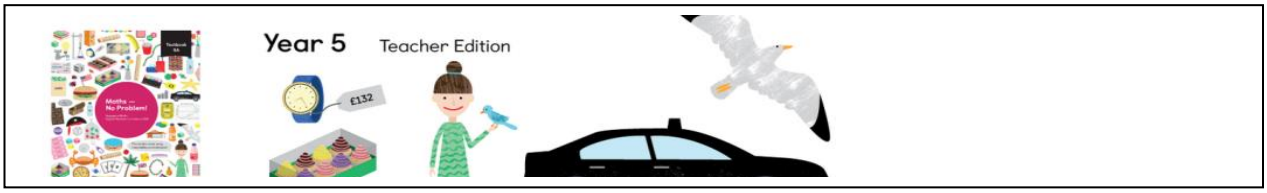

Ready to Progress?

Above each unit is a copy of the Ready to Progress Criteria.

Access Maths Guidance for hyperlinks to teacher guidance, assessment questions & supporting materials, inc PowerPoints for pre-teaching & interventions.

Hyperlink to teacher guidance: https://www.gov.uk/government/publications/teaching-mathematics-in-primary-schools

Hyperlink to supporting resources (for intervention/pre-teaching): https://www.ncetm.org.uk/classroom-resources/exemplification-of-ready-to-progress-criteria/

Hyperlink to NCETM curriculum planning support: https://www.ncetm.org.uk/classroom-resources/cp-year-5-curriculum-map/

Chapter	Topic
	By Y5 children will be able to record both in journal & workbook within one lesson, although more time may be allocated to one or the other in some lessons, so this may not always be the case, eg: investigations, solving more complex problems.

Textbook 5A

Check they've got this, if not do this before moving on.

The Y4 RtP criteria is the essential learning for the end of Y3 in order to be ready for Y5.

Year 4 conceptual prerequisite	Year 5 ready-to-progress criteria	Future applications
Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100.	5NPV–1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.	Solve multiplication problems that have the scaling structure, such as 'ten times as long'. Understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal fraction.
Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning.	5NPV–2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.	Compare and order numbers, including those with up to 2 decimal places. Add and subtract using mental and formal written methods.
Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.	5NPV–3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.	Compare and order numbers, including those with up to 2 decimal places. Estimate and approximate to the nearest 1 or 0.1.
Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.	5NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.	Read scales on graphs and measuring instruments.

1	**Numbers to 1,000,000** • Read and write numbers to 1,000,000 • Tell the place value of a digit in a number

	• Compare and arrange numbers within 1,000,000 including use of equality and inequality symbols • Count forwards and backwards in powers of ten (children should understand what happens in base ten system) steps of 1000, 10,000 and 100,000 • Rounding numbers to the nearest 10. 100, 1000, 10,000 and 100,000 (promote rounding for estimation throughout the year when calculating) • Interpret negative numbers in context (eg: temperature, lifts, under water etc – some good Nrich activities and SKE) • Roman numerals & recognising years can be practised over the year as opportunities arise, eg: writing date – MNP lessons at the end of the year – also some good Nrich investigations using Roman numerals to delve deeper into place value These objectives will continue to be revisited throughout the year during fact fluency sessions and checked through questioning in lessons. NCETM planning guide for negative numbers (with activities): https://www.ncetm.org.uk/resources/42499
	Chapter 2
	FACT Fluency Check they've got this, if not do this before moving on. The Y4 RtP criteria is the essential learning for the end of Y3 in order to be ready for Y5. There are no ready to progress for addition and subtraction from year 4 to 5. Children should be fluent with written methods however the focus should be on using mental methods where it is more efficient to do so.
2	**Whole Numbers: Addition and Subtraction** • Add whole numbers with more than 4 digits (*including column method when appropriate*) • Add numbers mentally (assess and practice fluency) – continue to evaluate efficiency and 'do it mentally first' approach • Subtract whole numbers with more than 4 digits (*including column method when appropriate*) • Subtract numbers mentally (assess and practice fluency) • Use rounding to check answers **(continue to focus on estimation & checking for calculations – often forgotten by children)**

Year 4 conceptual prerequesite	Year 5 ready-to-progress criteria	Future applications
Recall multiplication and division facts up to 12 × 12. Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, for example: 74 ÷ 9 = 8 r 2	5NF–1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.	Use multiplication facts during application of formal written layout. Use division facts during short division and long division.
Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10 or 100), for example: 8 + 6 = 14 80 + 60 = 140 800 + 600 = 1,400 3 × 4 = 12 30 × 4 = 120 300 × 4 = 1,200	5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth), for example: 8 + 6 = 14 0.8 + 0.6 = 1.4 0.08 + 0.06 = 0.14 3 × 4 = 12 0.3 × 4 = 1.2 0.03 × 4 = 0.12	Recognise number relationships within the context of place value to develop fluency and efficiency in calculation.

NCETM Mastery Professional Development Materials, Addition and Subtraction: https://www.ncetm.org.uk/resources/50640#yr5

Chapter 3

Year 4 conceptual prerequesite	Year 5 ready-to-progress criteria	Future applications
Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to scaling a number by 10 or 100.	5MD–1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.	Convert between different metric units of measure.

Check they've got this, if not do this before moving on.

The Y4 RtP criteria is the essential learning for the end of Y4 in order to be ready for Y5.

