Heat Knowledge Organiser 2021

* Heat can be transferred in three distinct ways, by conduction, convection and radiation.
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* Heat travels from hot places to cold places.
* Usually heat is transferred in all three ways at once.
* Heat can travel through solid because the energy is passed along from particle to particle. This process is called conduction e.g.
* Metals are good conductors of heat.
* Silver, Copper and Aluminium are good conductors of heat.
* Gases are the poorest conductors of heat, in other words they are the best insulators.
* Materials which do not conduct heat are called insulators.
* Heat travels through fluids, (liquids and gases) by convection (and also radiation).
* Convection takes place whenever one part of a liquid or gas is heated more than the rest.
* Convection occurs as the warmed material has greater spacing between the particles so the density of the warmer material is less than the density of the colder material.
* The heated fluid rises, the colder fluid sinks down to take its place. This sets up a **convection current.**Hot air balloons use to this to change height.
* Stirring a hot fluid ensures the temperature is the same throughout the fluid.
* Radiation is the way heat travels from the Sun to Earth.
* Radiation is heat travelling in waves.
* Radiation does not need particles to travel.
* Radiation is also called infra-red radiation.
* Radiation travels in straight lines
* Black surfaces absorb and emit more radiation, shiny surfaces reflect more radiation