**What I Don’t Remember From My Packets:**

September Packet:

* Insects are arthropods

Simple Machines Packet:

* Cutting tools have mechanical advantage because of their shape.
* First class levers have the fulcrum in the middle
* Second class levers have the resistance in the middle
* Effort is in the middle of a third class lever
* Types of levers:
  + Levers
  + Pulleys
  + Wheels
  + Axles
* Inclined Planes:
  + Threaded Objects
  + Ramps
  + Wedges
  + Cutting tools
* Mechanical advantage <1 = speed, >1 = easier
* A wheel and an axle = a pulley
* A scientific model is a way of explaining an idea
* Atoms have neutrons, protons, and electrons
* Protons are positively charged
* Electrons are negatively charged
* Neutrons have no charge
* Atomic mass is the sum of the number of protons and neutrons in the nucleus
* The atomic number of an atom is the number of electrons in it
* The rows in the periodic table are called periods
* The columns in the periodic table are called groups
* Usually an atom has the same number of protons and neutrons.
* Bonds between a metal and a nonmetal atom are ionic.
* A covalent bond is a bond in which two or more pairs of electrons are shared by two atoms.
* A chemical compound is a chemical combination of 2 or more different elements.
* A mixture is a chemical material that contains 2 or more substances.
* Most atoms that form ions do so when dissolved in water.
* A calorie is the metric unit of heat that equals the amount of heat needed to raise the temperature of one gram of water to 1°Celsius.
* To expand means to increase in size but not mass.
* To contract means to decrease in size but not mass.
* Liquids become about 1000 times bigger when you turn them into gasses
* 0 Kelvin is absolute zero.
* A solid has a fixed shape and a fixed volume.
* A liquid has a fixed volume but not a fixed shape.
* A gas does not have a fixed volume or shape.
* A plasma is a high energy glowing gas.
* Cohesion is the force that holds like molecules together. It keeps the water molecules in a glass of water instead of spreading around the room like steam.
* You need three things for induction:
  + A wire or a coil of wire.
  + A magnetic field.
  + Movement.
* laws of motion:
  + An object in motion keeps moving unless an outside force does something to it.
  + An object at rest remains at rest unless an outside force does something to it.
  + Mass= total quantity of matter
* Laws of Planetary Motion:
  + The orbit of anything is an ellipse, not a circle.
  + There are two foci (focuses), and one is the sun and the other is invisible.
  + The square of the periods of time of the planets are proportional to their semi major:
    - P2 Time = R3 Distance
* Up to here on notecard
* When the moon is at perigee it looks 14% bigger
* A lunar eclipse is when the moon passes into the earth’s shadow. This can only happen at a full moon.
* A solar eclipse is when the moon covers the sun. This can only happen at new moon.
* Weight is the amount of gravitational pull on an object.
* Mass is a measure of the amount of matter in an object.
* Capacity is the space something occupies inside a container.
* density = mass / volume