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Mathematical Fluency Policy

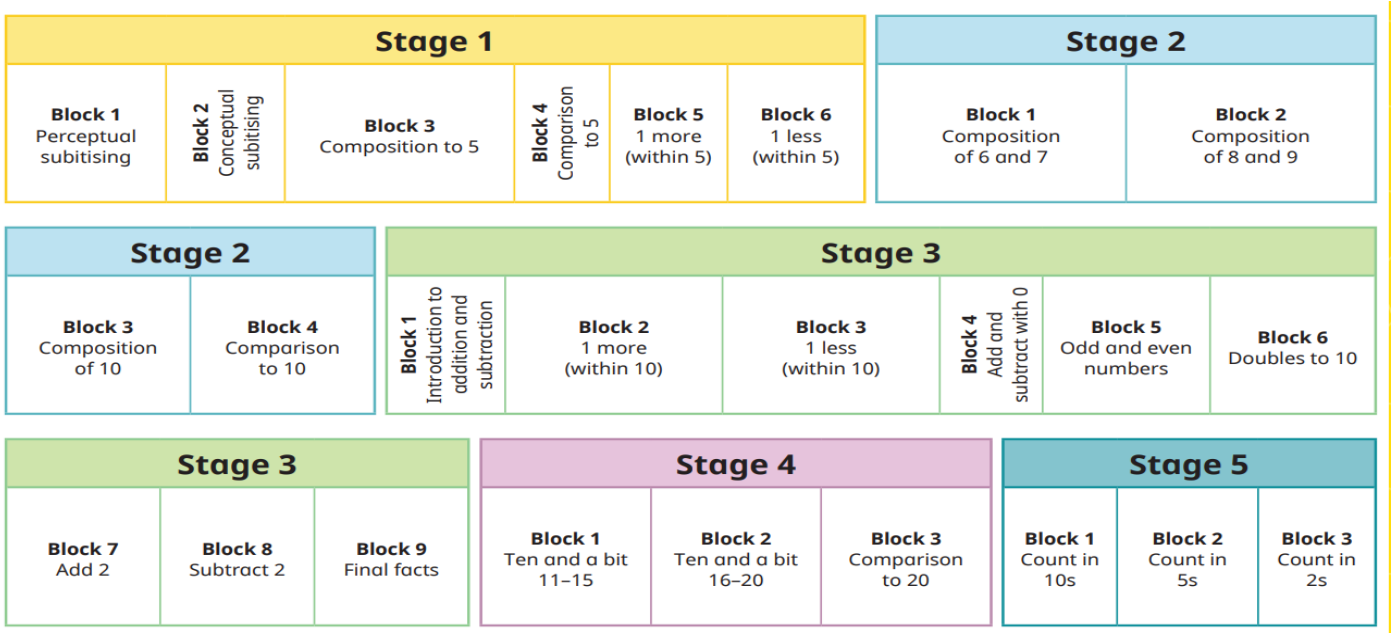
- We aim to foster mathematical fluency in students by providing a structured approach with a focus on pupils understanding the structure of numbers using images initially, progressing to an abstract approach
- We teach and practice efficient mental strategies for addition and subtraction in KS1 and multiplication tables practice in KS2
- We provide pupils with discrete, daily extensive recall opportunities which supplement fluency practice within Maths lessons

Curriculum

Year R: Maths Mastery (NCETM)

Year 1: Fluency Bee

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Perceptual and conceptual subitising			Composition to 5			Comparison to 5	1 more (within 5) 1 less (within 5)			Composition of 6 and 7	
Spring	Review of previous learning	Composition of 8 and 9		Composition of 10		Comparison to 10		Introduction to addition and subtraction	1 more (within 10)		1 less (within 10)	
Summer	Add and subtract with 0	Odd and even numbers	Doubles to 10	Add 2	Subtract 2	Final facts	Ten and a bit (11-15)	Ten and a bit (16-20)	Comparison to 20	Count in 10s	Count in 5s	Count in 2s



