	Year 8	**Pathway 2/3/4**	**Science - Summer - Term 1**

Learning Intention: . Physics - <u>Electricity and Forces/Energy and Magnets</u>

<u>Energy and Magnets</u>

Topics that will be covered include:

- Energy transfers, and energy in foods
- Electrical circuits including parallel circuits
- How sound travels
- How the Ear works
- Revisit the different forces acting on objects

Key knowledge that should be learned during this SoW	All	Most	Some
Concept:	To gain further understanding of what is meant by the term 'stored energy', and that different foods contain different amounts of stored energy. To understand that some materials transfer energy better than others. To explain how to tell when an electric circuit is complete and recall electrical components and symbols used in Science to identify them. To extend their understanding of how we hear sound and how the ear works and to recap knowledge of forces in context of magnets		
Knowledge:	• To understand what is meant by the term stored energy, and that different foods contain different amounts of stored energy.	• To understand that some materials transfer energy better than others • To understand how we see objects and light sources.	• To explain how to tell when an electric circuit is complete • To explain how to tell when an electric circuit is complete.

	• To listen and state which sounds we hear around us. • To understand how we hear sounds.	• To know that a force is a push or pull.	• To recap knowledge of forces in context of magnets. • • To demonstrate recall of facts. (assessment)
Key Skills:	• To create a safety poster for electricity. • To model the flow of electrons in a circuit; • To model the flow of electrons in a circuit;	• Investigate the effects of air resistance. • To build an electric circuit; • To build an electric circuit;	• To test how air resistance helps slow down a parachute.
Language and/or communication skills:	• Push • Pull	• Transparent	• Opaque
Curricular Links	Links to other learning within the subject are: Science/Resistant Materials/ PSHCE/PE		

	Year 8	**Pathway 2/3/4**	**Science - Summer - Term 2**

Learning Intention: <u>Physics</u> - Scientific Enquiry

<u>Electricity</u>

Students will have the opportunity to learn and extend their understanding of the different types of rock; and gain more understanding of how the rate of cooling affects the size of crystals formed.The will Investigate how sound is absorbed better by some materials than others. They will extend their learning from year 7 on what they have learnt and investigate floating and sinking by designing their own rafts and test to see which will hold the highest number of coins or weights.To make a solution,recall what dissolving means and investigate the variables that affect the rate of dissolving.

Key knowledge that should be learned during this SoW	All	Most	Some
Concept:	Students will further their understanding of ' how Science works' by carrying out a set of STEM investigations. The emphasis of KS3 is on practical and investigative work with a constant effort to relate what we teach to the world around them. Topics that will be covered include: ● How to ask questions and test theories and concepts ● Assessing hazards and taking precautions to minimise the associated risks ● Using appropriate apparatus and techniques ● Observation, enquiry and problem solving		

Knowledge/Key Skills:	To investigate force: balloons along a wire with support To investigate ways to absorb sound with support To recognise that vibrations from sound travel through a medium to the ear with support To investigate floating and sinking with support To investigate the choices regarding habitat made by woodlice with support To understand why it is very important to keep our teeth healthy To make a solution and recall what dissolving means with support To investigate different liquids running down a slope with support To investigate absorbency of different types of paper with support To investigate the effects of counter balances on how far a missile travels with support To investigate the three types of rock; To make small crystals with support	To learn about the function and care for teeth. To investigate force: balloons along a wire To investigate ways to absorb sound To recognise that vibrations from sound travel through a medium to the ear To investigate floating and sinking To investigate the choices regarding habitat made by woodlice To investigate different liquids running down a slope To investigate absorbency of different types of paper To investigate the effects of counter balances on how far a missile travels To investigate the three types of rock; To make small crystals	Build a rocket investigation To make a solution and recall what dissolving means with support To understand why it is very important to keep our teeth healthy
Language and/or communication skills:	• Fiction • Sound • Liquid • Balance • Teeth	• Dissolve • Solution • Crystals • Habitat	• Absorb • Waterproof • Rocket

Curricular Links	Links to other learning within the subject are: Science/Resistant Materials/ PSHCE/PE