

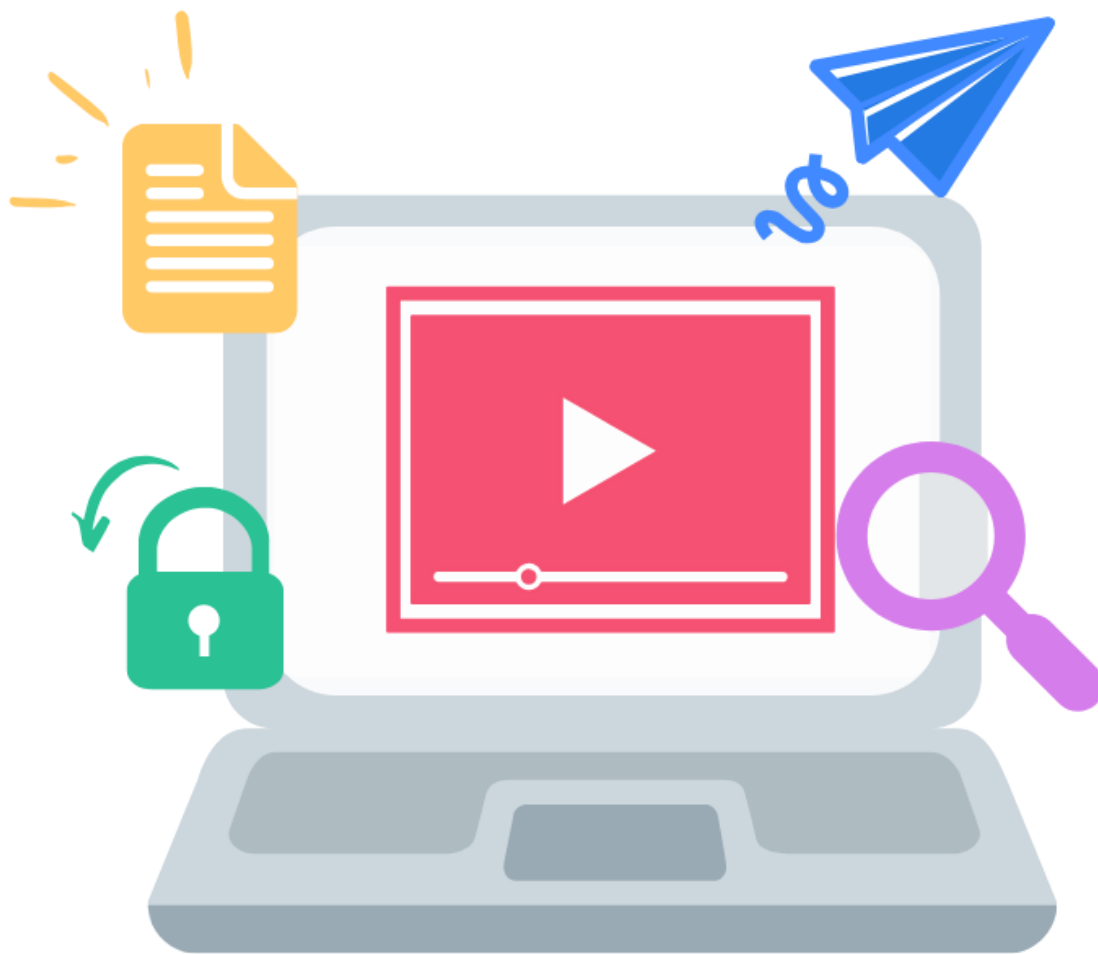
REMOTE LEARNING MODULE

Subject: Science

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Updated:



Subject:	Science	Teacher (if applicable):	Science staff
Year:	7	Ability/Class (if applicable):	N/A
Module title:	7A- Cells, tissues, organs and systems and 7H-Atoms, Elements and Compounds		
Duration:	2 weeks <input type="checkbox"/>	4 weeks <input type="checkbox"/>	6 weeks <input type="checkbox"/> 8 weeks <input type="checkbox"/> Yes <input type="checkbox"/> Other:

Intent

Intent Statement - at Landau Forte Amington, we believe learning powerful knowledge helps students achieve and creates a fairer society. How are you trying to accomplish this, with this module?

