Springfield School

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| Blackbirds Class Medium Term Planning for Science 2 | |
| Topic: Pioneers | Vocabulary: Electricity, fossil fuels, renewable energy, wind power, solar power, biomass, water power. |

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| **Lesson 1 ‘link it’**  **How do we make electric?**  Exposition – Review what we know about electricity. Where does electric come from?  Groups – List the different ways to make electricity.  Plenary – Share work | **Lesson 2 ‘learn it’**  **Fossil fuels**  Exposition – What are fossil fuels?  Groups – Record and sort a range of fossil fuels.  Plenary – Share work | **Lesson 3 ‘learn it’**  **Renewable energy- Wind power.**  Exposition – What is wind power?  Groups – Create a windmill.  Plenary – Share work | **Lesson 4 ‘learn it’**  **Renewable energy- Solar power.**  Exposition – What is solar power?  Groups – Create a solar panel.  Plenary – Share work |
| **Lesson 5 ‘learn it’**  **Renewable energy- Biomass**  Exposition – What is biomass?  Groups – Take energy from a potato  Plenary – Share work | **Lesson 6 ‘check it’**  **Renewable energy- Water power.**  Exposition – What is water power.  Groups – Create a water wheel.  Plenary – Share work |  |  |

Take the objectives for the LO stickers from this section

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| Substantive Knowledge (Content) | Disciplinary Knowledge (Skills) |
| **Asking Questions and carrying out Fair and Competitive Tests**   |  | | --- | | Asking relevant questions and using different types of scientific enquiries to answer them.  Setting up simple practical enquiries, comparative and fair tests.  **Children can:**  **a** start to raise their own relevant questions about the world around them in response to a range of scientific experiences;  **b** start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions;  **c** recognise when a fair test is necessary;  **d** help decide how to set up a fair test, making decisions about what observations to make, how long to make them for and the type of simple equipment that might be used;  **e** set up and carry out simple comparative and fair tests. |   Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. | * Learn that electric toys or equipment need batteries or to be plugged in * Investigate with simple electrical components and equipment – fans, lights, fans, motors, switches, buzzers. * Build a simple working circuit * **Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product.** |

Progression of Learning

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| ‘Link It’ | ‘Learn It’ | ‘Check It’ | ‘Show It’ | ‘Know It’ |
| Previous learning of pupils   * Knowledge of electricity and why we need electricity. | Activities provided during lesson  Resources  **PPTs**  **Pictures**  **Batteries, wires, clips, switches. Electric and battery operated items**  Activities to explore –  - Creating different forms of renewable energy  - Exploring fossil fuels and renewable energy  - Different forms of electric | Independent activities linked to lesson  Resources  **PPTs**  **Books**  **Pictures**  Activities-  Craft materials and experiences for different forms of energy  -Opportunities to demonstrate knowledge | How will the pupils share knowledge during or end of lesson  **Explore and discuss photographs of lessons**  Share and compare work through performance | Retrieve or generalization of learning after lesson   * Understand why we need electricity * Understand how different forms of fossil fuels and renewable energy work * Understand why renewable energy is better for the environment |