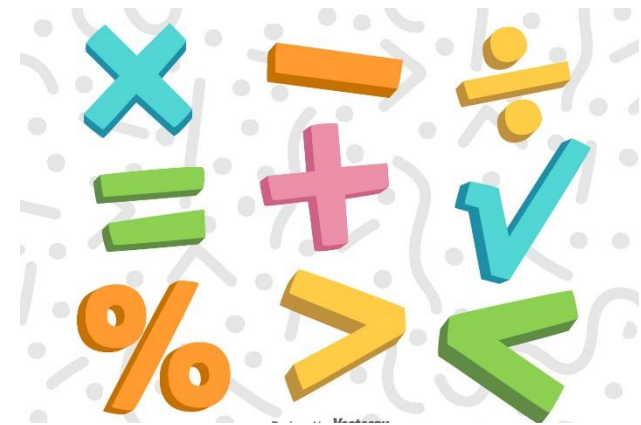# Christopher Pickering Primary School

Be the Best you can Be!

Christopher Pickering Maths Long Term Plan 2020-2021

EYFS – Year 6
Maths Long Term Plan

The intention for our young Mathematicians:
To ensure that all pupils:
• become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
• reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
• can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

EYFS

AUTUMN			SPRING			SUMMER		
Number and Place Value –Numbers to 5 **Addition and Subtraction** – Sorting **Number and Place Value** – comparing groups **Addition and Subtraction** – Changes within 5 **Measurement**- Time			**Addition and Subtraction**- Numbers to 5 **Number and Place Value** – Numbers to 10 **Addition and Subtraction** – Addition to 10 **Geometry** – Shape and Space			**Geometry** – Exploring patterns **Addition and Subtraction**- Change **Number and Place Value** – Numbers to 20 **Multiplication and Division** – Numerical Pattern **Measurement** - Measure		
Week		Number and Place Value 0-5 (Numberblocks/ 6 areas of concepts/Stories and songs)	Week		Number and Place Value 0-10 (Numberblocks/ 6 areas of concepts/Stories and songs)	Week		Number and Place Value 10-20 (Numberblocks/ 6 areas of concepts/Stories and songs)
Week 1	BASELINE	BASELINE	Week 1	Addition and Subtraction- Numbers to 5	6	Week 1	Geometry – Exploring patterns	1-10
Week 2	Addition and Subtraction – Sorting	1	Week 2		6	Week 2		1-10
Week 3		1	Week 3		7	Week 3		Doubling
Week 4		2	Week 4		7	Week 4		Doubling
Week 5	Number and Place Value – comparing groups	2	Week 5	Geometry – Shape and Space	8	Week 5	Addition and Subtraction- Change	Odds and Evens
Week 6		3	Week 6		8	Week 6		Odds and Evens
Week 7		3	Week 7		9	Week 7		Number and Place Value – Numbers to 20
Week 8	Addition and Subtraction – Changes within 5	4	Week 8		9	Week 8		
Week 9		4	Week 9	Addition and Subtraction – Addition to 10	10	Week 9	Measurement - Measure	Ordering to 20 counting on and back
Week 10		5	Week 10		10	Week 10		
Week 11		5	Week 11		Assessment	Week 11		
Week 12		1-5				Week 12		
Week 13	Measurement- Time	1-5				Week 13		Consolidation
Week 14		Assessment				Week 14		

