question.

unicellular organisms
Organisms that are composed of only one cell.

STUDY QUESTIONS

1. Describe or list the common properties that all life forms share.
2. What is a food chain?
3. How do plants obtain their sugar molecules?
4. How does an herbivore obtain its daily energy? Where does a carnivore obtain its daily energy?
5. How is an omnivore different from a carnivore?
6. What is the process of a producer, consumer, or decomposer making energy molecules from sugar molecules called?
7. Describe homeostasis and explain why it is important.
8. List three ways that organisms can be scientifically classified.
9. Describe the taxonomy system most commonly used to classify organisms today.
10. What is a hypothesis statement?
11. What is the next step of the scientific method after the hypothesis statement is formulated?
12. Is the experimental group or control group exposed to the variable in a controlled experiment?
13. What must a scientist do if the data collected during hypothesis testing does not support the hypothesis statement?
14. What is important about the units used in the SI system?
15. Define magnification and resolution.
16. Which type of electron microscope provides a three dimensional image of an object?