

Sources of Heat in the Environment



Date: _____

Heat is energy and energy cannot be created or destroyed. It can be converted or transformed from other energy sources and to other types of energy. The most obvious is electrical energy through electrical generation plants. The following is a list of major sources of heat in the environment.

SOLAR RADIANT Energy



90% of the heat of the planet comes from the sun's radiation.

GEOTHERMAL Energy



The heat that is part of the Earth's inner core.

CHEMICAL Energy



Contained in Fossil Fuels (Hydrocarbons).

Derived from metabolic processes in animals (Body Heat).

Combustion of materials releases heat in the form of fire.

NUCLEAR Energy



The energy released when the matter of the atoms is transformed through natural decay or forced to split or fuse (fission or fusion).

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ELECTRICAL Energy



Heat released through natural static discharge like lightning.

Electrical energy can be converted to heat through resistance.

Many electrical lights release heat as a by-product.

FRICTION



Rubbing two objects together creates heat (your hands rubbing).

Car brakes take the energy of motion and convert it to heat.

VIBRATION



Anything that is above Absolute Zero vibrates and releases heat.

Things that generate sound also generate heat as a by-product.

MOVEMENT



Any object that is in motion or moves, has kinetic energy and the change in motion requires energy that has heat as a by-product.

Motion is often created through chemical energy conversion – whether that is a human being moving fueled by food or a car moving fueled by gasoline or electricity.

