

The Energy Foundation



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Introduction

- Matter and Energy make up everything in the universe.
- Energy and Matter can not be created nor destroyed.
- Although they can not be created nor destroyed, the forms can be altered.



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Energy

- If energy were to be classified within the topic of physics, it would be considered as a property of matter.
- When energy is a property of matter (energy in physics), it can be transferred between objects.
- Within the topic of science overall, energy is used to describe the amount of potential a physical system has to change.

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Matter

- Matter is a substance in which all materials are made of.
- Matter is anything that takes up space and has mass.
- It is used to describe the physical things around us.
 - The Earth
 - The air in which we all breathe
 - Your cellphone

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Types Of Energy

- There are two main types of energy in this world.
- Kinetic Energy
 - (Physics) The energy in which an object possesses due to its motion.
 - Energy in use.
- Potential Energy
 - (Physics) Energy in which an object has due to its position in a force field.
 - Energy that is stored.

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States Of Matter

- Gas

- The particles in a gas are well separated and are not in any type of arrangement.

- The particles vibrate and freely move at high speeds.

- Liquid

- The particles are compacted close together, however there isn't a specific arrangement.

- The particles vibrate and can slide past each other

- Solid

- The particles are tightly packed and within a regular pattern.

- Particles do not move from place to place.

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Forms Of Energy

- Thermal (Heat) Energy
 - The amount of thermal energy an object has can be determined by the temperature.
- Chemical Energy
 - A form of microscopic potential energy.
 - *The existence of this is due to the electric and magnetic forces of attraction that is being exerted between the different parts of each individual molecule.
- Electrochemical Energy
 - When storing the electrochemical energy it is often referred to as "electro-chemically"

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Forms Of Energy (Part 2)

- Radiant Energy
 - A form of energy that is associated with the movement of light.
- Mechanical Energy
 - The energy in which a substance and/or system has due to its motion.
- Nuclear Energy
 - The energy that is released typically when the nuclei of an atom is split or fused.