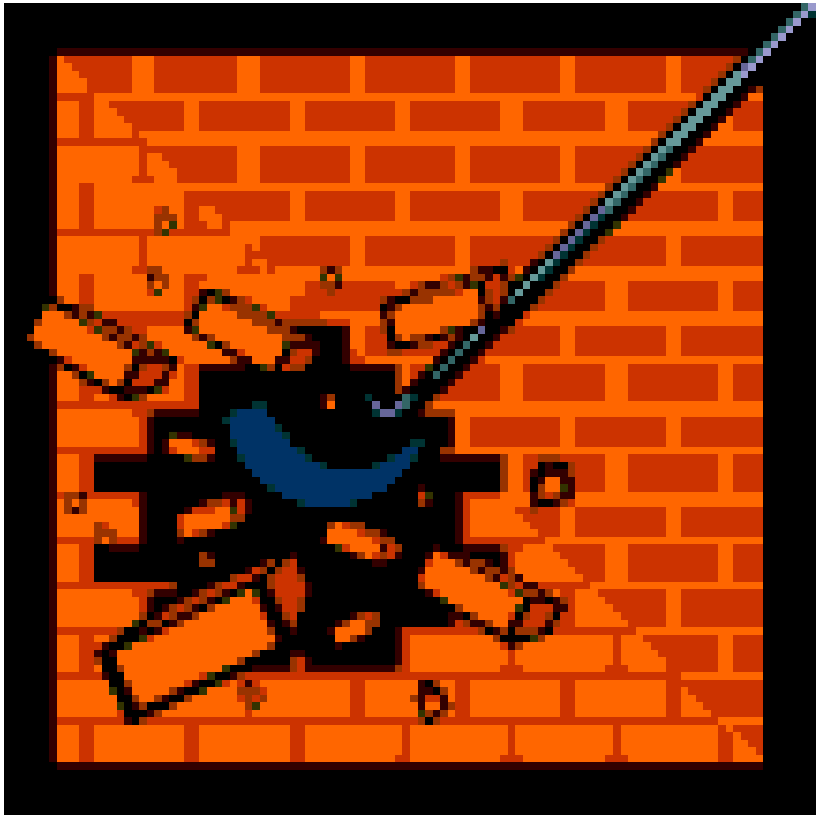
Types of Energy



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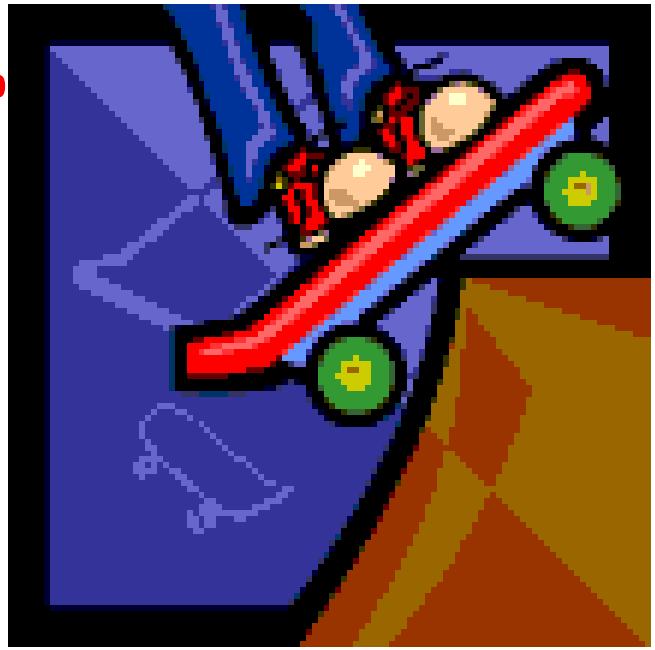
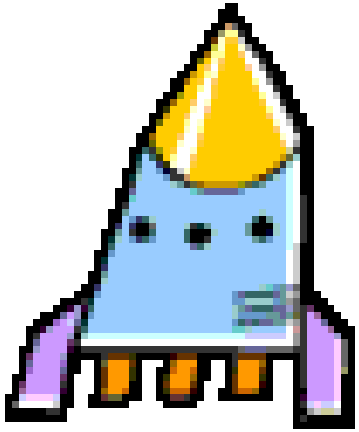
This PPT is going to describe many different types of energy.





