


W	Year:	10	Subject:	Triple Physics	Autumn 1		Autumn 2		Spring 1	
				<ul style="list-style-type: none"> Physics 	(P6) Particle model of matter RP – calculating densities	Prior Knowledge: <ul style="list-style-type: none"> Definition of density Explain and draw the Particle model and the three states of matter 	(P6) Particle model of matter RP – calculating density	Prior Knowledge: <ul style="list-style-type: none"> Definition of density Explain and draw the Particle model and the three states of matter 	Atomic structure (P7) Radioactivity	Prior Knowledge: <ul style="list-style-type: none"> Name the three sub-atomic particles found in an atom (proton, neutron, and electron). Identify the mass and atomic number Describe how isotopes are atoms of the same element with different mass numbers.
					Takeaway Learning: <ul style="list-style-type: none"> Identify internal in different states Draw cooling curves Calculate specific latent heat 		Takeaway Learning: <ul style="list-style-type: none"> Identify internal in different states Draw cooling curves Calculate specific latent heat 		Takeaway Learning: <ul style="list-style-type: none"> Identify the Rutherford (nuclear) model of an atom. Identify the type of decay taking place from a nuclear equation. Rank the three types of nuclear radiation in order of their penetrating power. 	
	Disciplinary Knowledge			<ul style="list-style-type: none"> Use a variety of models such as representational, spatial, descriptive, computational and mathematical to solve problems, make predictions and to develop scientific explanations and understanding of familiar and unfamiliar facts Interpreting observations and other data (presented in verbal, diagrammatic, graphical, symbolic or numerical form), including identifying patterns and trends, making inferences and drawing conclusions. Interconvert units. 	<ul style="list-style-type: none"> Use a variety of models such as representational, spatial, descriptive, computational and mathematical to solve problems, make predictions and to develop scientific explanations and understanding of familiar and unfamiliar facts Interpreting observations and other data (presented in verbal, diagrammatic, graphical, symbolic or numerical form), including identifying patterns and trends, making inferences and drawing conclusions. Interconvert units. 	<ul style="list-style-type: none"> Use a variety of models such as representational, spatial, descriptive, computational and mathematical to solve problems, make predictions and to develop scientific explanations and understanding of familiar and unfamiliar facts Evaluate risks both in practical science and the wider societal context, including perception of risk in relation to data and consequences. Interpreting observations and other data (presented in verbal, diagrammatic, graphical, symbolic or numerical form), including identifying patterns and trends, making inferences and drawing conclusions Being objective, evaluating data in terms of accuracy, precision, repeatability and reproducibility and identifying potential sources of random and systematic error. 				
	Common Misconceptions			<ul style="list-style-type: none"> Difference between mass and weight https://spark.iop.org/misconceptions https://www.physicsclassroom.com/getattachment/Physics-Video-Tutorial/Newtons-Laws/Force-and-Motion-Misconceptions/Lecture-Notes/LessonNotes.pdf?lang=en-US 	<ul style="list-style-type: none"> Difference between mass and weight https://spark.iop.org/misconceptions https://www.physicsclassroom.com/getattachment/Physics-Video-Tutorial/Newtons-Laws/Force-and-Motion-Misconceptions/Lecture-Notes/LessonNotes.pdf?lang=en-US 	<ul style="list-style-type: none"> Difference between mass and weight https://spark.iop.org/misconceptions https://www.physicsclassroom.com/getattachment/Physics-Video-Tutorial/Newtons-Laws/Force-and-Motion-Misconceptions/Lecture-Notes/LessonNotes.pdf?lang=en-US 				
Implementation	Enabling or Adapting the Curriculum	SEND Students	<ul style="list-style-type: none"> Teach keyword vocabulary and break down ie photo – light, lysis to split Breaking text into chunks on powerpoints Dual coding - visual clues Scaffolding for long text, graphing Use coloured slides Modelling Subtitles on any videos Provide writing frames and support for answer 6 mark questions Use of vocabulary sheets 	<ul style="list-style-type: none"> Teach keyword vocabulary and break down ie photo – light, lysis to split Breaking text into chunks on powerpoints Dual coding - visual clues Scaffolding for long text, graphing Use coloured slides Modelling Subtitles on any videos Provide writing frames and support for answer 6 mark questions Use of vocabulary sheets 	<ul style="list-style-type: none"> Teach keyword vocabulary and break down ie photo – light, lysis to split Breaking text into chunks on powerpoints Dual coding - visual clues Scaffolding for long text, graphing Use coloured slides Modelling Subtitles on any videos Provide writing frames and support for answer 6 mark questions Use of vocabulary sheets 					

		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	<ul style="list-style-type: none"> Physics keywords 	<ul style="list-style-type: none"> Physics keywords 	<ul style="list-style-type: none"> Physics keywords 		
		Reading	<ul style="list-style-type: none"> End of topic tests Reading list link to be attached once in School Class textbooks BBC bitesize Revision guides 	<ul style="list-style-type: none"> Reading list link to be attached once in School Class textbooks BBC bitesize Revision guides 	<ul style="list-style-type: none"> Reading list link to be attached once in School Class textbooks BBC bitesize Revision guides 		
		Writing:	<ul style="list-style-type: none"> Definition quizzes – all three key areas 6 mark questions End of topic tests 	<ul style="list-style-type: none"> Definition quizzes – all three key areas 6 mark questions End of topic tests 	<ul style="list-style-type: none"> Definition quizzes – all three key areas 6 mark questions End of topic tests 		
		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 	<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 	<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 		
		NUMERACY	<ul style="list-style-type: none"> Drawing cooling curves using data Calculating density 	<ul style="list-style-type: none"> Drawing cooling curves using data Calculating density 	<ul style="list-style-type: none"> Identify mass and atomic number Half life calculations Data analysis 		
	Digital Strategy	<ul style="list-style-type: none"> Christmas lectures Cognito videos – all science subjects 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 - physcis concept builder phet simulations - all three sciences 	<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 - physcis concept builder phet simulations - all three sciences 	<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 - physcis concept builder phet simulations - all three sciences 			
	Home Learning	<ul style="list-style-type: none"> https://sciencebob.com/category/experiments/ Podcasts - https://www.bbc.co.uk/bitesize/articles/zdrk7v4 	<ul style="list-style-type: none"> Required practical – video on forms quiz with questions to answer. Link with variables, exam techniques and data analysis 	<ul style="list-style-type: none"> 			
Impact	Composite Assessment	Date:	Content: Synoptic assessment on year 9 subject knowledge	Date:	Content: Synoptic assessment on all content covered in terms 1 and 2.	Date:	Content: Synoptic assessment on all content covered since September