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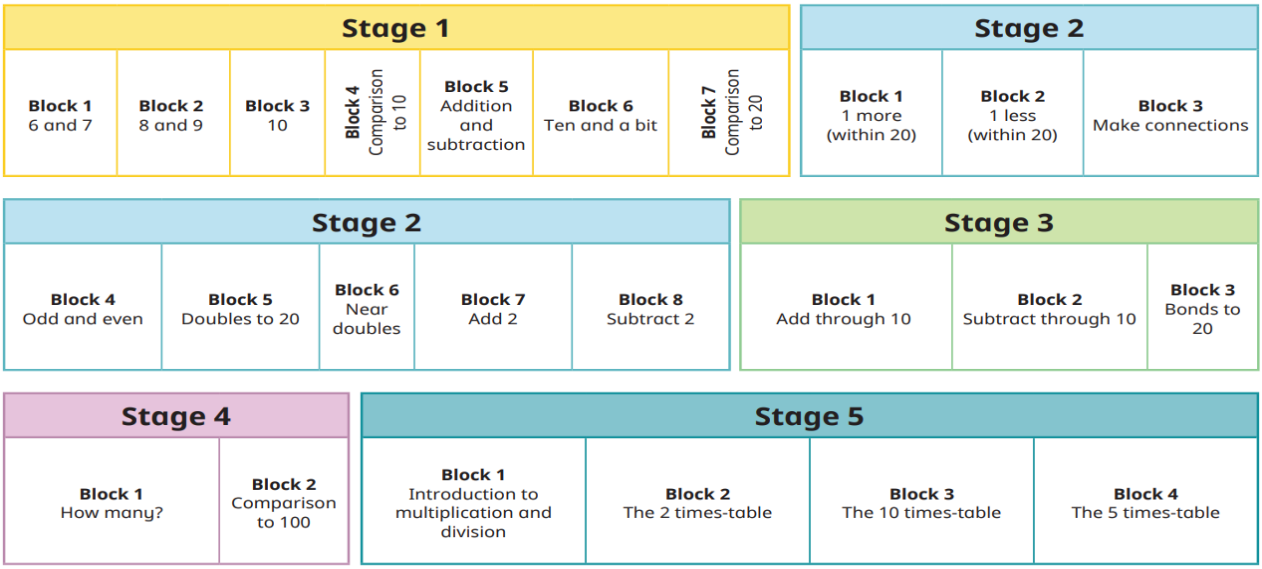
Year 2: Fluency Bee

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Perceptual and conceptual subitising			Composition to 5			Comparison to 5	1 more (within 5) 1 less (within 5)			Composition of 6 and 7	
Spring	Review of previous learning	Composition of 8 and 9		Composition of 10		Comparison to 10		Introduction to addition and subtraction	1 more (within 10)		1 less (within 10)	
Summer	Review of previous learning	Add and subtract with 0	Odd and even numbers	Add 2	Subtract 2	Final facts	Ten and a bit (11-15)	Ten and a bit (16-20)	Comparison to 20	Count in 10s	Count in 5s	Count in 2s



Year 3: Times tables (Third Space Learning)

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	**2x, 5x** and **10x** (missing numbers and related division facts)	**3x** (from 0x to 12x in order)	**3x** (from 0x to 12x in order)	**3x** (from 0x to 12x in order)	**3x** (from 0x to 12x in order)	**3x** (from 0x to 12x in any order)	**3x** (from 0x to 12x missing numbers and division facts)	**3x** (from 0x to 12x missing numbers and division facts)	**4x** (from 0x to 12x in order)	**4x** (from 0x to 12x in order)	**4x** (from 0x to 12x in order)	**4x** (from 0x to 12x in order) order)
Spring	**2x, 5x, 3x** and **10x** (missing numbers and related division facts)	**4x** (from 0x to 12x in order)	**8x** (from 0x to 12x in order)	**8x** (from 0x to 12x in order)	**8x** (from 0x to 12x in order)	**8x** (from 0x to 12x in order)	**4x** (from 0x to 12x in any order)	**4x** (from 0x to 12x missing numbers and division facts)	**4x** (from 0x to 12x missing numbers and division facts)	**8x** (from 0x to 12x in order)	**8x** (from 0x to 12x in order)	**8x** (from 0x to 12x in order)
Summer	**2x, 5x, 3x, 4x** and **10x** (missing numbers and related division facts)	**8x** (from 0x to 12x in order)	**8x** (from 0x to 12x in order)	**8x** (from 0x to 12x in order)	**8x** (from 0x to 12x in order)	**8x** (from 0x to 12x in any order)	**2x, 5x, 3x, 4x** and **10x** (missing numbers and related division facts)	**8x** (from 0x to 12x in any order)	**8x** (from 0x to 12x missing numbers and division facts)	**8x** (from 0x to 12x missing numbers and division facts)	Review of **2x, 5x, 3x, 4x, 8x** and **10x**	**2x, 5x, 3x, 4x, 8x** and **10x** (missing numbers and related division facts)

