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 potatoPlenary – 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**

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| 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.**
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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
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