This topic will focus on student recovery following the pandemic, which has resulted in students experiencing the following possible losses: routine, structure, friendship, opportunity and freedom. It will support students academically, socially and emotionally, in order to transition students back to Academy life and support with the issues resulting from loss.

Aims - what do you want pupils to be able to know and do by the time they finish this module?

The aim of this topic is for students to understand that cells are the Building blocks for life. It is important to know how cells function in all living organisms and the features of plant and animal cells. Students will also look at Atoms, elements and compounds and discuss patterns and trends displayed in chemical reactions and also be able to predict the name of a compound made from certain elements.

Academy values – at Landau Forte Amington, we want students to be ambitious, brave and kind. How are these values promoted in this module?

- Ambitious - Students are able to access the content and their appropriate level and the content allows for all students to be stretched in their development of new skills, knowledge, and application. Students learn through a range of activities, including practical work where possible. All students will be stretched through the various forms of new learning and assessment.
- Brave – Student will have to be brave and feel confident about using skills that haven't been used for a long period of time, and not be afraid to get things wrong.
- Kind – Students will have to be kind to themselves about reintegrating themselves back into learning and using skills again that they may struggle with.

Content – what is being covered, ensuring breadth & depth?

National Curriculum/Exam Specification - how does the content link to the NC or Exam Spec?

Animal and plant cells, tissues and organs present in the human body and how they form an organ system. The organelles present in both animal and plant cells, their

What are the minimum requirements for cells to exist and how do they carry out their role? What is their structure and function of their organelles? Students will carry out simple and engaging

<p>differences and similarities. The building blocks needed to form an organ system from the necessary components. The structure of an atoms, elements and compounds and how compounds are made. The sub-atomic particles that make up an atom. The understanding that atoms make elements and that elements can undergone bonding to make a compound.</p>	<p>experiments, such as using a microscope, to help to build their scientific intrigue and skill. Students will be introduced to atoms and the Periodic Table so that they can gain an appreciation that everything is made up of something and as a young scientist they can then study atoms and which elements to use to make certain compounds. Introduction to the Periodic Table and the function of the table.</p>
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Powerful Knowledge - what powerful knowledge is included in this module? Consider what knowledge is it important for our students to know, so that when they leave school they can engage in and lead discussions, with people from the most advantaged backgrounds?

Cells – An understanding of how the body functions. How our cells function through healthy lifestyles. Plant and animal cells (eukaryotic cells) have a cell membrane, cytoplasm and genetic material enclosed in a nucleus. Bacterial cells (prokaryotic cells) are much smaller in comparison. They have cytoplasm and a cell membrane surrounded by a cell wall. The genetic material is not enclosed in a nucleus. It is a single DNA loop and there may be one or more small rings of DNA called plasmids. Students should be able to demonstrate an understanding of the scale and size of cells and be able to make order of magnitude calculations. Students will gain knowledge to ask questions such as `Why do we have thousands of chemicals yet only 92 naturally occurring elements?` Students will understand why chemicals react and their likely properties. Students will be able to draw and describe the structure of atoms, elements and compounds.

Implementation

KEY CONCEPTS

<p>Key Concepts – what are the key concepts being taught?</p>	<p>Progression – how will studying these key concepts support progression to the next academic year, or key stage?</p>
<p>Animal and plant cell structure and function of the organelles. How to use a microscope and calculate magnification of cells. The structure of atoms, elements and compounds and their reactions.</p>	<p>Cell biology forms the basis of key biology concepts. This is necessary knowledge for students to progress to GCSE. Atoms are our building blocks to make elements and compounds which is how we then make materials. These are essential for chemical reactions to take place. At GCSE, it is vital that students have knowledge of how elements can react to form products called `compounds`.</p>

