

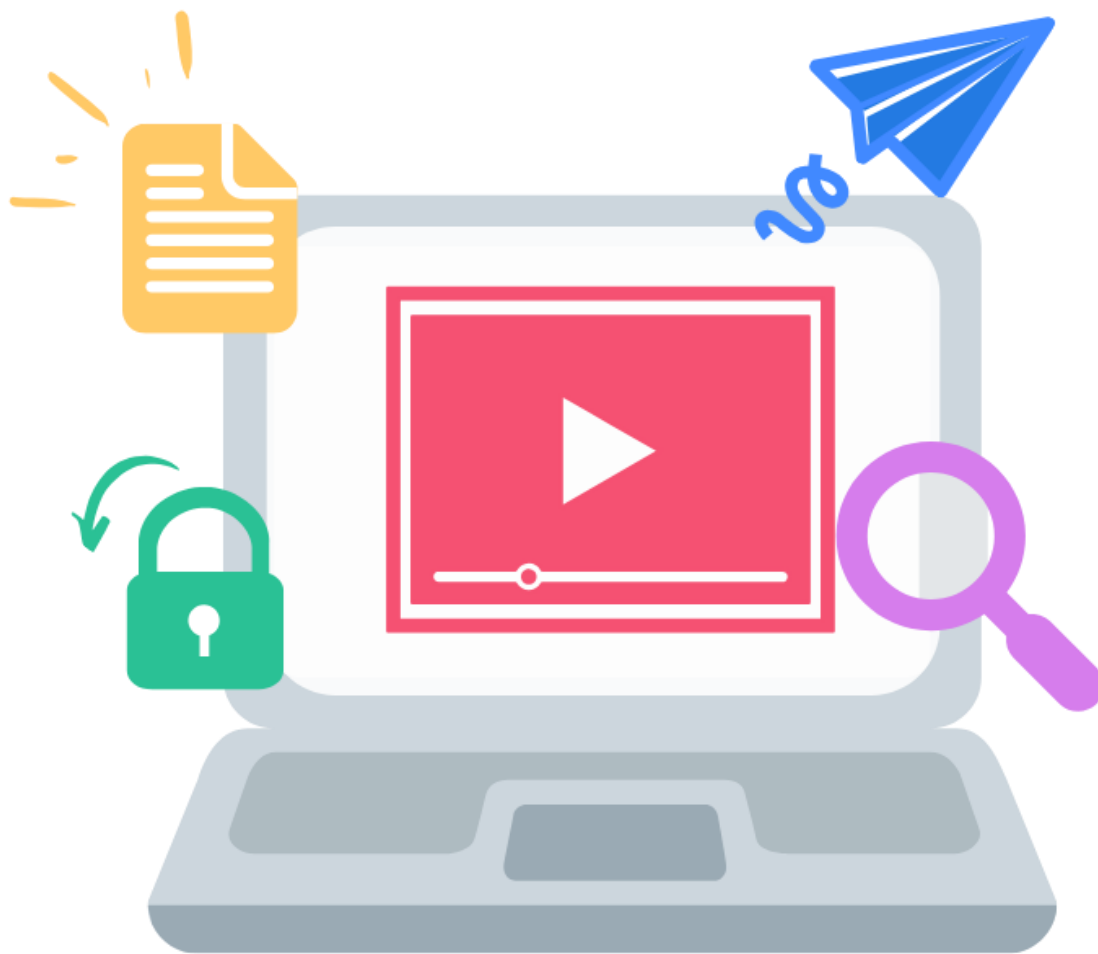
REMOTE LEARNING MODULE

Subject: Science

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Updated:



Subject:	Science	Teacher (if applicable):	Science staff
Year:	9	Ability/Class (if applicable):	N/A
Module title:	8D Unicellular organisms, 8F The Periodic Table, 8K Energy Transfers		
Duration:	2 weeks <input type="checkbox"/> Yes	4 weeks <input type="checkbox"/>	6 weeks <input type="checkbox"/> 8 weeks <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?			
<ul style="list-style-type: none"> • 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?	
Students will learn about the transfer of energy, Power, Efficiency and how to calculate energy used and the energy efficiency of different appliances.		The periodic table – pupils should know about the varying physical and chemical properties of different elements, the periodic table: periods and groups; metals and non-metals, how patterns in	

<p>Introduction to Microorganisms, unicellular and multicellular organisms. Students will study the structure and behaviour of bacteria, viruses and fungi. Students can then begin to associate this behaviour with diseases and start to understand how bacteria and viruses cause illness and what can be done to treat them. Students will hopefully realise that antibiotics are not necessary for all illnesses.</p> <p>Introduction to elements in the Earth and where to find them. Students will explore some of the elements that we can find in the Periodic Table and how we then use these elements to make everyday products.</p>	<p>reactions can be predicted with reference to the periodic table, and the properties of metals and non-metals</p> <p>Energy changes and transfers - pupils should know about heating and thermal equilibrium: temperature difference between 2 objects leading to energy transfer from the hotter to the cooler one, through contact (conduction) or radiation; such transfers tending to reduce the temperature difference; use of insulators.</p> <p>Cells and organisation - cells as the fundamental unit of living organisms, including how to observe, interpret and record cell structure using a light microscope. Students should know the functions of the cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria and chloroplasts and be able to describe the similarities and differences between plant and animal cells.</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?

