



Forms of Energy



What is energy?

“Ability to do work or cause change

“Produces Warmth

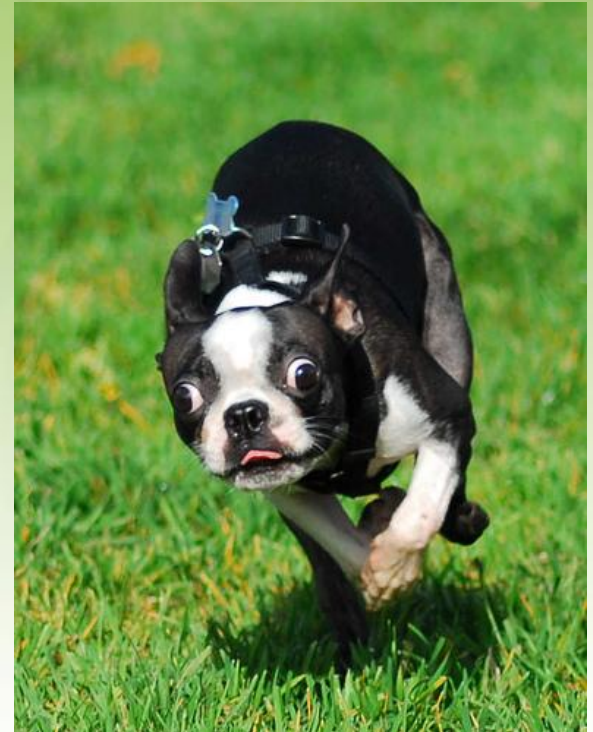
“Produces Light

“Produces Sound

“Produces Movement

“Produces Growth

“Powers Technology



Classes of Energy

POTENTIAL

Stored energy
or energy of
position

Gravitational, Stored
Mechanical, Nuclear,
Chemical

KINETIC

Energy of
motion

Motion, Electrical,
Sound, Radiant,
Thermal

Potential Energy

Gravitational Energy

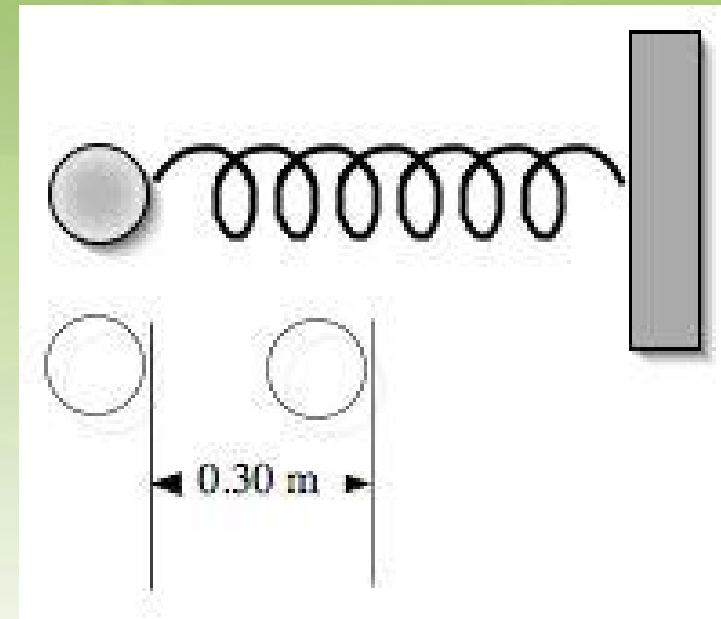
. energy an object or substance has because of its position

Anything %up high+



Potential Energy

Stored Mechanical Energy . stored in an object by the application of force
Must push or pull on an object