LEARNING

Synchronous – what are the synchronous aspects of the module, including new material taught?	Asynchronous – what are the asynchronous aspects of the module, including deliberate practice?	
The initial learning material depicted on the introduction PowerPoints and reading material (If applicable). Some aspects of the reading material and slides will need to be taught via a teams session to make sure that students have fully understood the key concepts.	Additional tasks, such as practice questions, will be set for students to complete on their own after all of the necessary synchronous learning has taken place. These tasks may also include the completion of a table, labelling a diagram, an extended piece of writing and answering exam questions.	
ENGAGEMENT		
Accessibility – how are you going to ensure students without ICT can engage with this module?	Disengagement – how are you going to ensure students who are not engaging with this module are identified and supported?	
All activities set can be viewed using a mobile phone, with tasks being emailed if necessary. Students can also complete all tasks on paper and then send in a photo of their work for marking.	Staff initially will be responsible for their own groups and keeping a close eye on the completion of tasks by all of the students in their groups. This can be easily monitored using Teams. Staff will be expected to make the necessary emails/ phone calls to endeavour to support the students and their families further. Assistant lead and Curriculum lead will be able to monitor all students' progress. Staff can then apprise lead staff of any students that are not engaging and take the next necessary steps.	
FEEDBACK		
End of Module – what is the end of module assessment, which will be used to evaluate the knowledge and skills gained?	Review Points – what takes place at the review points, to monitor the progress of learners and provide feedback, or support?	
There is a pre-existing end of topic assessments that has been used in previous years and has been standardised to a sufficient standard. There are two types of assessment, higher and standard, therefore specific groups can be set the assessment that best matches their learning and ability.	2 Weeks	Extended piece of writing or a set of questions
	4 Weeks	End of topic assessment
	6 Weeks	Extended piece of writing or a set of questions
	8 Weeks	End of topic assessment
	Other	

Delivery (please note - a two week remote learning module may only take one lesson cycle)

1	1) Lesson Type (remote or blended)		2) DNA (Do Now Activity/Reading)	3) Learning Intentions (what, why & how)		
	Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> • Can you list different types of doctors? What part of the human body do they treat? • What do humans and plants do every day to survive? • What is a prescription? What information would you find on a prescription? 	What	<ul style="list-style-type: none"> • The role of doctors in our society and their historical importance • The life processes that every organism needs to do to survive • The ideas behind using conventions in writing
	Blended (live in classroom and remote as study)	<input type="checkbox"/>			Why	<ul style="list-style-type: none"> • So we understand how humans survive when something is wrong. • So we understand how organisms, including animals and plants survive on our planet • So we understand how conventions in writing can be used for scientific purposes such as a doctor's prescription
			How	<ul style="list-style-type: none"> • Completing exam questions to demonstrate understanding and recall the jobs of certain doctors • Completing exam questions to demonstrate understanding and recall MRS GREN • Completing exam questions to demonstrate understanding and recall 		

						what a convention in writing is
Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)		6) Prepare for Practice (model/ scaffold)	
	<ul style="list-style-type: none"> P- The seven life processes that living organisms do to be classed as living N- The job roles and functions of different types of doctors N- The different ways that written information can be expressed on paper 		<ul style="list-style-type: none"> Quick Quiz style questions to check the different types of doctors and their job roles Quick Quiz style questions to check the seven life processes for living organisms Quick Quiz style questions to check the conventions of writing 		<ul style="list-style-type: none"> Provide examples of different writing conventions Provide acronyms to help with the 7 life processes Provide writing frames for exit ticket style 6 mark exam questions. 	
	7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)		9) Review (daily/monthly)	
	<ul style="list-style-type: none"> Attempt 6 mark exam questions Use images and models independently 		<ul style="list-style-type: none"> Use mark scheme to assign a mark to the exam question. Students to write down corrections from mark scheme 		<ul style="list-style-type: none"> Quick quiz Exam questions End of topic test questions 	
						Synchronous (live)
						Asynchronous (remote)
2	1) Lesson Type (remote or blended)		2) DNA (Do Now Activity/Reading)		3) Learning Intentions (what, why & how)	
	Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> Label a diagram of a microscope Reading material about the history of the microscope Can you give examples of tissues in the human body What is an organ? Can you list any examples? What is an organ system? Can you name one? 		What	<ul style="list-style-type: none"> The job role of different cells within all organisms The job role of tissues in organisms including humans and plants The organs in are bodies and what they do
	Blended (live in classroom and remote as study)	<input type="checkbox"/>			Why	<ul style="list-style-type: none"> So we understand the importance of cells in our bodies and in plants So we understand how organisms use all the different types of tissues in their body and why this is important So we understand how our body works and how doctors can
4						