Term	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	Number: Place Value (within 10) **Small Steps: 15** NCETM Spine: 1.1 (comparison context) 1.3, (numbers 0-5) and 1.4 (numbers 6-10) *Note: part-whole shows up in 1.2 which could be used before 1.3* RtP -NPV-1, NPV-2, NF-1, AS-1, AS-2				Number: Addition and Subtraction (within 10) **Small Steps: 18** NCETM Spine: 1.2 (part whole model) 1.5, 1.6, 1.7 RtP - NF-1, AS-1, AS-2				Geometry: Shape **Small Steps: 5** NCETM Spine: N/A RtP – G1	Number: Place Value (within 20) **Small Steps: 8** NCETM Spine: 1.10 (TP 1 and 2) RtP - NPV-1, NPV-2		Consolidation
Spring	Number: Addition and Subtraction (within 20) **Small Steps: 8** NCETM Spine: 1.10 (TP 5), 1.11 (TP 5 and 6) RtP - NPV-1				Number: Place Value (within 50) *includes counting in 2s and 5s* **Small Steps: 9** NCETM Spine: 1.9, 2.1 RtP - NPV-1			Measurement: Length and Height **Small Steps: 3** NCETM Spine: 1.1 RtP - NF-2, NPV-2, AS-2		Measurement: Weight and Volume **Small Steps: 6** NCETM Spine: 1.1 RtP - NF-2, NPV-2, AS-2		Consolidation
Summer	Number: Multiplication and Division **Small Steps: 7** NCETM Spine: 2.1 (TP 1-3) could also ref back to 1.8 TP 2 RtP - NF-2				Number: Fractions **Small Steps: 4** NCETM: Key Stage 1 Year 1: Halving shapes or objects Year 1: Find a quarter of a shape or object RtP – NF-2		Geometry: Position & Direction **Small Steps: 3** NCETM Spine: N/A RtP - G-2	Number: Place Value (within 100) **Small Steps: 6** NCETM Spine: 1.9 RtP - NPV-1, NF-2		Measures: Money **Small Steps: 3** NCETM Spine: 2.1 (TP 4 – 6) RtP - NPV-1, NF-2	Measurement: Time **Small Steps: 6** NCETM Spine: N/A RtP - NPV-1, NF-2	Consolidation

NOTES: NCETM encourages teaching numbers from 20-100 **(1.8 + 1.9 NCETM SPR 2, SUM 1 and SUM 4)** before learning the 11-20 teen numbers **(1.10 NCETM AUT 4)** which is different to the White Rose planning. This should be considered when planning. *'This segment will give children a sense of the regularity of number naming up to 100 before they begin to work on irregularly named teen numbers'.* **However,** TP 1.9 will need tailoring as to not include numbers 11-20

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White Rose Overview: https://whiterosemaths.com/resources/schemes-of-learning/primary-sols/

NCETM Teaching for Mastery home page: https://www.ncetm.org.uk/teaching-for-mastery/

Number of small steps per block (not including recap steps)   <u>**YEAR 2**</u>   **RtP Criteria**   **NCETM Spine link reference (TP = Teaching Point)**

Term	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	Number: Place Value **Small Steps: 10** NCETM Spine: **1.9** (revisit Year 1 PV to 100) **2.1** (count in 2s, 5s, 10s) RtP - NPV-1, NPV-2				Number: Addition and Subtraction **Small Steps: 16** NCETM Spine: Could refer back to **1.2** (for part-whole), **1.8** (support with tens and bonds to 100), **1.9** (TP 6 using PV for fact families) **1.7** (fact families inverse etc.) **1.14** (add and sub tens, 10 more less) **1.13** - (covers most small steps) **1.14**, **1.15** **1.16** (subtraction 2 digit 2 digit, bonds 10s and 1s) **1.11** (three addends) **2.1** (TP 2 bonds to 100 from Y3) RtP - AS-1, AS-2, AS-3, AS-4, NPV-2					Measurement: money **Small Steps: 10** NCETM Spine: revisit **2.1** (TP 4-6) Use Add & Sub skills from previous block and apply to money (y4 is next spine on money) RtP - AS-1, AS-2, AS-3, AS-4, NPV-2		Number: Multiplication and division **Small Steps: 9** NCETM Spine: **2.2**, **2.3** (TP1) **2.5** (arrays) **2.3** (2x table), **2.4** (10 and 5 x table) RtP - MD-1	
Spring	Number: Multiplication and Division **Small Steps: 6** NCETM Spine: (**1.4** and **1.10** TP 3 if needed to refer back to y1 odd/even numbers) **2.6** - (TP 1-3 sharing and grouping) (TP 4 divide by 2, 5, 10) RtP - MD-1, MD-2, NPV-2		Statistics **Small Steps: 6** NCETM Spine: some ideas in **1.12** but this is mainly a focus on difference		Geometry: Properties of Shape **Small Steps: 12** NCETM Spine: N/A RtP – G1				Number: Fractions **Small Steps: 12** NCETM Spine: **Key Stage 1** Fractions		Measurement: Length & Height **Small Steps: 5** NCETM Spine: could ref back to **1.1**	Consolidation
Summer	Geometry: Position and Direction **Small Steps: 4** NCETM Spine: N/A			Problem solving and efficient methods		Measurement: Time **Small Steps: 6** NCETM Spine: N/A		Measurement: Mass, Capacity and Temperature **Small Steps: 7** NCETM Spine: N/A			Investigations	

<u>**NOTES:**</u> Struggling to match in 1.12 to WR so could be used as a separate focus on subtraction and difference. May need to modify some skills on NCETM for bonds to 100 (10s and 1s) example 1.16.