Potential Energy

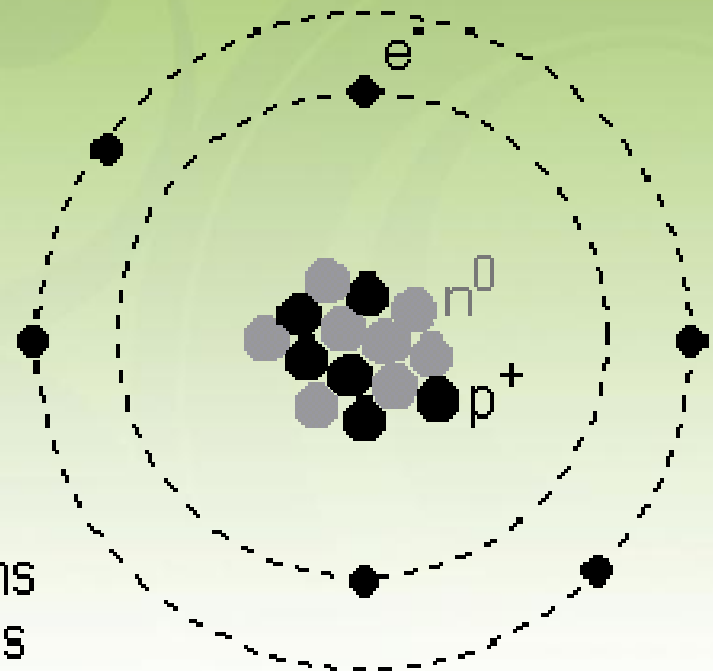
Nuclear Energy

energy stored in the nucleus of an atom

Holds the atom together

$^{14}_6\text{Carbon}$

6 protons
6 electrons
8 neutrons



Potential Energy

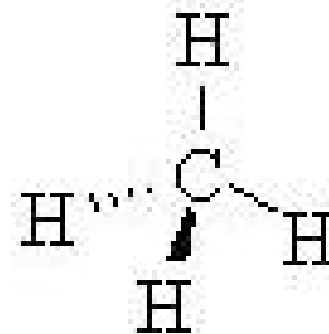
Chemical Energy

energy stored in the bonds between atoms

Holds molecules together



Molecular
Formula



Perspective
Drawing

Kinetic Energy

Mechanical (Motion) Energy .

movement of objects or substances from one place to another

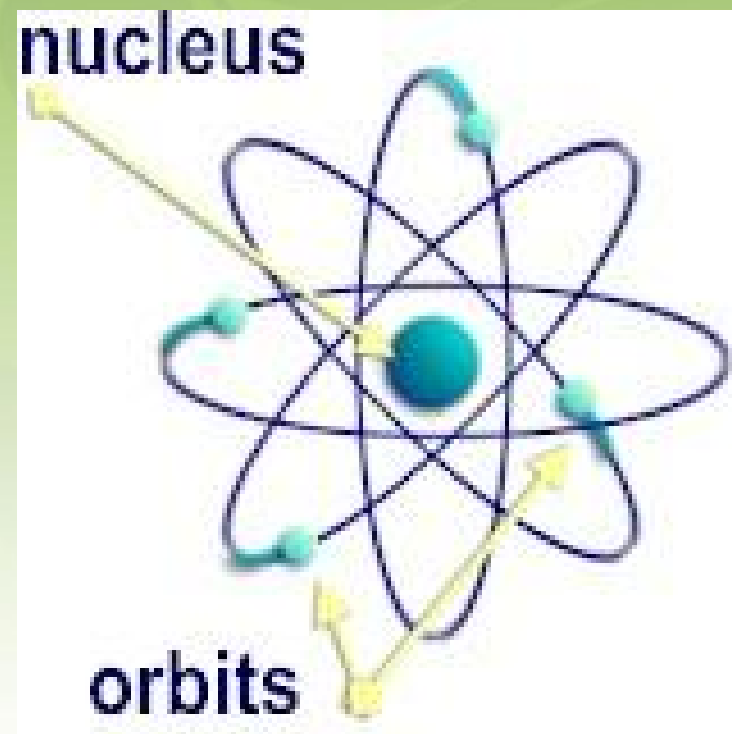


Kinetic Energy

Electrical Energy

. movement of electrons

NOT AN ELECTRON PARADE!



