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| **What will we be learning?**  Electric car with solid fill  **Energy Costs** | **Why this? Why now?**  Previous Learning  Key stage 2 Science  Speed, Gravity, Current, Voltage and Resistance, Energy transfers and Energy costs  Future Learning  Year 8 Course – Light, sound, contact forces, Pressure, Magnetism, Wave effects, electromagnetism  Enquiry Processes  Identify variables, Collect data, Present data, Analyse Patterns, Draw conclusions, Justify opinions and conclusions | **Key Words:**  Efficiency  Dispersion  Convection  Conduction  Insulators  Conductors  Energy  Kilowatt  Power  Specific heat capacity  Renewable  Non-renewable  Dependency  Demand |
| **What will we learn?**  Renewable and non-renewable methods of obtaining energy  The advantages and disadvantages of renewable and non-renewable energy source  How to use data to evaluate the social, economic and environmental consequences of using a resource to generate electricity  The actions a government or communities could take in response to rising energy demand  How to define the term kWh and understand that this represents one unit of electricity  How to calculate the cost of home energy usage using the formula: cost = power × time  How to compare the energy usage and cost of running different home devices  How to use data to suggest ways to reduce energy costs  How to safely conduct an experiment to show energy transfer from food to a beaker of water  Plot a bar graph showing the energy content of different foods  How to use the specific heat capacity equation to calculate energy transfer from burning food to water  To evaluate an experiment to show the energy values of different foods  **Misconceptions in this topic**  Energy can be lost or gained  Things use up energy  An object at rest has no energy | |
| **What opportunities are there for wider study?**  Careers - Engineer, Environmental Scientist  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** | |