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Autumn 1	**Count in multiples of 3 to 12x3 in order from 0 fluently.**
Autumn 2	**Recall multiples of 3 up to 12x3 in any order, including missing numbers and related division facts with growing fluency.** **Count in multiples of 4 to 12x4 in order from 0 with growing fluency. Introduce (relating to x4) and begin to count in multiples of 8 from 0 to 12x8.**
Spring 1	**Recall multiples of 3 up to 12x3 in any order, including missing numbers and related division facts fluently.** **Count in multiples of 4 to 12x4 in order from 0 with fluently.** **Count in multiples of 8 to 12x8 in order from 0 with growing fluency.**
Spring 2	**Recall multiples of 4 up to 12x4 in any order, including missing numbers and related division facts with growing fluency.** **Count in multiples of 8 to 12x8 in order from 0 fluently.**
Summer 1	**Recall multiples of 4 up to 12x4 in any order, including missing numbers and related division facts fluently.** **Recall multiples of 8 up to 12x8 in any order, including missing numbers and related division facts with growing fluency.**
Summer 2	**Recall multiples of 8 up to 12x8 in any order, including missing numbers and related division facts fluently.**

Year 4: Times tables (Third Space Learning)

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	**2x, 5x** and **10x** (missing numbers and related division facts)	**3x, 4x** and **8x** (missing numbers and related division facts)	**2x, 5x, 10x, 3x, 4x** and **8x** (missing numbers and related division facts)	**6x** (from 0x to 12x in order)	**6x** (from 0x to 12x in order)	**6x** (from 0x to 12x in order)	**6x** (from 0x to 12x in order)	**6x** (from 0x to 12x in any order)	**6x** (from 0x to 12x in any order)	**6x** (from 0x to 12x missing numbers and division facts)	**6x** (from 0x to 12x missing numbers and division facts)	**7x** (from 0x to 12x in order)
Spring	**2x, 5x, 10x, 3x, 4x, 6x** and **8x** (missing numbers and related division facts)	**7x** (from 0x to 12x in order)	**7x** (from 0x to 12x in order)	**7x** (from 0x to 12x in any order)	**7x** (from 0x to 12x in any order)	**7x** (from 0x to 12x missing numbers and division facts)	**7x** (from 0x to 12x missing numbers and division facts)	**9x** (from 0 x to 12x in order)	**9x** (from 0x to 12x in any order)	**9x** (from 0x to 12x missing numbers and division facts)	**11x** (from 0 x to 12x in order)	**11x** (from 0x to 12x in any order)
Summer	**2x, 5x, 10x, 3x, 4x, 6x, 7x, 9x** and **8x** (missing numbers and related division facts)	**11x** (from 0x to 12x in any order) **11x** (from 0x to 12x missing numbers and division facts)	**12x** (from 0x to 12x in order)	**12x** (from 0x to 12x in any order)	**12x** (from 0x to 12x missing numbers and division facts)	All times tables recall (in any order including related division facts)	• Revisit and address misconceptions within times tables • All times tables recall (in any order including related division facts)					

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Autumn 1	Recall multiples of 3,4 and 8 up to 12x in any order, including missing numbers and related division facts fluently. Fluently count in 6's in order up to 12x6, using multiples of 3 to support.
Autumn 2	Recall multiples of 6 in any order, including missing numbers and related division facts with growing fluency. Fluently count in 7's in order up to 12x7.
Spring 1	Recall multiples of 6 in any order, including missing numbers and related division facts fluently. Recall multiples of 7 in any order, including missing numbers and related division facts with growing fluency.
Spring 2	Recall multiples of 7 in any order, including missing numbers and related division facts fluently. Fluently count in 9's in order up to 12x9. Fluently count in 11's in order up to 12x11.
Summer 1	Recall multiples of 9 in any order, including missing numbers and related division facts with growing fluency (using 10x and adjusting by 1 group to find 9x as a strategy) Recall multiples of 11 in any order, including missing numbers and related division facts fluently. Fluently count in 12's in order up to 12x12.
Summer 2	Recall multiples of 9 in any order, including missing numbers and related division facts fluently. Recall multiples of 12 in any order, including missing numbers and related division facts with growing fluency (using 10x and adjusting by adding 2 more groups).

