RECOVERY CURRICULUM

Subject: Mathematics
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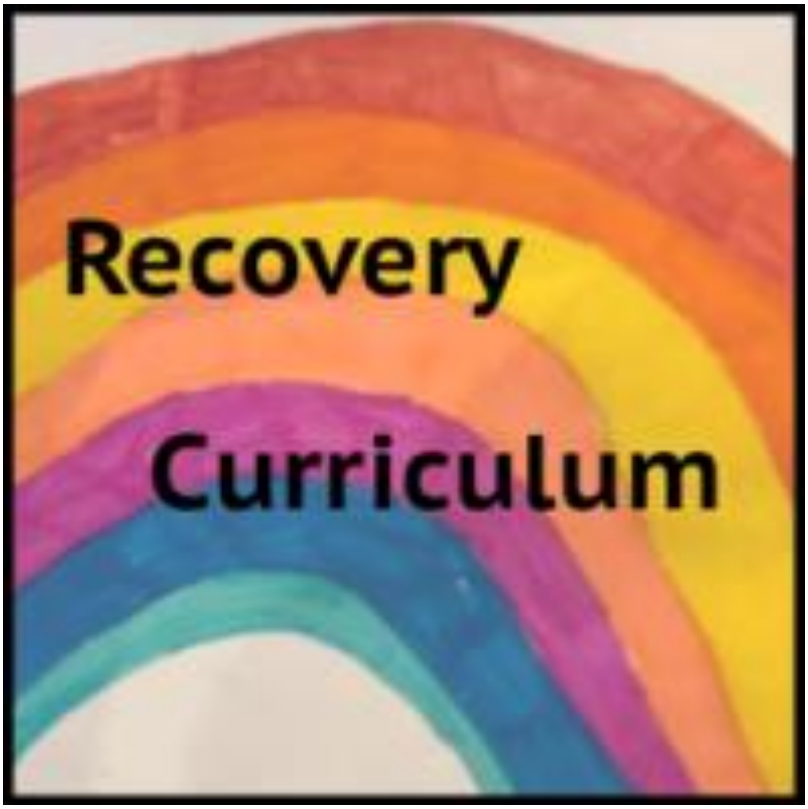
Created: June 2020
Updated:



Subject:	Mathematics	Teacher:	LEG
Year:	8	Class:	8 Higher
Unit title:	Factors, Multiples, Primes, Squares, Cubes		
Duration:	2 weeks (7 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?

- Understand the meaning of factors, multiples, and prime numbers
- Identify factors, multiples, and primes numbers,
- Find the highest common factor and lowest common multiple
- Write a number as a product of its prime factors
- Use prime factorisation to find the highest common factor and lowest common multiple via a Venn diagram
- Solve problems using HCF and LCM

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 7 and Year 8 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?

Real life scenarios for LCM and HCF.	
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?
Prime numbers, Multiples, Factors, Squares and cubes.	Bridges gaps between Y7 and Y8 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		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)	☑	Targeted DNA	What: Squares and Cubes Why: Fill in the Gaps and develop fluency and understanding. How: Answer questions involving squares and cubes.	
		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)
		Recap previous learning, squares and cubes.		Identify squares and cubes on MWB	Squares and Cubes https://www.mathspad.co.uk/teach/worksheets/primeNumbers/usePrimes2.php	
		7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)	9) Review (daily/monthly)	Asynchronous (remote)
		Cubed Tarsia https://www.goteachmaths.co.uk/wp-content/uploads/2019/08/Cube-Numbers-Spot-the-Mistake-A4.pdf		Share answers and self-assess. Respond to verbal feedback.	Exit ticket question styled review https://www.goteachmaths.co.uk/wp-content/uploads/2019/08/Cube-Numbers-Foundation-GCSE-Questions-AQA-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)	☑	Targeted DNA.	What: Triangular numbers Why: Fill in gaps, develop fluency and understanding. How: Answer questions involving triangle numbers	
		Blended (live and remote as independent study)	☐			
	Nu mb	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)	Synch rono

