RECOVERY CURRICULUM

Subject: Mathematics
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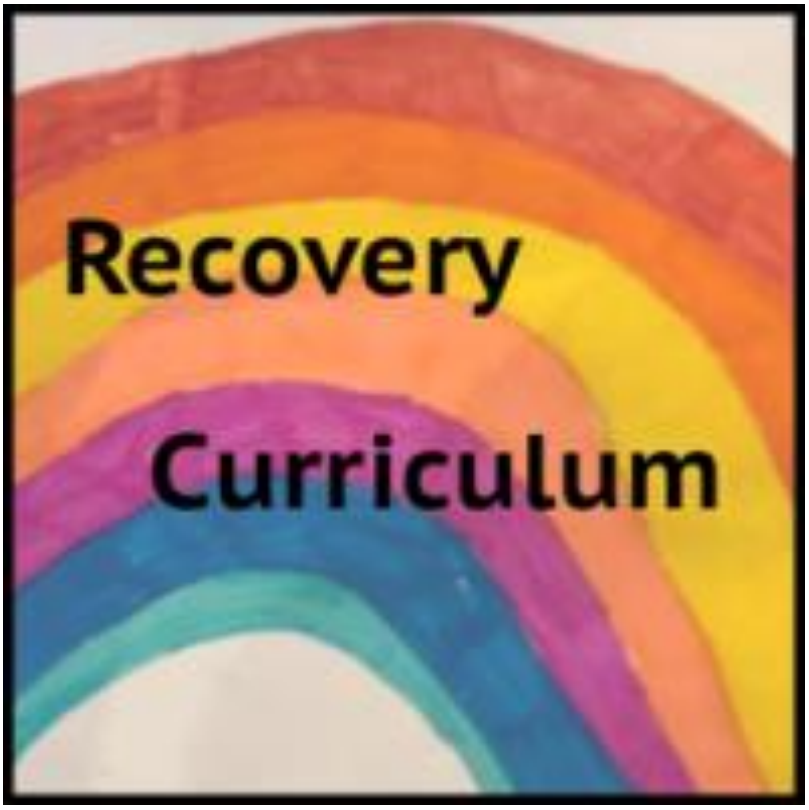

Subject:	Mathematics	Teacher:	LEG
Year:	Y10	Class:	Y10 Higher
Unit title:	Algebraic Skills		
Duration:	2 Weeks (9 Lessons)		

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?

Algebraic Skills

- Expanding single and double brackets
- Factorising polynomials
- Collecting Like Terms
- Laws of Indices

Equations
Forming and solving linear equations.

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

- Ambitious – aims to quickly and effectively fill gaps then progress to existing SOL
- Brave – encourage students to persevere and show resilience through problem solving tasks

Kind – Culture of error fostered, classroom rules clearly established to support learning without ridicule

Content – what is being covered, ensuring breadth & depth?	National Curriculum/Exam Specification - how does the content link to the NC or Exam Spec?
Covers a range of skills and content overlapping the Year 9 and Year 10 scheme of learning to “recover” lost learning and further develop student learning.	

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?

Implementation

GAPS	
Identification – how are you going to identify the gaps in knowledge/skills?	**Triage** – how are you going to rank order these gaps in knowledge/skills and 'fill' them, in order of importance?
MWB activities to assess existing knowledge Use of DNA to probe existing understanding Cold call questioning in lessons to gain insight into knowledge	Rank in order of severity (numbers affected) in order of progression (indicated by the order of aims listed above)

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?
Algebraic Skills • Expanding single and double brackets • Factorising polynomials • Collecting Like Terms • Laws of Indices Equations • Forming and solving linear equations.	Bridges gaps between Y9 and Y10 scheme of learning, builds using spiral curriculum already planned

WELLBEING	
Lockdown – how will students share their experiences of lockdown?	**Social and Emotional** – how will student social and emotional health be supported?
Encourage to look at how this might link to experiences in lockdown	Positive classroom atmosphere, opportunities to work as a team / group, whole class discussions

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?
Model how to solve problems, explicit direction on strategies and skills, "thinking out loud"	Standards lesson first lesson back, learn names of students quickly (seating plans)
OPPORTUNITIES	
Discussion – what are the discussion-based opportunities?	**Group** – what are the group work based opportunities (while still ensuring social distancing)?
Maths team games or more complex problem/reasoning resources provided for each lesson to be discussed whole class in plenary / in groups during deliberate practice	Maths team games or more complex problem/reasoning resources provided for each lesson to be discussed in groups/pairs during deliberate practice

