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**Matter and Energy**

**Matter**

* Matter :
* Element:
* Compound:
* Heterogeneous:
* Homogeneous:



**Law Conservation of Matter**

* In any physical or chemical change, matter
* Matter can be
* How did all of the matter that exists in the environment, get there?

Scientists Theory of the Timeline of Our Universe

**Law Conservation of Mass**

*

*

**Kinetic Molecular Theory:**

* The molecules are in
* This motion is different for the
	+ ( bonds)
	+ ( bonds)
	+ ( bonds)
	+ ( )



Solid

*

Liquid

*

Gas

*

Plasma

*

 **Energy –**

What is mechanical energy?

* Two General Types
	+ Potential –
	+ Kinetic –

**Forms of Energy**

* + Mechanical –
	+ Electromagnetic –
	+ Electrical-
	+ Chemical-
	+ Thermal -
	+ Sound –  the movement of energy through substances in longitudinal (compression/rarefaction) waves
	+ Nuclear – the use of exothermic nuclear processes to generate useful heat and electricity. This includes nuclear fission, nuclear decay, and nuclear fusion

**Energy Conversions**

* Efficiency –

**Law of Conservation of Energy**

*

**How do scientists theorize that the universe was created?**

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**The Big Bang Theory**

**The Universe**

* May be home to more than
	+ Galaxies
		- Each Galaxy with Trillions of Stars
* About Years Ago
	+ All pro-matter and energy condensed due to gravity ( )……
* This BANG formed the Universe…..and all galaxies, stars, and planets
* Gravity
* creates galaxies-the stars & planets
* Huge clouds of gas and dust form called
* From these nebulas, are born.
* Many stars to each other and form!

Light Year:

Stars:

*
*
*
*

Our SUN:

* **Distance from Earth =**
* Light given off by the sun takes to get to earth

Our Galaxy:

*
*
*
* Diameter of our galaxy:
* Thickness of our galaxy:
* Nearest Galaxy:

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**The Universe**

**Major Components in the Universe**

* Galaxy –
	+ Star –
* **Types of Galaxies**

1. Spiral -

2. elliptical –

3. Irregular –

* Constellations –

**Stars:**

* A star begins their lives in a
*
*
* Stars have a that is *dependent* on its
	+ The more
		- mass stars (small stars=MOST stars) survive for of years
		- mass stars (large stars) survive for a few years



**Solar System**

*
*



**Planets**



 **Processes Impacting Planets**

1. Tectonics
2. Volcanism
3. Weathering and Erosion
4. Impact Cratering

**Planet Classifications**

 Terrestrial Planets

Gas Planets

**Atmosphere**

1. Greenhouse Effect