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Number of small steps per block (not including recap steps)   **YEAR 3**   RtP Criteria   NCETM Spine link reference (TP = Teaching Point)

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Wk 12
Autumn	Number: Place Value **Small Steps: 10** NCETM Spine: 1.17 (TP1 hundreds, 1000, 50s, 25s) 1.18 (TP1 100s,10s,1s) (TP2 number line to 1000) (TP3 1,10,100 more or less) (TP4 compare order) RtP - NPV-1, NPV-2, NPV-3, NPV-4			Number: Addition and Subtraction **Small Steps: 18** NCETM Spine: 1.18 (TP 5 add and sub multiples of 100) 1.19 1.17 (TP 3 + 4 crossing 10s and 100s) 1.20 (written addition) 1.21 (written subtraction) RtP - AS-2,					Number: Multiplication and Division **Small Steps: 10** NCETM Spine: 2.6 (revisit for equal groups) 2.8 (TP 1 mult and divide by 3) 2.7 (mainly TP2 mult divide by 4 incl 4x table) (TP3 & 4 mult and divide by 8 incl 8x table) RtP - MD-1			Consolidation
Spring	Number: Multiplication and Division **Small Steps: 9** NCETM Spine: 2.6 TP4 related 2.13 (TP 6 related facts taken from y4) 2.19 (related facts taken from y5) 2.17 and 2.8 (TP 5 scaling) 2.14 (select from TP 1 & 2) 2.15 (TP 1) *(Concrete resources best for this topic)* RtP - MD-1			Measures: Money **Small Steps: 5** NCETM Spine: revisit 2.1 1.25 (select appropriate) RtP - NPV-2, AS-2	Statistics **Small Steps: 3** NCETM Spine: N/A		Measurement: Length and Perimeter **Small Steps: 8** NCETM Spine: 2.16 (TP 1 to introduce) RtP - NPV-2, NPV-3, AS-2, NF-1			Number: Fractions **Small Steps: 9** NCETM Spine: revisit Key Stage 1 3.1, 3.2 3.6 (TP 3 Fractions of amounts) RtP - F-1, F-2, F-3, F-4		Consolidation
Summer	Number: Fractions **Small Steps: 7** NCETM Spine: 3.3 (compare and order) 3.4 (add and sub fractions) 3.7 (select from TP 1 + 2 only) RtP - F-1, F-2, F-3, F-4			Measurement: Time **Small Steps: 11** NCETM Spine: N/A			Geometry: Properties of shape **Small Steps: 9** NCETM Spine: N/A RtP - G-1, G-2		Measurement: Mass and Capacity **Small Steps: 8** NCETM Spine: N/A			Consolidation

<u>**NOTES:**</u> Will have to dip into 'year 4' (3.5, 3.6) and even year 5 (3.7) for equivalent fractions on the NCETM spine for some lessons. Will also have to revisit early fraction work a lot for deep

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Number of small steps per block (not including recap steps)   <u>YEAR 4</u>   **RtP Criteria**   **NCETM Spine link reference (TP = Teaching Point)**

