|  |  |  |
| --- | --- | --- |
| **What will we be learning?**  **Heating & Cooling**  Candle with solid fill | **Why this? Why now?**  Previous Learning  Forces, Energy, Work  Future Learning  Wave Properties, Heating & Cooling.  GCSE: Electricity, Energy  Enquiry Processes  Identify Variables, Collect Data, Present Data, Analyse Patterns, Draw Conclusions, Justify opinions and conclusions. | **Key Words:**  Conduction  Convection  Radiation  Reflection  Particle Model  Insulation  Thermal conductivity  Temperature  Thermometer  Equilibrium  Convection Current  Thermal Imaging Camera  Resolution  Accuracy  Sources 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. | |
| **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 | |