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Many forms of energy can be considered to be either kinetic energy, which is the energy of motion, or potential energy, which depends on the separation between mutually attracting or repelling objects.

If no energy is transferred into or out of a system, the total energy of all the different forms in the system will not change, no matter what gradual or violent changes actually occur within the system.

As energy spreads out, whether by conduction, convection, or radiation, the total amount of energy stays the same. However, since it is spread out, less can be done with it.

Thermal energy in a system is associated with the disordered motions of its atoms or molecules. Gravitational energy is associated with the separation of mutually attracting masses. Electrical potential energy is associated

Energy is released whenever the nuclei of very heavy atoms, such as uranium or plutonium, split into middleweight ones, or when very light nuclei, such as those of hydrogen and helium, combine into heavier ones. For a given quantity of a substance,

Although the various forms of energy appear very different, each can be measured in a way that makes it possible to keep track of how much of one form is converted into another. Whenever the amount of energy in one place diminishes, the amount

In a fluid, regions that have different temperatures have different densities. The action of a gravitational force on regions of different densities causes them to rise or fall, creating currents that contribute to the transfer of

In any system of atoms or molecules, the statistical odds are that the atoms or molecules will end up with less order than they originally had and that the thermal energy will be spread out more evenly. The amount of order in a system may

Chemical energy is associated with the configuration of atoms in molecules that make up a substance. Some changes of configuration require a net input of energy whereas others cause a net release.

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Whenever energy appears in one place, it must have disappeared from another. Whenever energy is lost from somewhere, it must have gone somewhere else. Sometimes when energy appears to be lost, it actually has been transferred to a system

Thermal energy is transferred through a material by the collisions of atoms within the material. Over time, the thermal energy tends to spread out through a material and from one material to another if they are in contact. Thermal energy

Transformations and transfers of energy within a system usually result in some energy escaping into its surrounding environment. Some systems transfer less energy to their environment than others during these transformations and

Energy can be transferred from one system to another (or from a system to its environment) in different ways: 1) thermally, when a warmer object is in contact with a cooler one; 2) mechanically, when two objects push or pull on

Energy appears in different forms and can be transformed within a system. Motion energy is associated with the speed of an object. Thermal energy is associated with the temperature of an object. Gravitational energy is associated

Light and other electromagnetic waves can warm objects. How much an object's temperature increases depends on how intense the light striking its surface is, how long the light shines on the object, and how much of the light is absorbed.

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When two objects are rubbed against each other, they both get warmer. In addition, many mechanical and electrical devices get warmer when they are used.

When warmer things are put with cooler ones, heat is transferred from the warmer ones to the cooler ones.

A warmer object can warm a cooler one by contact or at a distance.

When warmer things are put with cooler ones, the warmer things get cooler and the cooler things get warmer until they all are the same temperature.

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People can keep track of some things, seeing where they come from and where they go.

The sun warms the land, air, and water.