Kinetic Energy

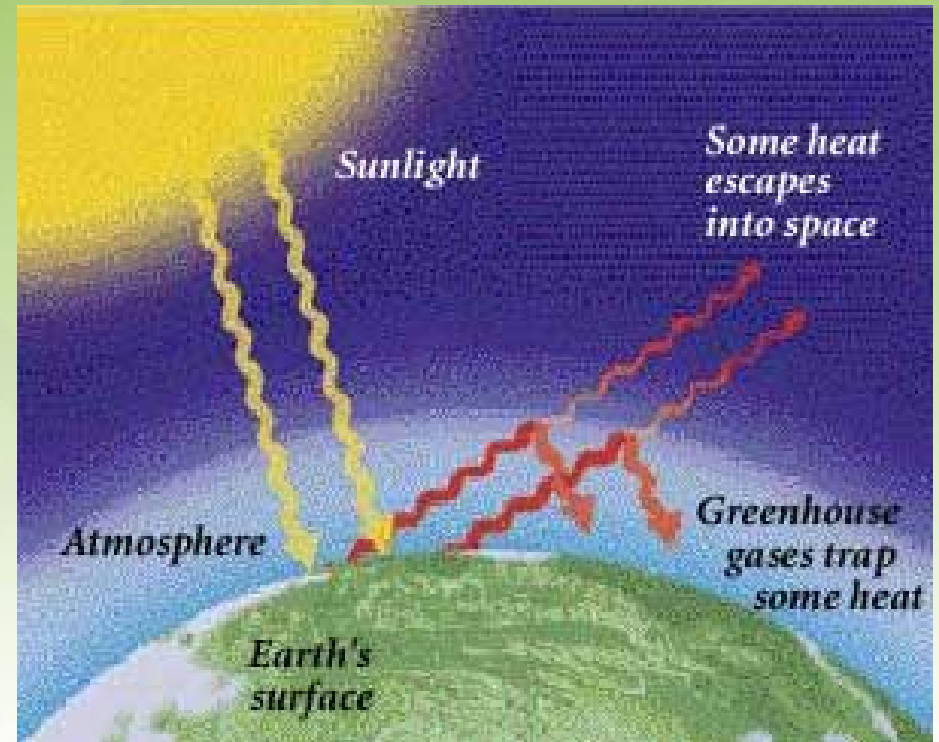
Sound Energy

. movement of energy through substances in the form of longitudinal/compression waves



Kinetic Energy

Radiant Energy .
electromagnetic
energy that travels in
transverse waves



Kinetic Energy

Thermal (Heat) Energy . internal energy of a substance due to the vibration of atoms and molecules making up the substance



Energy Transfers

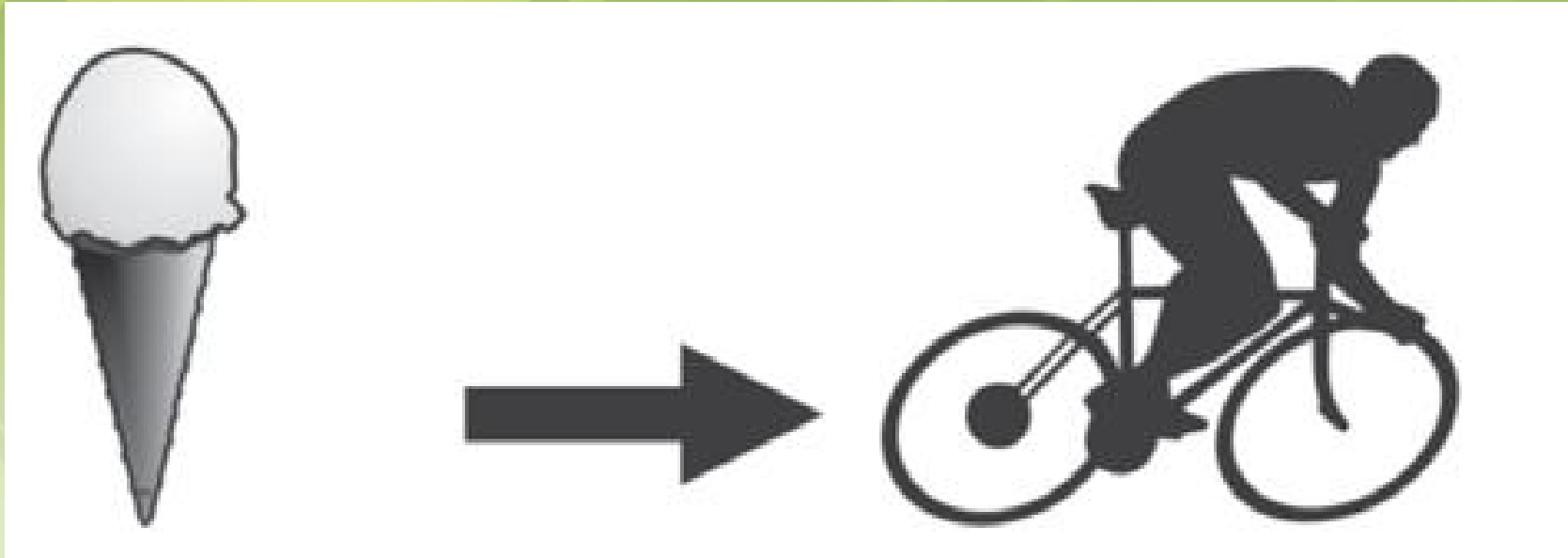
1 . Energy can not be created nor destroyed, only changed.

