**Chapter 13.3 & 13.4**

**Energy Transformation Notes**

**Energy**

* **What is Energy?**
* \_\_\_\_\_\_\_\_ is measured in \_\_\_\_\_\_\_\_\_\_\_\_\_
* 2 Types of Energy:

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |
| --- |
| **What Forms of Energy Are There?** |
| 1. **Potential Energy**
 | 1. **Kinetic Energy**
 |
| * Energy that is \_\_\_\_\_\_\_\_\_\_\_\_\_ as a result of \_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_.
* Energy in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Ex: Stretched rubber band, \_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Can increase by increasing:
	+ \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 | * The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Depends on two things
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_
* Kinetic energy depends on \_\_\_\_\_\_\_\_\_ more than \_\_\_\_\_\_\_\_\_\_\_.
 |
| 1. Describe the energy transformation from A. to B.
2. Describe the energy transformation from B. to C
3. Describe the energy transformation from C. to D.
 |
| 1.2.3. | 1.2.34.5. |
| How can you remember them all?  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Type of Energy** | **Mnemonic**  | **Details** | **Examples** |
| 1. |  |  | Energy stored in the \_\_\_\_\_\_ of \_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_ |  |
| 2. |  |  | Energy stored in the \_\_\_\_\_\_\_\_\_\_\_ of an \_\_\_\_\_\_. The energy that holds the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 3. |  |  | Any time \_\_\_\_\_\_\_\_\_\_\_ supplies the \_\_\_\_\_\_\_\_\_Higher the \_\_\_\_\_\_\_\_\_\_\_\_= more gravitational energy.Dependent on its \_\_\_\_\_\_\_\_, its \_\_\_\_\_\_\_\_, and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |  |
| 4 |  |  | Electromagnetic energy that \_\_\_\_\_\_\_ in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 5. |  |  | Movement of \_\_\_\_\_\_\_\_\_\_\_ |  |
| 6. |  |  | The movement of a substance from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_The sum of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ an object uses to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_An object in \_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 7. |  |  | Movement of energy through \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in \_\_\_\_\_\_\_\_\_\_\_ |  |
| 8. |  |  | The \_\_\_\_\_\_\_\_\_\_\_\_ or movement of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |

**For the following images, identify how energy has been transformed.**

****

**Energy Transformation**

* The process of changing energy from one form to another is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.**
	+ Ex: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Law of Conservation of Energy**

* States:
	+ Energy can’t be \_\_\_\_\_\_\_\_\_\_\_\_\_\_ or\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ but it does change from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
	+ Same \_\_\_\_\_\_\_\_\_
* The total energy remains \_\_\_\_\_\_\_\_\_\_\_\_, it just \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



|  |
| --- |
| **Heat can be transferred 3 different ways**  |
| **Type** | **Details** | **Picture** |
| 1. | •Transferred of energy by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_•Works best in some \_\_\_\_\_, then liquids, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  |  |
| * \_\_\_\_\_\_\_\_\_\_\_\_\_\_- materials that allow heat to pass through them

Ex. |
| * \_\_\_\_\_\_\_\_\_\_\_\_\_\_- materials that don’t let heat pass through them well

Ex. |
| 2. | •Transferring \_\_\_\_\_\_\_\_\_\_\_ by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_•\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_ are fluids•When heated they \_\_\_\_\_\_\_\_, become less \_\_\_\_\_\_\_\_\_•They \_\_\_\_\_\_\_\_, replaced by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ fluids•Make a circular flow called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 3. | •Energy transferred by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_•Ex: infrared radiation, \_\_\_\_\_\_\_\_\_\_\_\_, ultraviolet rays•Can travel through \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_•When wave hit object they make \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |  |

Review:

* Why does hot air rise and cold air sink?
* Why are boilers placed beneath hot water tanks in people’s homes?
* Radiation travels in straight lines True/False
* Radiation can travel through a vacuum True/False
* Radiation requires particles to travel True/False
* Radiation travels at the speed of light True/False
* Radiation requires a medium to travel True/False