Life Cycles

Video: Bill Nye: Life Cycles stop at 7 min. 45 seconds
Follow up: Daybook p. 198-201: Let it Rain

Gene: the cell parts, made of DNA, that determine the cell’s characteristics.

Genetic: Inherited or affected by genes.

Sexual reproduction: The production of new generations involving the combination of chromosomes from both a male and female parent. Because each parent contributes genetic information, the offspring of sexual reproduction are usually not identical to either parent.

Asexual reproduction: reproduction involving one parent organism. Offspring are identical copies of the parent.

Acquired: A learned characteristic.

Adaptation: Structure, behavior, or other trait in an organism that helps it to survive in its environment. Differences among living things are a result of adaptations over a long period of time.

Evolution: a theory, based on scientific evidence, that describes how organisms change over many generations.

Species: A group of organisms capable of interbreeding and producing fertile offspring.

Human Body Systems
Multicellular organisms have specialized cells that form different types of tissues that form organs that are a part of an organ system that works with other organ systems so that individual organisms carry out life functions.

Video: Interrelationship of the Body Systems (stop at 17 minutes, 14 seconds)

*While watching video, have one note card ready for each of the following system. When the body system is discussed, list 3 functions or facts about that system.

Skeletal System: the 206 bones of the human body and the tissues that connect them. The skeletal system gives your body its structure and provides protection.

Digestive System: breaks down food into substances the body can use (includes mouth, stomach, intestines..)

Respiratory System: gets oxygen into your body and rids the body of carbon dioxide that your cells produce as waste (includes nose, mouth, lungs...)

Circulatory System: organ system that transports needed substances throughout the body and carries away wastes (includes heart, blood, veins...)

Nervous System: the organs responsible for controlling the entire body (include brain, nerves, spinal cord & sense organs)
Life Science Review (32 words)

Animal Cells
Video: Cells  [Play from 0-4 minutes, then skip to Chapter 6 and play all of Chapter 6 (3 min. 17 sec.)]

Cell: tiny compartment of life that make up all living things. There are 100 trillion cells in the average human body.

Cell membrane: Outer layer of a cell through which materials can move in and out. The biological membrane separating the interior of a cell from the outside environment. It allows nutrients in and waste out.

Organelles: structures found inside the cell, each with a different function.

Mitochondria: The organelle of the cell that provides energy for the cell.

Nucleus: The cell part that controls all the actions of the cell including metabolism, growth, and reproduction of the cell.

DNA: (deoxyribonucleic acid) a chemical material found in the nucleus of cells that transfers genetic information. The DNA instructs the cells how to build the organism.

Chromosome: An organized structure of DNA that contains the genetic information needed to carry out cell functions and make new cells. A chromosome is mainly composed of DNA. We have 23 chromosomes – we get half from our mother and half from our father.

Ribosome: A cell organelle that functions as the site of protein synthesis in the cytoplasm. (Protein, the main ingredient for making new cells, is produced in the ribosomes).

Plant Cells
Video: Photosynthesis: Watch first 6 min.

Cell Wall: the cell part that surrounds the cell membrane and cytoplasm and other structures in plant cells. It provides support to the plant cell.

Photosynthesis: A chemical process by which plants use light energy to make glucose from water and carbon dioxide.

Chloroplast: a structure found in plants that contains chlorophyll, which absorbs the light energy used to drive photosynthesis.

Chlorophyll: green pigment in plants that captures the energy of sunlight for use in photosynthesis.

Glucose: another name for sugar or food that is made by plants through the process of photosynthesis.
Reproductive System: organ system involved in creating a new organism. Reproduction is the natural process in plants and animals by which new individuals are produced and the species is perpetuated (continues to exist).

Ecosystems

Video: Bill Nye: Food Web (stop at 16 min. 30 seconds) then give Quiz
Follow up: Daybook p. 182-185: Poison Toads

Ecosystem: all the living populations in an area along with the non-living parts of the environment. One geographical area may contain many ecosystems.

Food Web: Energy flows through an ecosystem from producers (plants) to consumers to decomposers. (sun → producer → consumer → decomposer)

Producers: an organism that makes its own food such as a plant or algae (plants take energy form the sun and produce food through photosynthesis).

Consumers: an organism that feeds on other organisms.

 Decomposers: an organism (usually bacteria) that breaks down tissue of a formerly living organism into simpler forms of matter.