							<p>therefore fix problems when something goes wrong</p> <ul style="list-style-type: none"> • So we understand how organs work in our bodies
						How	<ul style="list-style-type: none"> • Completing exam questions to demonstrate understanding and recall the job role of different cells • Completing exam questions to demonstrate understanding and recall most of the organs in our bodies • Completing exam questions to demonstrate understanding and recall examples of tissues in humans and plants
Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)		6) Prepare for Practice (model/ scaffold)		Synchronous (live)
	<ul style="list-style-type: none"> • The structure of plant and animal cells • The function of DNA and Mitochondria • The structure of basic tissues in the human body and in plants • The names of the organs in the human body • The function of the pancreas and liver for our bodies metabolism 		<ul style="list-style-type: none"> • Quick Quiz style questions to check the structure of plant and animal cells • Quick Quiz style questions to check the structure of tissues in plants and animals • Quick Quiz style questions to check the names of the organs in the human body • Quick Quiz style questions to check the names of organ systems in the human body 		<ul style="list-style-type: none"> • Provide models of the structure of plant and animal cells, tissues and organs in the body • Provide diagrams to label • Provide writing frames for exit ticket style 6 mark exam questions. 		
	7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)		9) Review (daily/monthly)		Asynchronous (remote)
	<ul style="list-style-type: none"> • Attempt 6 mark exam question independently • Create a plant/animal cell model using different materials 		<ul style="list-style-type: none"> • Use mark scheme to assign a mark to the exam question. Students to write down corrections from mark scheme 		<ul style="list-style-type: none"> • Quick quiz • Exam questions • End of topic test questions 		

3	3	1) Lesson Type (remote or blended)		2) DNA (Do Now Activity/Reading)		3) Learning Intentions (what, why & how)		
		Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> • What is an organ system? • Can you name one? X 1 session • What does a microscope do? How does it work? x 2 sessions 	What	<ul style="list-style-type: none"> • The function and importance of organ systems in the human body • The function and importance of using microscopes for scientific purposes 		
		Blended (live in classroom and remote as study)	<input type="checkbox"/>		Why	<ul style="list-style-type: none"> • So we understand how organs and their systems work together in our bodies • So we understand how microscopes enable scientists to treat illnesses and make discoveries 		
		How	<ul style="list-style-type: none"> • Completing exam questions to demonstrate understanding and recall examples of organ systems • Completing exam questions to demonstrate understanding and recall examples of tissues in humans and plants 					
Number of lessons in cycle:		4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)		6) Prepare for Practice (model/ scaffold)		Synchronous (live)
		<ul style="list-style-type: none"> • The names of the organ systems in the human body • The function of the Endocrine system • The parts of a microscope and how to use it 	<ul style="list-style-type: none"> • True or false quiz • Fill in the gaps activity • Labelling diagrams • Drawing cells, organs, tissues and organ systems 	<ul style="list-style-type: none"> • Provide labelled diagrams for students to use • Provide diagrams to label • Provide writing frames for exit ticket style 6 mark exam questions. 				

		<ul style="list-style-type: none"> How to prepare animal/plant cell slides to look at under the microscope 	<ul style="list-style-type: none"> Labelling diagrams of cells, tissues, organs and organ systems Labelling a microscope with the correct labels and talking about the function of specific parts 		Asynchronous (remote)
		7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)	
		<ul style="list-style-type: none"> Attempt 6 mark exam question independently Attempt to draw and label diagrams for cells, tissues, organs and organ systems independently Attempt to explain the steps needed to prepare a slide and look at it under the microscope 	<ul style="list-style-type: none"> Use mark scheme to assign a mark to the exam question. Students to write down corrections from mark scheme 	<ul style="list-style-type: none"> Quick quiz Exam questions End of topic test questions 	
		1) Lesson Type (remote or blended)	2) DNA (Do Now Activity/Reading)	3) Learning Intentions (what, why & how)	
4		Remote (live on MS Teams and remote as study)	<ul style="list-style-type: none"> Can you label a microscope? What does a microscope do? How does it work What is a transplant? What was the first organ to be transplanted? What are the main keywords used in this topic-7A Cells? 	What	<ul style="list-style-type: none"> The purpose of transplanting organs in humans Review the topic 7A to assess understanding
		Blended (live in classroom and remote as study)		Why	<ul style="list-style-type: none"> So we understand how transplanting organs can save lives So any misconceptions or gaps in knowledge and understanding can be addressed and developed
	4			How	<ul style="list-style-type: none"> Completing exam questions to demonstrate understanding and recall what a transplant is