“Law of Conservation of Energy

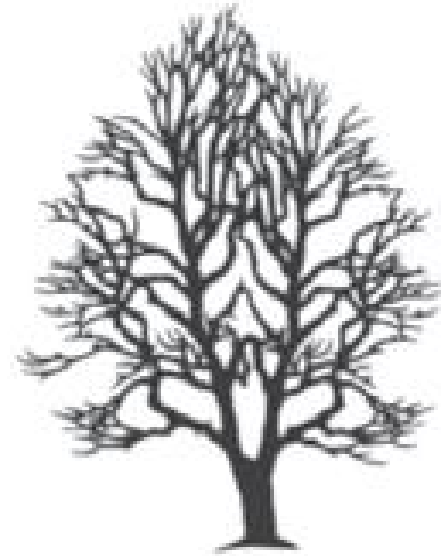
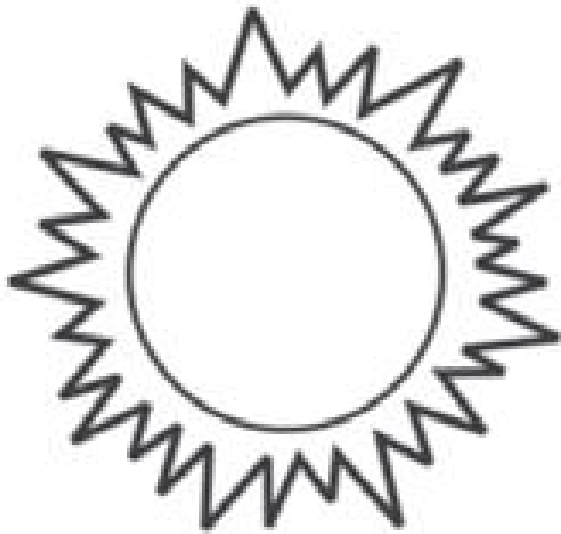
“First Law of Thermodynamics

2 . Energy will always transfer from high to low.

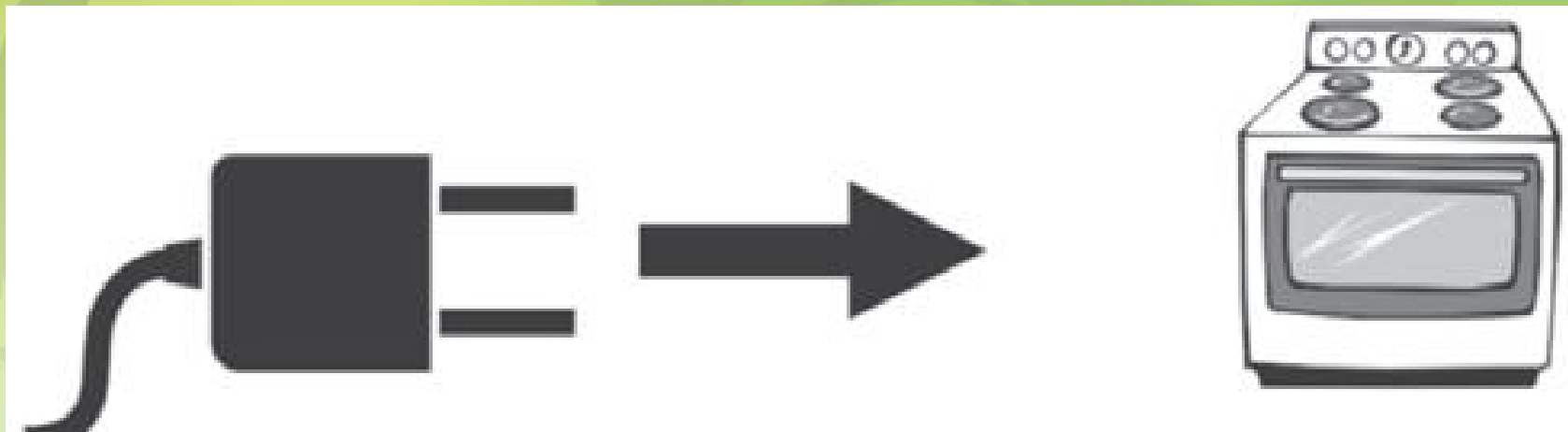
3 . No energy transfer is 100% efficient.



Name the Transfer



Name the Transfer



Name the Transfer



Name the Transfer

In Review

“Energy does work or causes change.

“Two main classes of energy: potential and kinetic.

“Potential Energy . stored energy or energy of position

“Gravitational, Stored Mechanical, Nuclear, Chemical

“Kinetic Energy . energy of motion

“Motion/Mechanical, Electrical, Sound, Radiant, Thermal/Heat

“Energy can not be created nor destroyed, only changed.

“Energy always transfers from high to low.

“Energy transfers are never 100% efficient.