Characteristics - qualities of an organism
I**nherited Traits** - Characteristics that are passed down from parents to offspring. *Ex: eye color, height, dimples*
Likeness - similar or nearly the same
Organism - an individual living system
Traits - distinguishing characteristics

Generation - a group of individuals born and living at the same time, such as sibling
Offspring - the young of a person, animal, or plant. (the child)
Parents - animals (including humans) or plants that produce offspring
DNA - material in organisms that transfers genetic characteristics from parents to offspring

Cell - the basic unit of life
Multicellular - composed of many cells
Unicellular- single-celled; composed of one cell
Permeable - able to pass through
Tissue - similar cells with a specific function
Organ - a part of the system that consists of cells and tissues and is specialized to do a particular task

Bones - supports the body and protects organs such as the heart and lungs
Cardiac Muscle - heart muscle - pumps blood throughout the body
Joints - place where two bones are joined together to allow motion. Ex: elbow, knee, ankle
Muscles - tissues that cause motion in the body
Skeletal Muscle - muscle connected to bones for movement (these are voluntary)
Smooth Muscle - found in walls of internal organs such as lungs and stomach (involuntary)
Voluntary muscles - muscles that move because YOU tell them to - they are attached to bone.
Involuntary muscles - smooth muscles that move without you telling them to. Ex: stomach
Ligaments - connects bones to each other.

Muscular System - produces motion so we can move, provides posture, generates heat through metabolism, and helps other systems
Skeletal System - protects organs like the brain, heart, lungs; supports the body and allows us to stand, helps us move since our muscles are attached, stores fats and minerals.

- Why is it important to know about cells?
- How do the muscular system and skeletal system work together?

Know basic vocab below:

DNA	Ligaments	Skeletal system	Tendon
Inherited Traits	Cells	Voluntary	Involuntary
Multicellular	Heart	Organ	Muscular System
Unicellular	Tissue		

The skeletal system and muscular system work together because the bones are connected to muscles and help the body to move. The muscular system also works with other systems other than the skeleton. Since there are involuntary muscles like the heart and stomach, it helps with digestion and other things throughout the body.

Lesson 8 - Nervous System

Brain - tells all other parts of the body what to do
Spinal Cord - goes from the brain to the length of the body and nerves come off of it
Nerves - carry the messages to the needed area in the body
The nervous system reacts to changes in the body; it sends and receives messages throughout the body. It works with the other systems by telling them what to do - voluntarily and involuntarily.

Lesson 9 - Blood

Blood - circulates in the body to sustain life
Red Blood Cells - Carry oxygen throughout the body
White Blood Cells - fights off infections and diseases
Platelets - smallest blood cells that form clots if you have an injury like a cut or scrape
Plasma - watery part of your blood that contains protein
Arteries - blood vessels that carry blood ***AWAY*** from the heart
Veins - blood vessels that carry blood ***TO*** the heart
Capillaries - the smallest blood vessels
Heart- cardiac muscle - an organ that pumps blood throughout the body
Spleen - large, flat, oval organ that stores blood

How do the nervous and circulatory systems work together with other systems? They cannot work alone, so how are they interdependent? (check your notebooks)

Lesson 11 - Respiratory System

Diaphragm - sheet like muscle separating the chest from the abdominal (Stomach) cavity; its movement creates a change in air pressure to draw air in and expand the lungs
Exhale -to breathe out
Inhale - to breathe in
Lungs - two respiratory organs located in the chest; they are soft and protected by the ribs
Respiration - the act of breathing in and out
Trachea - windpipe - the passage from pharynx to lungs
Pharynx - throat; collects incoming air from the nose and passes air to the trachea
Larynx - the hollow muscular organ forming an air passage to the lungs and holding the vocal cords in humans and other mammals; the voice box.
The respiratory system interacts with other systems because red blood cells collect oxygen from the lungs and carry it to the parts of the body where it is needed.

Lesson 12 - Digestive System

Mouth-where digestion begins
Esophagus - muscular passage connecting the mouth and the stomach; its rhythmic motion pushes food into the stomach
Epiglottis - located in the back of the mouth; prevents food and drink from entering the larynx
Liver - filters blood coming from the digestive tract, releases bile, and helps take toxins (poisons) from chemicals in the body
Large intestine - where stool (solid waste) accumulates
Small intestine - helps in the passage of food that comes from the stomach
Pancreas - secretes insulin
Pharynx - throat; collects incoming air from the nos`e and passes air to the trachea
Saliva - watery fluid (spit) for tasting and swallowing and chewing food. Keeps the mouth moist/wet.
The respiratory system interacts with other systems because red blood cells collect oxygen from the lungs and carry it to the parts of the body where it is needed.

You will have questions about transport systems within cells. Remember, our main transport system is the circulatory system, it gets things to where they need to go. A human needs transport systems to help them fulfill all of our needs because we cannot do it on our own. All organisms, both single and multicellular, go through the same life processes - eat, grow, respond to stimuli, reproduce, remove waste, and breathe.

Even if an organism is ONE cell, it can still do those 5 things, but it doesn't need a transport system, it just does the exchange with the outside world automatically.

Most multicellular organisms need transport systems.