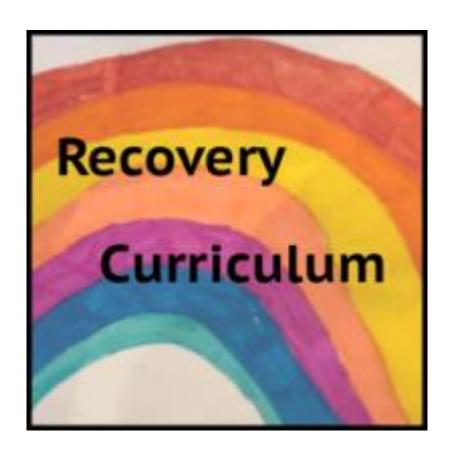
RECOVERY CURRICULUM

Subject: Science



Subject:	Science	Teacher:	Science staff			
Year:	Year 7	Class:	Year 7 classes			
Unit title:	7A- Cells, tissues, organs and systems					
Duration:	4 weeks					

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 unit/topic?

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 unit/topic?

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.

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

- 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?
What are the minimum requirements for cells to exist and how	Cells and organisation - cells as the fundamental unit of living
do they carry out their role? What is their structure and function	organisms, including how to observe, interpret and record cell
of their organelles? Students will carry out simple and engaging	structure using a light microscope. Students should know the
experiments, such as using a microscope, to help to build their	functions of the cell wall, cell membrane, cytoplasm, nucleus,
scientific intrigue and skill.	vacuole, mitochondria and chloroplasts and be able to describe
	the similarities and differences between plant and animal cells

Powerful Knowledge - what powerful knowledge is included in this SoW? 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.

Implementation

inipiemenialion					
	GAPS				
Identification – how are you going to identify the gaps in knowledge/skills? • DNA activities to assess prior knowledge • Quick quizzes • General questioning • Use activities that require reading, writing and numeracy skills to assess their skills	Triage – how are you going to rank order these gaps in knowledge/skills and 'fill' them, in order of importance? Assess student progress via numerous different activities, and prioritise skills that students struggle with Ensure that the basics of cells are understood before moving on to further content				
KEY	CONCEPTS				
Key Concepts – what are the key concepts being taught?	Progression – how will studying these key concepts support progression to the traditional curriculum that has been planned?				
Animal and plant cell structure and function of the organelles. How to use a microscope and calculate magnification of cells.	Cell biology forms the basis of key biology concepts. This is necessary knowledge for students to progress to GCSE.				
WE	ELLBEING				
Lockdown – how will students share their experiences of lockdown?	Social and Emotional – how will student social and emotional health be supported?				
 Within group discussion – this could be the very first discussion within a live lesson Analogies within the content 	Letting students know that it is important to talk about anything that they are struggling with, giving them options of how they can do this.				
RE-	ESTABLISH				

Learning Skills – how are you going to re-establish the skills for learning?	Relationships – how are you going to re-establish classroom relationships?
Use activities within the content that require students to use reading, writing and numeracy skills	Use the first session to discuss experiences during lockdown, introductions and an icebreaking activity.
OPPO	ORTUNITIES
Discussion – what are the discussion based opportunities?	Group – what are the group work based opportunities (while still ensuring social distancing)?
Many opportunities throughout the topic, including a debate about stem cells	 Stem cell debate Specialised cells presentation Video discussion of chemical reactions

Del	livery			Q) DNIA		2) Lograina Intentions
		Lesson Type (classroom or blended for remote homev	vork)	2) DNA (Do Now Activity/Reading)		Learning Intentions (what, why & how)
		Classroom (whole sequence completed)	Χ		What	The role of doctors in our society and their historical
1	n	Blended (live and remote as independent study)		 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? 	Why	 importance The life processes that every organism needs to do to survive The ideas behind using conventions in writing 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 Ompleting 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) 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 	 5) Check for Understanding (questioning/checking) 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 	6) Prepare for Practice (model/ scaffold) 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.
	Numbé	7) Deliberate Practice (guided/ independent) Attempt 6 mark exam questions Use images and models independently	8) Feedback (light/deep) • Use mark scheme to assign a mark to the exam question. Students to write down corrections from mark scheme	9) Review (daily/monthly) • Quick quiz • Exam questions • End of topic test questions
2	4	Lesson Type (classroom or blended for remote homework)	2) DNA (Do Now Activity/Reading)	3) Learning Intentions (what, why & how)

	Classroom whole sequence completed)	χ		What	The job role of different cells within all organisms
	Blended live and remote as independent study)		 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? 	How	 The job role of tissues in organisms including humans and plants The organs in are bodies and what they do 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 therefore fix problems when something goes wrong So we understand how organs work in our bodies 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
.⊆	4) New Material (previous learning/ new material)		 5) Check for Understanding (questioning/checking) 		6) Prepare for Practice (model/ scaffold)
Number of lessons in cycle:	 The structure of plant and animal cells The function of DNA and Mitochondria The structure of basic tissues in the human body and in plant 		 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 	• P • P • Iti	Provide models of the structure of plant and animal cells, tissues and organs in the body Provide diagrams to label Provide writing frames for exiticket style 6 mark exam questions.