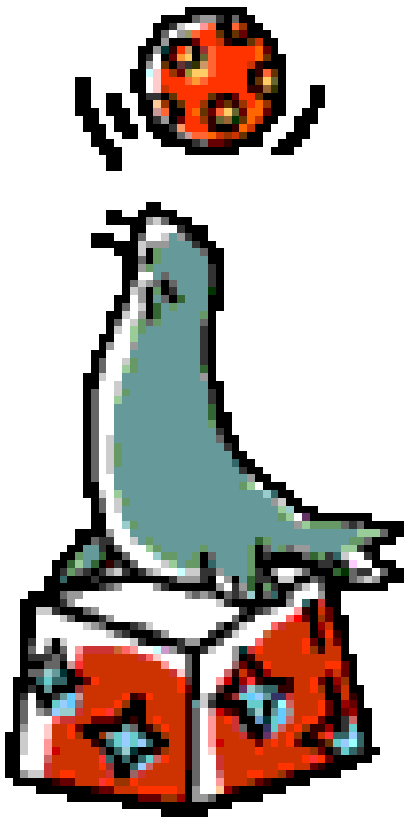
Energy can be divided into two groups, Potential Energy (Stored Energy) or Kinetic Energy (Moving Energy).

There are 3 main types of <u>Stored or</u>

<u>Potential Energy</u> we will consider in our physics class…

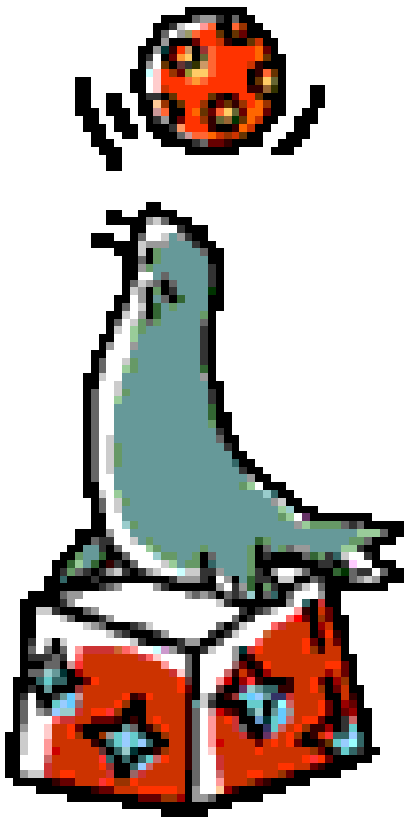
1. Gravitational Potential Energy (Eg)

Eg is the energy that is stored in object due to its height or position above the ground.



Gravitational Potential Energy (Eg)

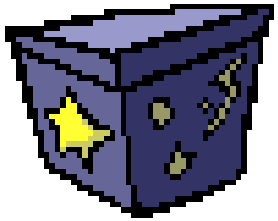
The ball has 100% stored Eg at it's <u>highest</u> point before it starts to fall..



Gravitational PE

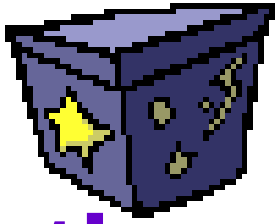
Eg **is the stored energy of the kids & sled as they sit <u>at the top</u> of the hill ready to go down.**

Elastic Potential Energy (E_{EL})



The second type of stored energy is elastic potential energy.

Elastic Potential Energy (E_{EL})



Elastic energy is stored energy when an object is stretched or compressed. This could be rubber bands, springs, or elastic materials.

3) Chemical Potential Energy E_{CH}

Chemical Energy is the 3rd form of stored potential energy. It occurs when a chemical substance undergoes a change in its molecular structure.