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Year 5: Times tables and practice of other mathematical facts

Times tables (Third Space Learning and UL)

Autumn Term	**Recall multiples of 12 in any order, including missing numbers and related division facts fluently.** **Recall multiples of all times tables up to 12x12 in any order, including missing numbers and related division facts with growing fluency.**

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	**2x, 5x, 3x** and **10x** (in any order)	**2x, 5x, 3x** and **10x** (missing numbers and related division facts)	**6x, 4x,** and **8x** (in any order)	**6x, 4x,** and **8x** (missing numbers and related division facts)	**7x ,9x and 11x** (in any order)	**7x, 9x and 11x** (missing numbers and related division facts)	**12x** (from 0x to 12x in order)	**12x** (from 0x to 12x in order)	**12x** (from 0x to 12x in any order)	**12x** (from 0x to 12x in any order)	**12x** (from 0x to 12x missing numbers and division facts)	**12x** (from 0x to 12x missing numbers and division facts)
Spring	**2x, 5x, 3x** and **10x** (in any order missing numbers and related division facts)	**6x, 4x,** and **8x** (in any order missing numbers and related division facts)	**7x, 9x, 11x and 12x** (in any order missing numbers and related division facts)	**7x, 9x, 11x and 12x** (in any order missing numbers and related division facts)	All times tables recall (in any order including related division facts)	All times tables recall (in any order including related division facts)	• Revisit and address misconceptions within times tables • All times tables recall (in any order including related division facts)					
Summer	• Revisit challenging times tables • All times tables recall (in any order including related division facts) • Focus on division facts											

Year 6: Times tables and practice of other mathematical facts

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	**2x, 5x, 3x** and **10x**(in any order missing numbers and related division facts)	**6x, 4x,** and **8x** (in any order missing numbers and related division facts)	**7x, 9x, 11x and 12x** (in any order missing numbers and related division facts)	**7x, 9x, 11x and 12x** (in any order missing numbers and related division facts)	All times tables recall (in any order including related division facts)	All times tables recall (in any order including related division facts)	• Revisit challenging times tables and address misconceptions • All times tables recall (in any order including related division facts) • Focus on division facts					
Spring	All times tables recall (in any order including related division facts)	All times tables recall (in any order including related division facts) Review **multiples and common multiples**	All times tables recall (in any order including related division facts) Review **factors and common factors**	All times tables recall (in any order including related division facts) Review **square numbers**	All times tables recall (in any order including related division facts) Review **cube numbers**	All times tables recall (in any order including related division facts) Review **FDP common conversions**		All times tables recall (in any order including related division facts) Review **multiplying all numbers by 10, 100 and 1000**		All times tables recall (in any order including related division facts) Review **dividing all numbers by 10, 100 and 1000**		**Adress misconceptions**
Summer	• **Address misconceptions** • **Revisit challenging concepts from previous terms** • **Review analogue clock and calculations with time**											

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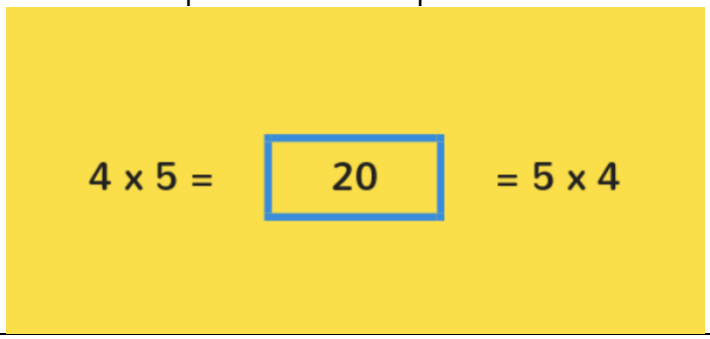
Years 1-2 weekly fluency practice

Day	Suggested Activities
1	Complete activities from Fluency Bee following the provided slides. Teachers to use their own discretion on whether pupils will need to complete the worksheet or if they need to complete it as part of home learning (I.e., pupils would not complete a worksheet for subitising but may need to for comparisons to 5).
2	
3	
4	
5	Weekly challenges/ Assessment questions

Years 3-6 weekly fluency practice

Day	Suggested Activities
1	**Recite and recall** (this could be through a song/ learning by chanting)
2	**Recite and recall** (products covered and pupils can complete a sheet where they fill in the products)
3	**Explore commutativity** (this could be through arrays or as displayed below. Pupils can complete a sheet where they fill in the products) 
4	**Games and activities** (Kagan structures such as Quiz-Quiz-Trade or Fizz Buzz or on TTRS)
5	**Assessment grid**

Early Morning Work

Twice a week, pupils are provided with opportunities for retrieval practice and interleaving learning using 'Flashback 4' resources or resources curated by teachers based on previous learning.

Assessment

- Pupils complete weekly challenges (based on the fluency learning for that week in Key Stage 1 and multiplication tables in Key Stage 2)
- Pupils complete half-termly assessment grids (based on addition and subtract facts in Key Stage 1 and multiplication tables in Key Stage 2)

Continued practice and provision

- Pupil are able to practise addition and subtraction at home through Numbots
- Pupils are able to practise multiplication and division at home through Times Tables Rockstars