		The names of the organs in the human body The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies metabolism The function of the pancreas and liver for our bodies	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 8) Feedback (light/deep) Use mark scheme to assign a mark to the exam question. Students to write down corrections from mark scheme	9) Review (daily/monthly) • Quick quiz • Exam questions • End of topic test questions
		1) Lesson Type (classroom or blended for remote homework)	2) DNA (Do Now Activity/Reading)	3) Learning Intentions (what, why & how)
		Classroom (whole sequence completed) Blended (live and remote as independent study)	What is an organ system?	The function and importance of organ systems in the human body The function and importance of using microscopes for scientific purposes
3			 Can you name one? X 1 session What does a microscope do? How does it work? x 2 sessions 	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
	೮			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
	in cycle:	4) New Material (previous learning/ new material) • 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 • How to prepare animal/plant cell slides to look at under the microscope	 5) Check for Understanding (questioning/checking) True or false quiz Fill in the gaps activity Labelling diagrams Drawing cells, organs, tissues and organ systems Labelling diagrams of cells, tissues, organs and organ systems Labelling diagrams of cells, tissues, organs and organ systems Labelling a microscope with 	6) Prepare for Practice (model/ scaffold) • Provide labelled diagrams for students to use • Provide diagrams to label • Provide writing frames for exit ticket style 6 mark exam questions.
	Number of lessons in cycle:	7) Deliberate Practice (guided/ independent)	the correct labels and talking about the function of specific parts 8) Feedback (light/deep)	9) Review (daily/monthly)
	NON	 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 	Use mark scheme to assign a mark to the exam question. Students to write down corrections from mark scheme	Quick quiz Exam questions End of topic test questions • End of topic test questions
4		1) Lesson Type (classroom or blended for remote homework)	2) DNA (Do Now Activity/Reading)	3) Learning Intentions (what, why & how)
4	4	Classroom (whole sequence completed)	Can you label a microscope?	What • The purpose of transplanting organs in humans

	Blended (live and remote as independent study)	 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? 	Review the topic 7A to assess understanding So we understand how transplanting organs can save lives So any misconceptions or gaps in knowledge and understanding can be addressed and developed How Completing exam questions to demonstrate understanding and recall what a transplant is 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) 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	 5) Check for Understanding (questioning/checking) 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 	6) Prepare for Practice (model/ scaffold) 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
Number	activities 7) Deliberate Practice (guided/ independent) • Attempt 6 mark exam question independently • Attempt to label a microscope independently	8) Feedback (light/deep) • Use mark scheme to assign a mark to the exam question. Students to write down corrections from mark scheme	9) Review (daily/monthly) • Quick quiz • Exam questions • Complete End of topic test questions for 7A Cells

		Attempt to explain the steps needed to prepare a slide and look at it under the microscope		
		lesson Type (classroom or blended for remote homework)	2) DNA (Do Now Activity/Reading)	3) Learning Intentions (what, why & how)
		Classroom (whole sequence completed)		What Why
		Blended (live and remote as independent study)		How
	:: <u>'e</u>	4) New Material (previous learning/ new material)	5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)
5	ons in cycle:	(In the second of the second o	(41 - 2 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3	6) Prepare for Practice (model/ scaffold)
	of less	7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	
	Number of lessons in			Asynchronous (something particular department) (something partment) (somethi
	ı			
		1) Lesson Type (classroom or blended for remote homework)	2) DNA (Do Now Activity/Reading)	3) Learning Intentions (what, why & how)
		Classroom (whole sequence completed)		What Why
		Blended (live and remote as independent study)		How
6	of Vole:	4) New Material	5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)
	Number of			6) Prepare for Practice (model/ scaffold) (output)
	2 550	7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)

		1) Lesson Type (classroom or blended for remote homework Classroom (whole sequence completed) Blended (live and remote as independent study)]	3) Learning Intentions (what, why & how) What Why How
7	sons in cycle:	4) New Material (previous learning/ new material)	5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold) (e) (iv)
	Number of lessons in	7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	Asynchronous (something daily/monthly)
		1) Lesson Type (classroom or blended for remote homeworl	2) DNA (Do Now Activity/Reading)	3) Learning Intentions (what, why & how)
8		Classroom (whole sequence completed) Blended (live and remote as independent study)	<u>- </u>	What Why How
	Number of essons in cycle:	4) New Material (previous learning/ new material)	5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)
	\(\frac{1}{2}\)	7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)

9	Number of lessons in cycle:	1) Lesson Type (classroom or blended for remote homework Classroom (whole sequence completed) Blended (live and remote as independent study)		3) Learning Intentions (what, why & how) What Why How
		4) New Material (previous learning/ new material) 7) Deliberate Practice (guided/ independent)	5) Check for Understanding (questioning/checking) 8) Feedback (light/deep)	6) Prepare for Practice (model/ scaffold) 9) Review (daily/monthly) (emote) (live)
		1) Lesson Type (classroom or blended for remote homework	2) DNA (Do Now Activity/Reading)	3) Learning Intentions (what, why & how)
10		Classroom (whole sequence completed) Blended (live and remote as independent study)		What Why How
	Number of essons in cycle:	4) New Material (previous learning/ new material)	5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)
	7 88 9	7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)