

Vocabulary for Grade 7 Heat Unit

Date: _____

Absorption - The amount of energy that is transferred from radiant energy to thermal energy – depends on the colour of the receiving object – darker colours absorb radiant energy more.

Albedo - The amount of light that an object (like a planet) reflects (the Earth's albedo is ~33%). The lighter the object the higher the albedo and the lower the absorption of heat.

Conduction – The transfer of heat through a solid material

Conductor – A material that conducts heat well – copper is a good heat conductor.

Contraction – The shrinking of a substance. Thermal contraction is the shrinking of matter due to a loss of energy and therefore motion of its particles.

Convection – The transfer of heat through liquids and solids by circulating currents called convection currents.

Convection currents - The movement of liquids or gasses caused by heated particles expanding and rising.

Expansion – The growth in the volume of a substance. Thermal expansion is the increase in volume of a substance due to greater energy and increased movement of its particles.

Heat – The amount of thermal energy present in a substance or object – usually it is transferred from one thing (hot) to another (colder).

Insulation – A material that does not allow transfer to take place. A thermal insulation does not allow for the transfer of heat (either loss or absorption).

Kinetic Molecular Theory – A scientific model that explains all of our observations on matter. It explains that matter is made up of tiny particles that interact with each other by being attracted to each other and are always moving. The more energy they have, the more space they take up.

Radiation – A type of energy in the form of waves or particles which uses no matter to transmit the energy. We get heat energy from the Sun or from a hot object like a stove or fire – radiant heat.

R-Value - A measure of how well a material insulates against thermal energy transfer – usually used in construction of homes and other buildings.

Temperature (Celsius, Fahrenheit, Kelvin) – a measure of the average heat energy within a particular material or substance.

Thermal Energy – the amount of heat stored in a thing. This is different since the mass of the object or substance is important.