						<ul style="list-style-type: none"> Completing exam questions, summary tasks and quick quizzes to demonstrate and assess understanding 	
Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)		6) Prepare for Practice (model/ scaffold)		Synchronous (live)
	<ul style="list-style-type: none"> P- Recap the parts of a microscope and their functions N- What is a Transplant N- What are the moral and ethical implications of having a transplant P- Review knowledge and understanding using summary activities 		<ul style="list-style-type: none"> True or false quiz Fill in the gaps activity Labelling diagrams Labelling a microscope with the correct labels and talking about the function of specific parts Quick quiz on 7A 		<ul style="list-style-type: none"> Provide labelled diagrams for students to use Provide diagrams to label Provide writing frames for exit ticket style 6 mark exam questions. Quick quiz pro-forma for students to use to answer 		
	7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)		9) Review (daily/monthly)		Asynchronous (remote)
	<ul style="list-style-type: none"> Attempt 6 mark exam question independently Attempt to label a microscope independently Attempt to explain the steps needed to prepare a slide and look at it under the microscope 		<ul style="list-style-type: none"> Use mark scheme to assign a mark to the exam question. Students to write down corrections from mark scheme 		<ul style="list-style-type: none"> Quick quiz Exam questions Complete End of topic test questions for 7A Cells 		
5	1) Lesson Type (remote or blended)		2) DNA (Do Now Activity/Reading)		3) Learning Intentions (what, why & how)		
	Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> What useful materials can you think of that come from the earth? E.g. wood What types of graph can you think of? Why do we need air? 		What	<ul style="list-style-type: none"> We are learning about how materials from the Earth are used Today we are learning about sorting resource data Today we are learning about the composition of air 	
	Blended (live in classroom and remote as study)	<input type="checkbox"/>					
3							

		<ul style="list-style-type: none"> N- The difference between a chemical reaction and a physical one N- What do we use to make new materials? P- Why do we need air? N- The composition of the air N- The composition of atoms, elements and compounds 	<ul style="list-style-type: none"> Labelling atoms, elements and compounds to show the differences between them 	<ul style="list-style-type: none"> Quick quiz pro-forma for students to use to answer Provide modelled answers for students to use to improve their work 	Asynchronous (remote)	
	7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)			
	<ul style="list-style-type: none"> Attempt 6 mark exam question independently Attempt to label a compound independently Attempt to describe the composition of air and label the individual parts 	<ul style="list-style-type: none"> Use mark scheme to assign a mark to the exam question. Students to write down corrections from mark scheme 	<ul style="list-style-type: none"> Quick quiz Exam questions Differentiated work sheet activities for higher ability and lower ability students 			
	1) Lesson Type (remote or blended)		2) DNA (Do Now Activity/Reading)		3) Learning Intentions (what, why & how)	
6	Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> For each of the following state whether they are an element of a compound; Oxygen, nitrogen, water, carbon, carbon dioxide What is the difference between a fact and an opinion? Look around the classroom. List the objects made of metal Can you state the difference between an atom and a compound? 	What	<ul style="list-style-type: none"> Today we are learning about elements Today we are learning about facts and opinions Today we are learning about metals and non-metals Today we are learning about making compounds 	
	Blended (live in classroom and remote as study)	<input type="checkbox"/>		Why	<ul style="list-style-type: none"> To learn about why wires are made of copper To learn about how reliable sources are 	
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						<ul style="list-style-type: none"> • To learn about why metals are used for the saucepan and non-metals are used for the handle • Today we are learning why compounds like the rust on our bikes form
					How	<ul style="list-style-type: none"> • Use chemical symbols for common elements and explain why they are an international code • Recall that different elements have different properties and uses • Explain that our resource of elements are limited and can run out • Identify and explain the difference between fact and opinion • Describe how and why scientific theories change • Understand why facts and opinions are used to persuade • Describe and identify metals and non-metals by their properties • Relate the use of an element to its properties • Identify elements, compounds and mixtures