Term	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	**Number: Place Value** **Small Steps: 13** NCETM Spine: **1.17** (count in 25s), **1.22**, **1.27** (negative numbers) RtP - NPV-1, NPV-2, NPV-3, NPV-4				**Number: Addition and Subtraction** **Small Steps: 10** NCETM Spine: **1.22** (TP 3 add sub 1s,10s,100s,1000s and TP5). Refer back to **1.20** and **1.21** for introducing written methods.			**Measures: Length & Perimeter** **Small Steps: 5** NCETM Spine: **2.16** Rtp – G-2	**Number: Multiplication and Division** **Small Steps: 12** NCETM Spine: **2.6** (TP5 for x ÷ 0 and 1), **2.8** (6x and 9x), **2.9** (7x), **2.13** (x ÷ 10,100) RtP - NF-1, MD-2, MD-3			**Consolidation**
Spring	**Number: Multiplication and Division** **Small Steps: 11** NCETM Spine: **2.10** (factor pairs), **2.11** (11x, 12x & efficient mult), **2.14** (multiplication) **2.15** (division) **2.12** (remainders) RtP - NF-1, MD-2, MD-3			**Measures: Area** **Small Steps: 4** NCETM Spine: **2.16**	**Number: Fractions** **Small Steps: 10** NCETM Spine: May need to visit **3.0** (KS1 fractions) & Year 3 for intro. **3.4** (add and sub fractions) **3.7** (equiv - TP1 & TP2), **3.5** (be selective - show more than one whole in fractions, count on & back past 1, add & sub) RtP – F-1, F-2, F-3				**Number: Decimals** **Small Steps: 10** NCETM Spine: (Revisit **2.13** for ÷ 10 and 100), **1.23** (tenths, hundredths), **1.24** (mainly TP 1 and some of TP2) RtP – F-1, F-2, F-3			**Consolidation**
Summer	**Number: Decimals** **Small Steps: 6** NCETM Spine: **1.24** (TP2, TP7)	**Measurement: Money** **Small Steps: 4** NCETM Spine: **1.22** (TP 4 estimate money) **1.25**		**Measures: Time** **Small Steps: 4** NCETM Spine: N/A	**Statistics** **Small Steps: 4** NCETM Spine: N/A		**Geometry: Properties of Shape** **Small Steps: 6** NCETM Spine: N/A RtP - NPV-4, G-2, G-3, G-1				**Geometry: Position & Direction** **Small Steps: 4** NCETM Spine: **1.27** TP 6	**Consolidation**

NOTES: you may want to go back to earlier year groups when appropriate. For example, in add and subtract it would be worth visiting the year 3 introduction to column methods with 3 digit numbers before moving on to 4 digit numbers. It may say this on the spine materials.

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Number of small steps per block (not including recap steps)   **YEAR 5**   RtP Criteria   NCETM Spine link reference (TP = Teaching Point)

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Wk 12
Autumn	Number: Place Value **Small Steps: 11** NCETM Spine: **1.26** **1.27** (negative numbers) RtP - NPV-2, NPV-3, NPV-4			Number: Addition and Subtraction **Small Steps: 5** NCETM Spine: revisit **1.22** (TP 3 and TP5) and **1.20**, **1.21** for written methods. **1.29** (strategies and mental methods as opposed to written. Includes decimals) **1.29** (TP 3 difference) **1.29** (TP 6 estimate, approximate, inverse) **1.28** (multi-step problems)		Statistics **Small Steps: 6** NCETM Spine: some examples in **1.28** and **1.29**		Number: Multiplication and Division **Small Steps: 9** NCETM Spine: **2.21** (factors multiples prime) **2.9** (square numbers) **2.13** (mult divide 10,100,100) **2.19** (10,100,1000) **2.20** (cube numbers) **2.18** (maybe stand alone as equivalence) RtP - MD-1, MD-2		Measurement: Perimeter and Area **Small Steps: 5** NCETM Spine: revisit **2.16** RtP - MD-1, MD-2		Consolidation
Spring	Number: Multiplication and Division **Small Steps: 7** NCETM Spine: **2.23** (area model) **2.15** (division) **2.14** (written multiplication) RtP - MD-1, MD-2, MD-3			Number: Fractions **Small Steps: 20** NCETM Spine: revisit parts of earlier fractions to prepare for topic (**3.1**, **3.2**, **3.3**, **3.4**) **3.7** (equivalents and simplifying, compare order), **3.8** (add and subtract), **3.5** improper and mixed, **3.6** multiplying RtP - F-1, F-2, NPV-2, F-3						Number: Decimals and Percentages **Small Steps: 10** NCETM Spine: continue from y4 **1.23** and **1.24** (1/10, 1/100, 1/000ths) **1.24** (TP 3 compare and order) **3.10** FDP (TP1,TP2,TP4, TP5) RtP - NPV-1, NPV-3		Consolidation
Summer	Number: Decimals **Small Steps: 12** NCETM Spine: ref back to **1.23** TP 4 -6 **1.24** (TP 4 & 6) **2.19** TP 2 and **2.29** (decimals by 10,100,1000) RtP - NPV-1, NPV-3			Geometry: Properties of Shape **Small Steps: 9** NCETM Spine: N/A **1.28** (some ideas in TP4) RtP - MD-1, G-1,		Geometry: Position & Direction **Small Steps: 5** NCETM Spine **1.27** TP 6		Measurement: Converting Units **Small Steps: 6** NCETM Spine: (**1.24** TP5)		Measures: Volume **Small Steps: 4** NCETM Spine: **2.20**		Consolidation

NOTES: Lots of revisiting needed (see previous year groups). Big emphasis on FDP.

