Year Six
Learning Journey Plan

Term - Autumn 1
Curriculum Area - Science - Electricity

	What will my pupils need to have learnt before?	What do I want my pupils to learn. Know that.. Know how.. NC	How will my pupils access that learning, what will we be doing? What will be the order of learning?	What are the authentic outcomes to be produced?	Vocabulary
Science	Identify common appliances that run on electricity Construct a simple series circuit, identifying/naming its basic parts, including cell, wire, bulb, switch and buzzer use their circuits to create simple devices draw the circuit as a pictorial representation (not necessarily using conventional circuit symbols) About precautions for working safely with electricity. Identify whether or not a lamp will light in a simple series circuit/ recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit Recognise some common conductors and insulators, and associate metals with being good conductors. (Year 4)	associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches use recognised symbols when representing a simple circuit in a diagram. construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors. learn how to represent a simple circuit in a diagram using recognised symbols. planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings. Pupils should read, spell and pronounce scientific vocabulary correctly. explore and talk about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. recognise that scientific ideas change and develop over time.	1. children to recap learning from previous years of electricity. Mini quiz on electrical and non-electrical appliances. Children to be given a variety of appliances to sort into a grid of electrical and non-electrical appliances. Children to be given a variety of vocabulary linked to this unit and definitions to go with them. Match the vocabulary to the definition. Explain that this vocabulary is what they will be using throughout this unit of science. Explain to children what electricity is and how it works 2. Recap from previous lesson asking children what vocabulary they remember— class discussion about what they remember about circuits. Which elements of a circuit can they remember. Children to play loop card game involving pictures, symbols and names for key parts of a circuit. Children to draw symbols, name them and explain what each item of the circuit is. 3. Recap from previous lesson with true or false statements on the board. Can children remember what each aspect of a circuit is. Children to create a variety of working circuits—children to use practical equipment to create a variety of working circuits using the aspects of circuits identified in previous learning. Once created children to draw circuits accurately using the correct symbols in their books. 4. Children to investigate circuits. Investigation: Does the length of wire make a lightbulb brighter? Children to develop their investigation in groups including their aim, equipment, prediction, hypothesis, variables, method and consideration of how they will ensure the fairness of their test. Class discussion about this vocabulary—what is a controlled variable? What is an independent variable? What is a dependent variable? What is a hypothesis? Children to work in groups to complete their investigation plan and then carry out the investigation—remind children about how they can ensure the fairness of their test etc. 5. Quiz questions to recap on learning so far this unit—reminding children of the vocabulary covered at the start of the unit and previous lessons work. In this lesson children will learn about fixing broken circuits. Children to be given drawings of a variety of circuits—some working and some broken. Children to identify issues with broken circuits and explain how to repair them. Children to use practical equipment to test original circuits and then repair any broken ones. Explain what they had to do to be able to repair the broken circuits. 6. Children to research key scientists in the field of electricity. Children to look into the key scientific discoveries made by Benjamin Franklin, Michael Faraday and Georg Ohm. Children to write a non chronological report about their discoveries and how they have impacted upon life today. 7. Quiz based on learning so far in this unit—remind children of the key vocabulary covered throughout the unit. In today's lesson children to investigate using working scientifically skills; Investigation: can we light a bulb using non-electrical items. Children to develop their investigation in groups including their aim, equipment, prediction, hypothesis, variables, method and consideration of how they will ensure the fairness of their test. Class discussion about this vocabulary—what is a controlled variable? What is an independent variable? What is a dependent variable? What is a hypothesis? Children to work in groups to complete their investigation plan and then carry out the investigation—remind children about how they can ensure the fairness of their test etc. Children to attempt to light a bulb using a lemon and a potato.	Children will create their own working circuits, learn to repair broken circuits and investigate whether it is possible to power a circuit using a non-electrical power source.	Bulb Cell Battery Open switch Closed switch Buzzer Motor Ammeter Voltmeter Resistor Electrical Appliance Circuit Hypothesis Variable Independent variable Dependent variable Control variable Prediction Aim Method Fair test Investigation Particles Broken circuit Voltage Component