					<ul style="list-style-type: none"> from descriptions and particle diagrams Name simple compounds Describe changes that you might see when compounds are formed 	
Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)		6) Prepare for Practice (model/ scaffold)	Synchronous (live)
	<ul style="list-style-type: none"> P- A basic idea that there are very small particles that makes up everything N- The difference between a fact and an opinion N- What do we find in the Periodic table? P- What are all things made of? N- The composition of atoms, elements and compounds N- How do elements react to make new compounds? 		<ul style="list-style-type: none"> True or false quiz Fill in the gaps activity Labelling diagrams Labelling atoms, elements and compounds to show how they form new substances 		<ul style="list-style-type: none"> Provide labelled diagrams for students to use Provide writing frames for exit ticket style 6 mark exam questions. Quick quiz pro-forma for students to use to answer Provide modelled answers for students to use to improve their work 	
	7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)		9) Review (daily/monthly)	Asynchronous (remote)
	<ul style="list-style-type: none"> Attempt 6 mark exam question independently Attempt to label compounds independently Attempt to describe the position of different elements in the periodic table 		<ul style="list-style-type: none"> Use mark scheme to assign a mark to the exam question. Students to write down corrections from mark scheme 		<ul style="list-style-type: none"> Quick quiz Exam questions Differentiated work sheet activities for higher ability and lower ability students 	
7	1) Lesson Type (remote or blended)		2) DNA (Do Now Activity/Reading)		3) Learning Intentions (what, why & how)	
	3	Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>			

		Blended (live in classroom and remote as study)	<input type="checkbox"/>	<ul style="list-style-type: none"> • What are the signs that a chemical reaction has occurred? • Where do metals come from? • Can you list all of the key terms that we have used in this topic? 	What	<ul style="list-style-type: none"> • Today we are learning about chemical reaction • Today we are learning about problems with elements • To assess our understanding of 7H
					Why	<ul style="list-style-type: none"> • To understand how to interpret and write a word equation • To understand the dangers that people face extracting metals for our use • To make sure that there are no misconceptions and that all necessary knowledge has been acquired
					How	<ul style="list-style-type: none"> • Identify the reactants and products in chemical reactions • Write word equations for chemical reactions • Describe what is mean by a 'thermal decomposition reaction • State the uses of lead • Describe the dangers of lead mining • Evaluate the advantages and disadvantages of lead mining

						<ul style="list-style-type: none"> By completing revision activities and an end of topic assessment 	
Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)		6) Prepare for Practice (model/ scaffold)		Synchronous (live)
	<ul style="list-style-type: none"> P- What do we find in the Periodic table? P- The composition of atoms, elements and compounds P- How do elements react to make new compounds? N- How can you tell if a chemical reaction has taken place? N- What are some of the issues with using elements from the Earth? 		<ul style="list-style-type: none"> True or false quiz Fill in the gaps activity Labelling diagrams Labelling atoms, elements and compounds to show how they form new substances 		<ul style="list-style-type: none"> Provide labelled diagrams for students to use Provide writing frames for exit ticket style 6 mark exam questions. Quick quiz pro-forma for students to use to answer Provide modelled answers for students to use to improve their work 		
	7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)		9) Review (daily/monthly)		Asynchronous (remote)
	<ul style="list-style-type: none"> Attempt 6 mark exam question independently Attempt to label compounds independently Attempt to describe the position of different metals in the periodic table 		<ul style="list-style-type: none"> Use mark scheme to assign a mark to the exam question. Students to write down corrections from mark scheme 		<ul style="list-style-type: none"> Quick quiz Exam questions Differentiated work sheet activities for higher ability and lower ability students End of topic assessment for 7H 		
8	1) Lesson Type (remote or blended)		2) DNA (Do Now Activity/Reading)		3) Learning Intentions (what, why & how)		
	Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>			What		
	Blended (live in classroom and remote as study)	<input type="checkbox"/>			Why		
					How		
z	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)		6) Prepare for Practice (model/ scaffold)		Sync hron

		7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)	Asynchronous (remote)

9	Number of lessons in cycle:	1) Lesson Type (remote or blended)		2) DNA (Do Now Activity/Reading)		3) Learning Intentions (what, why & how)		
		Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>			What		
		Blended (live in classroom and remote as study)	<input type="checkbox"/>			Why		
					How			
			4) New Material (previous learning/ new material)	5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)	Synchronous (live)		
		7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)	Asynchronous (remote)			

10	Number of lessons in cycle:	1) Lesson Type (remote or blended)		2) DNA (Do Now Activity/Reading)		3) Learning Intentions (what, why & how)		
		Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>			What		
		Blended (live in classroom and remote as study)	<input type="checkbox"/>			Why		
					How			
	≥ 3	4) New Material (previous learning/ new material)	5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)	Sync ron			

		7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)	Asynchronous (remote)