		New material – triangular numbers	--	--	
		7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)	Asynchronous (remote)
		https://nzmaths.co.nz/resource/triangular-numbers Triangular numbers investigation	Share and reflect on findings	Collaborate findings, write a conclusion describing the pattern of triangular numbers	
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) ☑	Targeted DNA (Including factors and multiples)	What: Highest Common Factor, Lowest Common Multiple	Produ
		Blended (live and remote as independent study) ☐		Why: Fill in gaps, develop fluency and understanding.	Fill in g unders
				How: Answer questions involving HCF and LCM	Use a t prime
	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)
		Highest Common Factor Lowest common multiple	MWB	Model solution example. https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/HCF-LCM-Listing-Card-Match-A5.pdf	
		7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)	Asynchronous (remote)
		Tarsia https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/HCF-LCM-Listing-Tarsia-Standard.pdf	Share collaboratively. Self-assess.	https://www.mathspad.co.uk/teach/linkedDocuments/factors/trueOrFalse.php True or false	
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) ☑	Targeted DNA (Includes identifying prime numbers)	What: Product of prime factors	Produ

		Blended (live and remote as independent study)	☐			Why	Fill in gaps, develop fluency and understanding
						How	Use a factor tree to identify the product of prime factors
	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)
		Prime factorisation https://www.goteachmaths.co.uk/prime-factorisation-in-index-form/		MWB questions	Model and scaffold prime factors linked in a triangle (scaffold worksheet)		
		7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)	9) Review (daily/monthly)		Asynchronous (remote)
		Prime Composite spider diagram https://www.mathspad.co.uk/teach/worksheets/primeNumbers/primeNumbersCompositesWorksheet.php Prime Factor Puzzle – Paired Work https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/Prime-Factorisation-Worksheet-A-A5.pdf		Share answers and peer-assess	Exit ticket styled review https://www.goteachmaths.co.uk/wp-content/uploads/2019/03/Prime-Factorisation-Index-Form-Foundation-GCSE-Questions-Standard.pdf		
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)	☑	Targeted DNA (Include HCF, LCM)		What	Product of Prime factor to find HCF, LCM
		Blended (live and remote as independent study)	☐			Why	Fill in gaps, develop fluency and understanding
						How	Use Venn diagrams to find the HCF and LCM
	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)
		Create a Venn diagram from product of prime factors.		https://nrich.maths.org/1153	Model a factor tree – Venn diagram. Use this to find HCF, LCM. Students to produce a step by step guide.		
		7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)	9) Review (daily/monthly)		Asynchron

		Worksheet	Show call answers. Self-assess		
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) ☑ / Blended (live and remote as independent study) ☐	Targeted DNA	What: Problem Solving involving HCF, LCM Why: Develop problem solving skills How: Answer worded questions involving HCF, LCM	
	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)
		Worded questions to find HCF LCM.	https://www.mathspad.co.uk/interactives/highestCommonFactor/highestCommonFactor.php p2	https://www.mathspad.co.uk/interactives/lowestCommonMultipleTool/lowestCommonMultipleTool.php Annotate and highlight example question.	
		7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)	Asynchronous (remote)
		Worded questions.	Share answers and self-assess		
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) ☑ / Blended (live and remote as independent study) ☐	Targeted DNA	What: Problem Solving Why: Develop problem solving skills How: Combined number questions	
	Number of lessons in	4) New Material (previous learning/ new material)	5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)	Synchronous (live)
		Previous material – recap number work where necessary for the class	MWB	Begin to scaffold worksheets, how can you break down the questions?	

		7) Deliberate Practice (guided/ independent)	8) Feedback (light/deep)	9) Review (daily/monthly)	Asynchronous (remote)
		Number puzzles combined https://www.mathspad.co.uk/teach/worksheets/factorising/factorsMultiplesSpecialNumbers.php Mystery Grid https://www.mathspad.co.uk/teach/worksheets/primeNumbers/factorsMultiplesPrimesMysteryGrids.php	Show call and self-assess	Correct and annotate work.	