Delivery

		1) Lesson Type (classroom or blended for remote homework)		2) DNA (Do Now Activity/Reading)	3) Learning Intentions (what, why & how)	
1		Classroom (whole sequence completed)	X	Targeted DNA	What: Collecting Like Terms Why: Fill in gaps and develop understanding and fluency How: Simplify expressions by collecting like terms	
		Blended (live and remote as independent study)	☐			
	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)
		Collecting like terms • Addition and subtraction • Division and multiplication		MBW – Quiz questions https://www.mathspad.co.uk/interactives/test/test.php?id=31 https://www.mathspad.co.uk/interactives/expressions/simplifyingExpressions.php	Examples, emphasising the use of BIDMAS https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/Algebraic-Notation-Worksheet-A-A5.pdf	
		7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)	9) Review (daily/monthly)	Asynchronous (remote)
		Sum Product https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/Simplifying-Expressions-Multiplying-_-Adding-Sumproduct-A5.pdf		Share answers and respond to verbal feedback.	Spot the mistake https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/Simplifying-Expressions-Multiplying-_-Adding-Spot-the-Mistake-A4.pdf	

		Tarsia https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/Simplifying-Expressions-Multiplying-_-Adding-Tarsia-Small.pdf			
2		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) X		Targeted DNA	What: Expanding Brackets Why: Fill in gaps, develop fluency and understanding. How: Expand single brackets.
		Blended (live and remote as independent study) ☐			
	Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)
		Expanding single brackets – use of arrows		MWB Questions https://www.mathspad.co.uk/interactives/test/test.php?id=33	Scaffolded examples with model solution
		7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)	9) Review (daily/monthly)
		Match up activity https://www.mathspad.co.uk/teach/worksheets/expressions/expandSimplify.php Activity – Includes multiple expansions.		Share answers and respond to verbal feedback.	Write a text to explain when this might be used. You may choose to give an example.
					Synchronous (live) / Asynchronous (remote)
3		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) X		Targeted DNA	What: Expanding Brackets Why: Extend knowledge and understanding of expanding brackets How: Expand double brackets
		Blended (live and remote as independent study) ☐			
	Number of lessons in	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)
		Expanding double brackets (https://www.mathspad.co.uk/interactives/quadratics/expandingBrackets1.php		MWB https://www.mathspad.co.uk/interactives/expandingQuadsGame/expandingQuadsGame.php	Model example, using FOIL and arrows.
					Synchronous (live)

		7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)	Asynchronous (remote)
		Link right and left https://www.goteachmaths.co.uk/wp-content/uploads/2019/07/Double-Brackets-Expanding-Factorising-Link-A5.pdf	Share answers and respond to verbal feedback.	Clumsy Clive Q2	
4		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) X Blended (live and remote as independent study) ☐	Targeted DNA – Factors and HCF	What: Factorising Brackets Why: Fill in gaps and develop fluency and understanding How: Factorise into single brackets	
	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)
		Factorising expressions into single brackets (Animated examples available on ppt)	MWB – 3 stars	Modelled examples – show working out, including HCF	
		7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)	Asynchronous (remote)
		Introduction to factorising p.3 Activity – Matchup activity (simplify and factorise)	Share answers and respond to verbal feedback	Fill in the gaps (Choose a few from worksheet).	
5		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) X Blended (live and remote as independent study) ☐	Targeted DNA	What: Factorising Brackets Why: Extend understanding of factorising brackets How: Factorise simple quadratics into double brackets.	
	N ↄ	4) New Material (previous learning/ new material)	5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)	Synchron

		New material: Factorising quadratic equations https://www.mathspad.co.uk/interactives/quadratics/factorising2.php	MWB – Slide 2 https://www.mathspad.co.uk/interactives/quadratics/factorising2.php	Example and worked solutions. Students collaboratively write a step by step guide.	
		7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)	Asynchronous (remote)
		Link right and left https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/Quadratic-Factorisation-Without-Coefficients-Link-A5.pdf	Share answers and respond to verbal feedback.	Paired review activity – forwards and backwards https://www.mathspad.co.uk/teach/worksheets/factorising/backwardsAndForwards.php	

6		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)	X	Targeted DNA (include some questions based on basic indices)	What: Index Laws Why: Fill in gaps, develop understanding and fluency. How: Multiply and divide indices
		Blended (live and remote as independent study)	☐		
	Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)
		Multiplying and Dividing Indices - https://www.goteachmaths.co.uk/multiplying-and-dividing-terms-with-indices/		MWB Questions https://www.mathspad.co.uk/interactives/lawsOfExponents/lawsOfIndices.php	Spot the mistake – (M and D) https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/Indices-Multiplying-Dividing-Spot-the-Mistake-A4.pdf
		7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)	9) Review (daily/monthly)
		Tarsia https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/Indices-Multiplying-Dividing-Tarsia-Standard.pdf		Share and review feedback	Exam style question exit ticket https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/Indices-Multiplying-_-Dividing-Foundation-GCSE-Questions-Standard.pdf

