




Year: 8		Subject: Science	Spring 2	Summer 1	Summer 2
Intent	Subject Concepts (Substantive knowledge) 	• KS3 Science	Electricity (8 lessons) Prior Knowledge: <ul style="list-style-type: none"> Identify series and parallel circuits Draw circuit symbols Understanding of current as a flow of charge. Takeaway Learning: <ul style="list-style-type: none"> investigate resistance of a wire and analysing data appropriately. Explain the rules for current and voltage in series and parallel circuits. 	Patterns in chemistry (10 lessons) Prior Knowledge: <ul style="list-style-type: none"> Understand the differences between atoms, ions and molecules Describe the structure of the periodic table Takeaway Learning: <ul style="list-style-type: none"> Describe the trends in group 1 and group 7 elements, Use reactivity to explain the extraction of metals 	Evolution and extinction cont (10 lessons) Prior Knowledge: <ul style="list-style-type: none"> Know that all living things originated from common ancestor. Takeaway Learning: <ul style="list-style-type: none"> Describe the difference between evolution and natural selection <ul style="list-style-type: none"> Explain the role of variation in the adaptation process Explain Darwin and Lamarck's theories of evolution.
		KS3 Science	Biological molecules (13 lessons) Prior Knowledge: <ul style="list-style-type: none"> Recognise that living things can be grouped in a variety of ways. Recognise cells are the basic unit and the building blocks of life. Draw and label with functions an animal and plant cell Takeaway Learning: <ul style="list-style-type: none"> Describe the functions of the digestive organs Describe the structure of protein, fats carbohydrates Explain how enzymes work. 	Evolution and extinction (10 lessons) Prior Knowledge: <ul style="list-style-type: none"> Know that all living things originated from common ancestor. Takeaway Learning: <ul style="list-style-type: none"> Describe the difference between evolution and natural selection Explain the role of variation in the adaptation process Explain Darwin and Lamarck's theories of evolution. 	Space (6 lessons) Prior Knowledge: <ul style="list-style-type: none"> List the 8 planets in order Describe the phases of the moon. Takeaway Learning: <ul style="list-style-type: none"> Describe the structure of the solar system <ul style="list-style-type: none"> Describe how ideas about the solar system have changed over time.
	Disciplinary Knowledge		<ul style="list-style-type: none"> Using scientific ideas and models to explain phenomena and developing students creatively to generate and test theories. Critically analyse and evaluate evidence from observations and experiments. Examining the ethical and moral implications of using and applying science. Enable students to use science to act responsibly in the real world. 	<ul style="list-style-type: none"> Using scientific ideas and models to explain phenomena and developing students creatively to generate and test theories. Critically analyse and evaluate evidence from observations and experiments. Examining the ethical and moral implications of using and applying science. Enable students to use science to act responsibly in the real world. 	<ul style="list-style-type: none"> Using scientific ideas and models to explain phenomena and developing students creatively to generate and test theories. Critically analyse and evaluate evidence from observations and experiments. Examining the ethical and moral implications of using and applying science. Enable students to use science to act responsibly in the real world.
Implementation	Common Misconceptions		<ul style="list-style-type: none"> https://spark.iop.org/misconceptions?query=electricity&sort_by=search_api_relevance 	<ul style="list-style-type: none"> https://edu.rsc.org/resources/beyond-appearances-students-misconceptions-about-basic-chemical-ideas/2202.article 	<ul style="list-style-type: none"> Individual organisms can evolve during a single lifespan. evolution misconceptions. There's a dark side of the moon The Sun is on fire. The Sun is the only star that has planets. Mercury is the closest planet to the Sun, so it's the hottest. People explode in space. In space, you experience zero gravity. Black holes are like vacuums.