Examples of Chemical potential energy include…

Candle Wax

Batteries

Glow Sticks

Chemicals

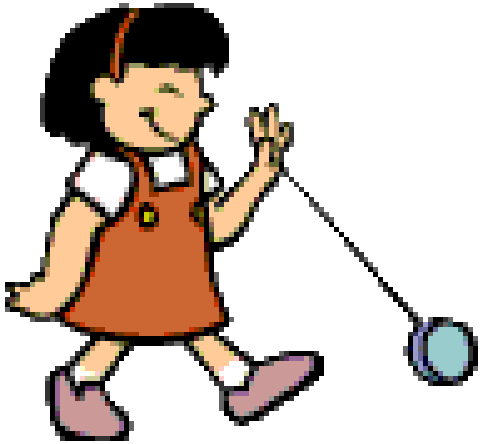
Food

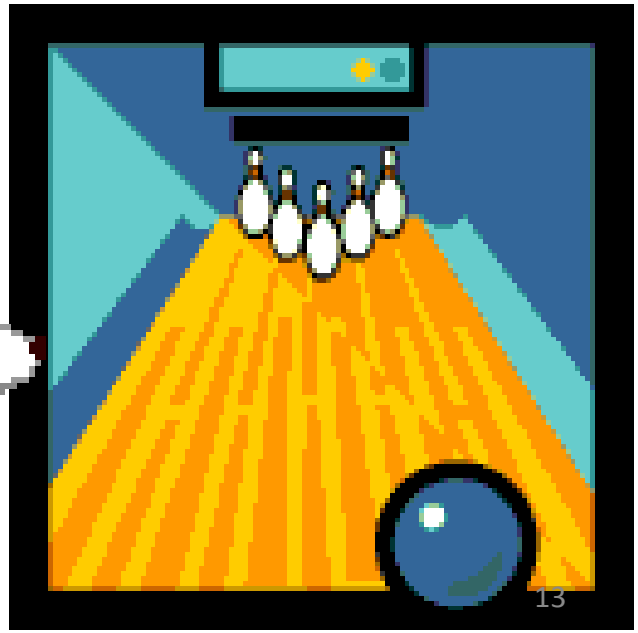
B. Energy in Motion is called

<u>Kinetic Energy</u> E_k

1) Kinetic Energy (Ek)

Moving objects all have Kinetic Energy. The walking girl, running dog, bowling ball all are moving, so all have kinetic energy.



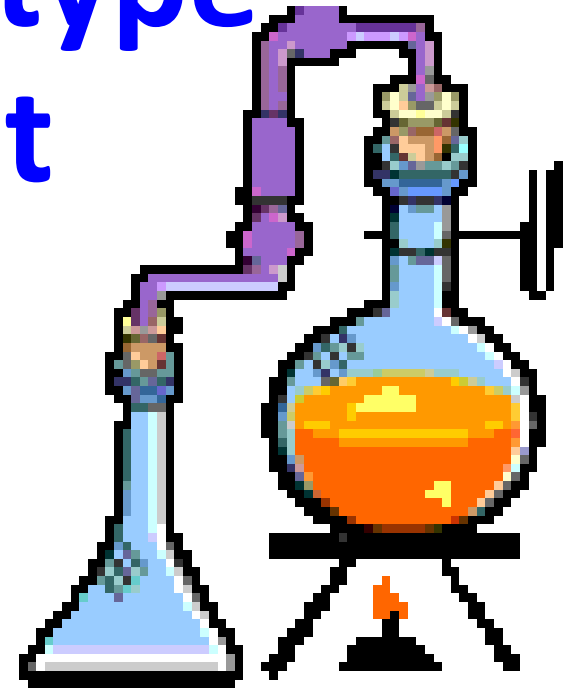


Sometimes

Kinetic Energy Ek occurs in the motion of molecules. The movement is too small to see, but it is still Kinetic Energy E_K.

2) Thermal Energy (Eth)

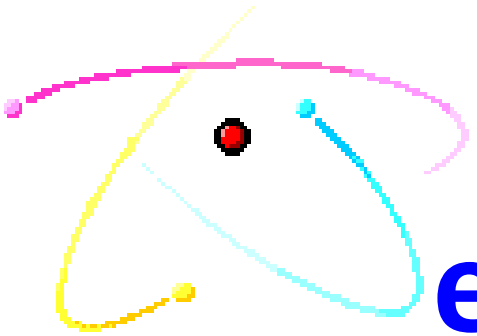
Thermal energy is a type of kinetic energy. It results from the movement of molecules which causes a temperature change in the object.



Thermal Energy ***(E_{Th})***

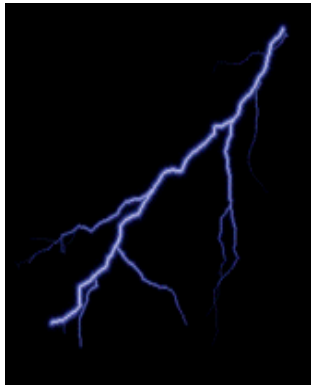
The flame from a lamp or the friction force between 2 surfaces will create thermal energy.

3) Electrical Energy (E_E)

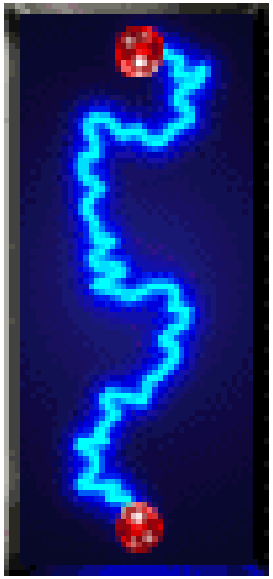


Electrical Energy is a form of kinetic energy because it results from the movement of electrons in an atom.

Electrical Energy (E_E)



We can't see the electrical energy in circuits…but we can observe Electrical Energy that occurs as static electricity in lightning!



4) Radiant Energy (E rad)

Light energy is also called Radiant Energy. It is the motion of photons of light through space in the form of waves. It is also known as Electro-magnetic Energy

Reflection:

In your notebook, write 3 ideas. Please identify something that surprised you, something interesting, and something you didn't already know about types of energy.