7		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)	X	Targeted DNA	What: Index Laws Why: Fill in gaps, develop understanding and fluency. How: Negative and fractional
		Blended (live and remote as independent study)	☐		

<table>
<tr><td></td><td rowspan="3">Number of lessons in cycle:</td><td>4) New Material
(previous learning/ new material)</td><td>5) Check for Understanding
(questioning/checking)</td><td>6) Prepare for Practice
(model/ scaffold)</td><td rowspan="3">Synchronous (live)</td></tr>
<tr><td>Previous learning: Basic index laws
• Negative indices
• Fractional indices
Combined (part cycle repeated based on three learning episodes over two lessons)</td><td>MWB CFU throughout new material.</td><td>Examples and model solution.
https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/Indices-Negative-Link-A5.pdf

Left and right link:
https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/Indices-Fractional-Link-A5.pdf</td></tr>
<tr><td>7) Deliberate Practice
(guided/ independent)</td><td>8) Feedback
(light/deep)</td><td>9) Review
(daily/monthly)</td></tr>
<tr><td></td><td></td><td>Indices follow me worksheet</td><td>Share answers and respond to verbal feedback</td><td>True or False shootout</td><td>Asynchronous (remote)</td></tr>
<tr><td colspan="6"></td></tr>
<tr><td rowspan="4">8</td><td rowspan="2"></td><td>1) Lesson Type
(classroom or blended for remote homework)</td><td>2) DNA
(Do Now Activity/Reading)</td><td colspan="2">3) Learning Intentions
(what, why & how)</td></tr>
<tr><td>Classroom
(whole sequence completed) X
Blended
(live and remote as independent study) ☐</td><td>Targeted DNA</td><td colspan="2">What: Solving Equations
Why: Fill in gaps, develop fluency and understanding.
How: Solve linear equations.</td></tr>
<tr><td rowspan="2">Number of lessons in cycle:</td><td>4) New Material
(previous learning/ new material)</td><td>5) Check for Understanding
(questioning/checking)</td><td>6) Prepare for Practice
(model/ scaffold)</td><td rowspan="2">Synchronous (live)</td></tr>
<tr><td>Solving linear equations.
https://www.goteachmaths.co.uk/solving-linear-equations-with-brackets-with-coefficients/</td><td>https://www.mathspad.co.uk/interactives/twoStepEquations/solvingEquations1.php
P1
Cold call</td><td>Model solution – show how to combine solving linear equations with expanding single brackets.</td></tr>
<tr><td></td><td>7) Deliberate Practice
(guided/ independent)</td><td>8) Feedback
(light/deep)</td><td>9) Review
(daily/monthly)</td><td>Asynchronous (remote)</td></tr>
<tr><td></td><td>Maze – Including expanding single brackets and solving
https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/Linear-Equations-Brackets-With-Coefficients-Answer-Maze-A4.pdf</td><td>Share answers and respond to feedback</td><td>Crossword p2
https://www.mathspad.co.uk/interactives/twoStepEquations/solvingEquations1.php</td><td></td></tr>
<tr><td colspan="6"></td></tr>
<tr><td>9</td><td></td><td>1) Lesson Type
(classroom or blended for remote homework)</td><td>2) DNA
(Do Now Activity/Reading)</td><td colspan="2">3) Learning Intentions
(what, why & how)</td></tr>
</table>

		Classroom (whole sequence completed)	X	Targeted DNA	What	Solving Equations	
		Blended (live and remote as independent study)	☐		Why	Fill in gaps, develop fluency and understanding.	
					How	Form and solve linear equations.	
	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)
		Forming and solving linear equations		MWB Questions	MWB discussion – Thinking logically question Annotate and model solution.		
		7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)	9) Review (daily/monthly)		Asynchronous (remote)
		https://content.twinkl.co.uk/resource/43/98/t4-m-38-solving-simultaneous-equations-by-substitution-activity-sheet_ver_4.pdf?__token__=exp=1594687426~acl=%2Fresource%2F43%2F98%2Ft4-m-38-solving-simultaneous-equations-by-substitution-activity-sheet_ver_4.pdf%2A~hmac=0d42e995825255d1165529feb417f82a1b073f9d0c9e0abe147f3a259c718d9d		Share answers and respond to verbal feedback.			