Energy Transfers – The range of energy transfers that can take place and how we change these energy stores.
 Unicellular organisms –To understand what unicellular organisms are and their structure and functions.
 The Periodic Table – Understand how useful the Periodic Table is and what is found in it. To be able to state how we can use the Earth’s resources.

Implementation

KEY CONCEPTS

Key Concepts – what are the key concepts being taught?	Progression – how will studying these key concepts support progression to the next academic year, or key stage?
<p>Students will learn about the transfer of energy, Power, Efficiency and how to calculate energy used and the energy efficiency of different appliances.</p> <p>Introduction to Microorganisms, unicellular and multicellular organisms. Students will study the structure and behaviour of bacteria, viruses and fungi. Students can then begin to associate this behaviour with diseases and start to understand</p>	<p>Cell biology forms the basis of key biology concepts. This is necessary knowledge for students to progress to GCSE. Energy stores and their uses underpins most of our Physical processes. Atoms are our building blocks to make elements and compounds which is how we then make materials. These are key concepts because they then support students’ knowledge when learning about different types of cells, such as bacterium and viruses. The</p>

<p>how bacteria and viruses cause illness and what can be done to treat them. Students will hopefully realise that antibiotics are not necessary for all illnesses.</p> <p>Introduction to elements in the Earth and where to find them. Students will explore some of the elements that we can find in the Periodic Table and how we then use these elements to make everyday products.</p>	<p>understanding of atoms and elements helps students to understand how the periodic table was put together and how it functions to support scientists today.</p>
LEARNING	
<p>Synchronous – what are the synchronous aspects of the module, including new material taught?</p>	<p>Asynchronous – what are the asynchronous aspects of the module, including deliberate practice?</p>
<p>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.</p>	<p>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.</p>
ENGAGEMENT	
<p>Accessibility – how are you going to ensure students without ICT can engage with this module?</p>	<p>Disengagement – how are you going to ensure students who are not engaging with this module are identified and supported?</p>
<p>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.</p>	<p>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.</p>
FEEDBACK	
<p>End of Module – what is the end of module assessment, which will be used to evaluate the knowledge and skills gained?</p>	<p>Review Points – what takes place at the review points, to monitor the progress of learners and provide feedback, or support?</p>

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	
	8 Weeks	
	Other	

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

1	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"> How many diseases can you name? What causes each of them? Draw an animal cell, how is a bacterium cell different? 	What	<ul style="list-style-type: none"> Unicellular and multicellular organisms Bacteria and their structure 	
		Blended (live in classroom and remote as study)	<input type="checkbox"/>		Why	<ul style="list-style-type: none"> To learn why we get colds To understand how bacteria can cause illness 	
		How	<ul style="list-style-type: none"> By stating what the seven life processes are To state what unicellular and multicellular organisms are To use a microscope to observe unicellular organisms By completing diagrams and questions about bacteria and their functions 				
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"> Basic structure of animal cells and bacteria New structure of viruses and mould 		<ul style="list-style-type: none"> Quick Quiz style questions to check on unicellular organisms Quick Quiz style questions to check the structure of viruses Quick Quiz style questions to check on the structure of bacteria 		<ul style="list-style-type: none"> Provide models of the structure of plant and animal cells 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 bacterium 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 	
2	4	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)	<ul style="list-style-type: none"> List as many elements from the Periodic Table that you can think of Give examples of three energy stores and draw a simple energy transfer diagram for each 	What	<ul style="list-style-type: none"> The structure and function of the Periodic Table and the reactions of elements from the Periodic Table. The different energy stores and how they can be transferred
		Blended (live in classroom and remote as study)		Why	<ul style="list-style-type: none"> To understand the usefulness of elements To understand how energy transfers are used in everyday items
		How		<ul style="list-style-type: none"> By completing tasks and questions to demonstrate 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"> Basic concept of the Periodic Table Describing patterns of elements in different groups of the Periodic Table The 7 energy stores and how they are transferred. 	<ul style="list-style-type: none"> True or false quiz Fill in the gaps activity Labelling diagrams Drawing energy transfers 	<ul style="list-style-type: none"> Provide examples of energy transfer diagrams Provide diagrams to label Provide writing frames for exit ticket style 6 mark exam questions. 	

		<ul style="list-style-type: none"> Drawing complex energy transfer diagrams 			
		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 draw diagrams for elements bonding etc. and energy transfer 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 	