



Unit: Energy and Electricity	1. Electrical Engineer Career 2. Energy Stores 3. Conservation of Energy 4. Energy in Foods Analysis 5. Energy in Food Practical	6. Work 7. Power 8. Electricity Bills 9. Non-Renewable Energy Resources 10. Renewable Energy Resources	11. Circuit Diagrams and Construction 12. Current in Series and Parallel 13. Potential Difference in Series and Parallel 14. Resistance 15. Static Electricity
LESSON TOPIC QUESTION(S)			
Knowledge & Skills Development	- Identify the different energy stores in a range of situations - Describe energy before and after a change. - Describe energy before and after a change. - Explain what brings about transfers in energy - Compare the energy values of food and fuels. - Compare the energy in food and fuels with the energy needed for different activities. - Explain data on food intake and energy requirements for a range of activities. - Investigate energy released when foods or fuels burn - Identify control variables - Identify risks and precautions - Suggest possible sources of error - Calculate work done. - Apply the conservation of energy to simple machines. - Explain the difference between energy and power. - Calculate power - Describe the link between power, fuel use, and cost of using domestic appliances. - Predict the power requirements of different equipment and how much it costs to use. - Describe the difference between a renewable and a non-renewable energy resource. - Describe how electricity is generated in a power station. - Explain the advantages and disadvantages of different energy resources	- Describe the difference between a renewable and a non-renewable energy resource. - Explain the advantages and disadvantages of different energy resources - Identify the symbols for a range of electrical components - Draw circuit diagrams for series and parallel circuits with a range of components - Describe the difference between series and parallel circuits. - Construct simple series and parallel circuits - Describe what is meant by current. - Describe how to measure current. - Set up a circuit including an ammeter to measure current. - Predict current at different places in both series and parallel circuits - Describe what is meant by potential difference. - Describe how to measure potential difference. - Set up a simple circuit and use appropriate equipment to measure potential difference. - Predict potential difference at different places in both series and parallel circuits - Describe what is meant by electrical resistance. - Calculate resistance of a component and of a circuit. - Describe the difference between conductors and insulators in terms of resistance. - Explain how objects can become charged. - Describe how charged objects interact. - Describe what is meant by an electric field.	
Assessment / Feedback Opportunities	Formative Assessment Teacher questioning Quizzes Mid topic assessment	Summative assessment End of topic assessment	

Key Vocabulary	Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly Energy, Joule, Kinetic Energy, Elastic Energy, Power, Watt, Kilowatt-hour, Work done, Conservation of energy, Static Electricity, Charge, Current, Potential Difference, Resistance, Electron, Series, Parallel, Circuit, Gravitational Energy, Chemical Energy, Vibrational Energy, Energy Pathway, Short Circuit, Van de Graff, Circuit Symbol, Geothermal, Hydroelectric, Biomass
Literacy/Reading Opportunities	Dedicated reading lesson Subject specific vocabulary introduced before reading of related texts Word etymology from Latin and Greek roots Reading of simple and complex sentences, paragraphs, articles Scientific writing including structuring methods, comparisons and evaluations
Cross Curricular Themes	Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators, significant figures
Personal Development (Including British Values, RSE, Citizenship)	Global Citizenship – Energy resources environmental impact Personal Finance – Electricity bills
Career Opportunities	Dedicated careers lesson at start of topic Dietician, Food Scientist, All Careers Within Electric Companies Including Accounts, Electrical Engineer, Electrician, Politician