				<ul style="list-style-type: none"> The Moon orbits Earth once a day. A light-year measures time.
Enabling or Adapting the Curriculum	SEND Students	<ul style="list-style-type: none"> Writing frames (scaffolding) for long answer questions Keywords with definitions available Short sentences/not over stimulated powerpoints Paired work where possible 	<ul style="list-style-type: none"> Writing frames (scaffolding) for long answer questions Keywords with definitions available Short sentences/not over stimulated powerpoints Paired work where possible 	<ul style="list-style-type: none"> Writing frames (scaffolding) for long answer questions Keywords with definitions available Short sentences/not over stimulated powerpoints Paired work where possible
	Disadvantaged Students	<ul style="list-style-type: none"> Bring career links into lessons (aspirational) External trips – linked with STEM co-ordinator? Access to revision guides Support with exam questions through use of displays and key terminology Support long answer questions with sentence starters Use of CGP books to support in PLC lessons 	<ul style="list-style-type: none"> Bring career links into lessons (aspirational) External trips – linked with STEM co-ordinator? Access to revision guides Support with exam questions through use of displays and key terminology Support long answer questions with sentence starters Use of CGP books to support in PLC lessons 	<ul style="list-style-type: none"> Bring career links into lessons (aspirational) External trips – linked with STEM co-ordinator? Access to revision guides Support with exam questions through use of displays and key terminology Support long answer questions with sentence starters Use of CGP books to support in PLC lessons
	More Able Students	<ul style="list-style-type: none"> Build into lessons well-designed extension tasks promote higher-order skills such as speculation, inference, prediction, hypothesis and synthesis, as well as nurturing independence and self-knowledge. Asking probing questions Encourage effective discussion between teacher and pupil open-ended tasks that do not have one right answer Set an independent task, such as a further investigation invite students to decide how they would like to demonstrate their learning to you or the rest of the class after an agreed length of time. 	<ul style="list-style-type: none"> Build into lessons well-designed extension tasks promote higher-order skills such as speculation, inference, prediction, hypothesis and synthesis, as well as nurturing independence and self-knowledge. Asking probing questions Encourage effective discussion between teacher and pupil open-ended tasks that do not have one right answer Set an independent task, such as a further investigation invite students to decide how they would like to demonstrate their learning to you or the rest of the class after an agreed length of time. 	<ul style="list-style-type: none"> Build into lessons well-designed extension tasks promote higher-order skills such as speculation, inference, prediction, hypothesis and synthesis, as well as nurturing independence and self-knowledge. Asking probing questions Encourage effective discussion between teacher and pupil open-ended tasks that do not have one right answer Set an independent task, such as a further investigation invite students to decide how they would like to demonstrate their learning to you or the rest of the class after an agreed length of time.
Literacy/Numeracy Skills 	LITERACY	<ul style="list-style-type: none"> Use of keywords, reading of information, interpreting information, effective use of communicating ideas 	<ul style="list-style-type: none"> Use of keywords, reading of information, interpreting information, effective use of communicating ideas 	<ul style="list-style-type: none"> Use of keywords, reading of information, interpreting information, effective use of communicating ideas
	Reading:	<ul style="list-style-type: none"> Created a reading list to link with the topics. share once joined as on my area Reading textbook, slides, questions Display keywords on slides Teach keyword vocabulary and break down ie photo – light, lysis to split 	<ul style="list-style-type: none"> Created a reading list to link with the topics. share once joined as on my area Reading textbook, slides, questions Display keywords on slides Teach keyword vocabulary and break down ie photo – light, lysis to split 	<ul style="list-style-type: none"> Created a reading list to link with the topics. share once joined as on my area Reading textbook, slides, questions Display keywords on slides Teach keyword vocabulary and break down ie photo – light, lysis to split
	Writing:	<ul style="list-style-type: none"> Answering questions – end of topic and exam style Making notes on covered topics Word and symbol equations 	<ul style="list-style-type: none"> Answering questions – end of topic and exam style Making notes on covered topics Word and symbol equations 	<ul style="list-style-type: none"> Answering questions – end of topic and exam style Making notes on covered topics Word and symbol equations
	Oracy:	<ul style="list-style-type: none"> Cold calling, answering questions in class Class discussion on topic areas being addressed Reading out loud Answering questions Feedback through discussion and debates Targeted questioning 	<ul style="list-style-type: none"> Cold calling, answering questions in class Class discussion on topic areas being addressed Reading out loud Answering questions Feedback through discussion and debates Targeted questioning 	<ul style="list-style-type: none"> Cold calling, answering questions in class Class discussion on topic areas being addressed Reading out loud Answering questions

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		NUMERACY	<ul style="list-style-type: none"> Calculating resistance Rules for current and voltage 											
	Digital Strategy 		<ul style="list-style-type: none"> Interactive whiteboards for ipads - https://whiteboard.fi/ Use of ipads to complete forms quiz to support PLC and teacher assessment Interactive physics simulation and questions - phycis concept builder 			<ul style="list-style-type: none"> Interactive whiteboards for ipads - https://whiteboard.fi/ Use of ipads to complete forms quiz to support PLC and teacher assessment Interactive physics simulation and questions - phycis concept builder 			<ul style="list-style-type: none"> Interactive whiteboards for ipads - https://whiteboard.fi/ Use of ipads to complete forms quiz to support PLC and teacher assessment Interactive physics simulation and questions - phycis concept builder 					
Home Learning														
Impact	Composite Assessment		Date:		Content:	Synoptic test on all topics taught in terms 3 and 4 Spring 1 & Spring 2 and year 7 content	Date:		Content:	Synoptic test on patterns in chemistry and evolution and year 7 content	Date:		Content:	End of year exams