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Term	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12
Autumn	**Number: Place Value** **Small Steps: 4** NCETM Spine: revisit y5 **1.26**PV **1.30** (mainly TP2 and TP3) **1.30** (TP 5 rounding) RtP – NPV-1, NPV-2, NPV-3,		**Number: Add. Sub, Multiplication and Division** **Small Steps: 15** NCETM Spine: **1.30**TP 4 (revisit **1.20** and **1.21** for column) **1.30** (maybe use to secure PV and counting through boundaries using mental methods TP4 and fluency including RPS in TP6) **2.24** (division - ref back to **2.15** if necessary) **2.23** long multiplication **2.21** common factors, common multiples, primes **2.20** cubes and ref back to **2.9** for square numbers **2.22** and **2.28** (order operations) **2.25** (reason known facts) RtP – AS/MD-1, AS/MD-2, AS/MD-3, AS/MD-4				**Number: Fractions** **Small Steps: 16** NCETM Spine: **3.7** simplify equivalent incl. number line revisit **3.5** mixed number improper fraction add, sub, number line **3.8** add and sub fractions **3.8** TP 5 (compare denom. and numerator) **3.9** Multiply, divide **3.9** fractions of amounts TP1 - revisit **3.6** TP 3 RtP - F-1, F-2, F-3				**Geometry: Position & Direction** **Small Steps:** NCETM Spine: **1.27** TP 6 RtP – G1	**Consolidation**
Spring	**Number: Decimals** **Small Steps: 9** Spine: revisit TP **1.24** for 3 D.P, revisit **2.29** - multi div 10,100,1000 **2.19** mult div decimals by integers **2.28** (some support with division problems but no decimals) **3.10** fraction decimal		**Number: Percentages** **Small Steps: 6** NCETM Spine: **3.10**		**Number: Algebra** **Small Steps: 10** NCETM Spine: **1.28**, **1.31**		**Measures: Convert Units** **Small Steps: 5** NCETM Spine: **2.29** TP2 (metric only)	**Measurement: Perimeter, Area and Volume** **Small Steps: 8** NCETM Spine: **2.30** area perimeter (revisit **2.16**) **2.20** volume		**Number: Ratio** **Small Steps: 7** NCETM Spine: **2.27**		**Consolidation**
Summer	**Geometry: Property of Shape** **Small Steps: 11** NCETM Spine: **1.28** TP4 (missing angles only)		**Problem Solving**		**Statistics** **Small Steps: 8** NCETM Spine: **1.28** TP3 (pie chart, bar chart - missing values focus) **3.10** TP6 - percentage context, **2.26** mean average		**Investigations**					**Consolidation**

NOTES: Lots of revisiting needed (see previous year groups)

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Spine per year group

	SPINE 1: Place Value, Add Subtract https://www.ncetm.org.uk/teaching-for-mastery/mastery-materials/primary-mastery-professional-development/number-addition-and-subtraction/	SPINE 2: Multiplication and Division https://www.ncetm.org.uk/teaching-for-mastery/mastery-materials/primary-mastery-professional-development/multiplication-and-division/	SPINE 3: Fractions https://www.ncetm.org.uk/teaching-for-mastery/mastery-materials/primary-mastery-professional-development/fractions/
Year 1	**1.1**, **1.2**, **1.3**, **1.4**, **1.5**, **1.6**, **1.7**, **1.8**, **1.9**, **1.10**	**2.1**	**3.0**
Year 2	**1.11**, **1.12**, **1.13**, **1.14**, **1.15**, **1.16**	**2.2**, **2.3**, **2.4**, **2.5**, **2.6**	**3.0**
Year 3	**1.17**, **1.18**, **1.19**, **1.20**, **1.21**	**2.7**, **2.8**, **2.9**	**3.1**, **3.2**, **3.3**, **3.4**
Year 4	**1.22**, **1.23**, **1.24**, **1.25**	**2.10**, **2.11**, **2.12**, **2.13**, **2.14**, **2.15**, **2.16**, **2.17**	**3.5**, **3.6**
Year 5	**1.26**, **1.27**, **1.28**, **1.29**	**2.18**, **2.19** , **2.20**, **2.21**, **2.22**	**3.7**, **3.8**
Year 6	**1.30**, **1.31**	**2.23**, **2.24**, **2.25**, **2.26**, **2.27**, **2.28**, **2.29**, **2.30**	**3.9**, **3.10**