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| **What will we be learning?****Heating & Cooling**Candle with solid fill | **Why this? Why now?**Previous Learning Forces, Energy, WorkFuture Learning Wave Properties, Heating & Cooling.GCSE: Electricity, EnergyEnquiry ProcessesIdentify Variables, Collect Data, Present Data, Analyse Patterns, Draw Conclusions, Justify opinions and conclusions.  | **Key Words:**ConductionConvectionRadiationReflectionParticle ModelInsulationThermal conductivityTemperatureThermometerEquilibriumConvection CurrentThermal Imaging CameraResolutionAccuracySources of Error |
| **What will we learn?*** How to safely conduct an experiment to investigate heating different volumes of water.
* How to use the particle model and energy model to explain how heat is transferred in liquids.
* How to use the terms conduction, convection and radiation to explain energy transfer using the particle model.
* How to reduce heat transfers in terms of radiation, convection and conduction.
* Use energy models to explain how a thermos flask reduces energy transfers.

**Misconceptions in this topic*** Some people think that energy can be lost or used up, energy is always conserved but may be transferred to a different energy store.
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| **What opportunities are there for wider study?**Careers - Engineer, Architect, Construction, Civil Engineering, Aviation, Automotive Engineer, Car mechanic, Production Engineer, Heating and Cooling Engineer, Spacecraft designer, Thermal Imaging designer.STE(A)M – For details of courses and opportunities look at:<https://highcliffe.sharepoint.com/sites/LearnSTEM> |
| **How will I be assessed?**End of Topic Assessment |