Recall multiplication and division facts up to 12 × 12, and recognise products in multiplication tables as multiples of the corresponding number. Recognise multiples of 10, 100 and 1,000. Apply place-value knowledge to known additive and multiplicative number facts. Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients).	5MD–2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.	Solve contextual division problems. Simplify fractions. Express fractions in the same denomination.
Recall multiplication facts up to 12 × 12. Manipulate multiplication and division equations.	5MD–3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.	Solve contextual and non-contextual multiplication problems using a formal written method.
Recall multiplication and division facts up to 12 × 12. Manipulate multiplication and division equations. Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, for example: 74 ÷ 9 = 8 r 2 and interpret remainders appropriately according to the context.	5MD–4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.	Solve contextual and non-contextual division problems using a formal written method.

3

Whole Numbers: Multiplication and Division

All should be fluent with all tables from Y4 – assess beg of term & address. Those fluent may have more challenging tasks connected to tables during fact fluency sessions set on Mathletics.

- Find multiples and common multiples (investigations using Unifix, Cuisenaire and Numicon)
- Find factors and common factors (investigations as above)

- Identify prime and composite numbers (as above, also range of ATM games and activities available)
- Recognise square numbers and cube numbers, and use the notation for squares (e.g. 4^2) and cubes (e.g. 2^3) – discover using concrete resources, eg Unifix, Multilink, Cuisenaire
- *Multiply 4 digit numbers by one or two digit numbers using a formal written method, including long multiplication where appropriate (teach written method using concrete resources and multiplication mat)*
- *Divide numbers up to 4 digits by a one-digit number using a formal written method where appropriate and show understanding with counters (teach using concrete resources on plain A3 paper)*
- *Multiply and divide whole numbers and decimals by 10, 100, 1000 (consider by 0 and by 1)*

NCETM Mastery Professional Development Materials, multiplication and division: https://www.ncetm.org.uk/resources/52830

4

Whole Numbers: Word Problems

- Solve word problems involving addition, subtraction, multiplication and division, and a combination of these (bar model should be embedded as a key representation by now).
- NB: Could include further problems around negative numbers in context here.

Ensure concrete resources are used to support bar modelling as well as diagrams.

****Do NOT teach children to look for key words and underline the them** – teach children to understand the problem in context and represent it, this will include understanding key terminology**
Could use the structure of these word problems when teaching cross curricular maths**

Check they've got this, if not do this before moving on.

The Y4 RtP criteria is the essential learning for the end of Y4 in order to be ready for Y5.

Year 4 conceptual prerequesite	Year 5 ready-to-progress criteria	Future applications
Recall multiplication and division facts up to 12 × 12. Find unit fractions of quantities using known division facts (multiplication-tables fluency). Unitise using unit fractions (for example, understand that there are 3 one-fifths in three-fifths).	5F–1 Find non-unit fractions of quantities.	Solve multiplication problems that have the scaling structure.
Recall multiplication and division facts up to 12 × 12. Reason about the location of fractions in the linear number system.	5F–2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system.	Compare and order fractions. Use common factors to simplify fractions. Use common multiples to express fractions in the same denomination. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
Divide powers of 10 into 2, 4, 5 and 10 equal parts.	5F–3 Recall decimal fraction equivalents for $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$, and for multiples of these proper fractions.	Read scales on graphs and measuring instruments. Know percentage equivalents of common fractions.

6	**Fractions** Use arrays & paper strips for calculation. Big focus on efficiency & drawing on what is already known. ALWAYS refer to 'equal' parts and the whole. **The children will need year 3 and 4 content consolidating. Check understanding using formative assessment. See RtP and MNP year 3 and 4 content.** • **Fractions of amounts are not included in Year 5 MNP, please include it** • Find equivalent fractions of a given fraction • Recognise mixed numbers and improper fractions and convert from one form to the other • Compare and order fractions • Add and subtract fractions (*including those with different denominators*) (Use an array – See me if you're not sure) • Multiply proper fractions and mixed numbers by whole numbers • NCETM Mastery Professional Development Materials, fractions: https://www.ncetm.org.uk/resources/53253#yr5

Textbook 5B

Chapter 7

Year 4 conceptual prerequesite	Year 5 ready-to-progress criteria	Future applications
Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.	5NPV–3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.	Compare and order numbers, including those with up to 2 decimal places. Estimate and approximate to the nearest 1 or 0.1.
Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.	5NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.	Read scales on graphs and measuring instruments.
Divide 100 and 1,000 into 2, 4, 5 and 10 equal parts. Find unit fractions of quantities using known division facts (multiplication tables fluency).	5NPV–5 Convert between units of measure, including using common decimals and fractions.	Read scales on measuring instruments, and on graphs related to measures contexts. Solve measures problems involving different units by converting to a common unit.

Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10 or 100), for example: 8 + 6 = 14 80 + 60 = 140 800 + 600 = 1,400 3 × 4 = 12 30 × 4 = 120 300 × 4 = 1,200	5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth), for example: 8 + 6 = 14 0.8 + 0.6 = 1.4 0.08 + 0.06 = 0.14 3 × 4 = 12 0.3 × 4 = 1.2 0.03 × 4 = 0.12	Recognise number relationships within the context of place value to develop fluency and efficiency in calculation.	
Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to scaling a number by 10 or 100.	5MD–1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.	Convert between different metric units of measure.	

7	**Decimals (fractions & percentages)** **Make links to money and other measures. Ensure children see how fractions, decimals and percentage are related and inc all three in questioning.** **Do NOT use Place Value Counters for comparing decimals.** • Read and write decimals up to three decimal places • Compare and order decimals up to three decimal places, inc use of equality and inequality symbols • Write fractions as decimals *and decimal numbers as fractions e.g. 0.71=71/100* • Add and subtract decimals (evaluate efficiency) • Round decimals with two decimal places to the nearest whole number and to one decimal place • Solve problems involving decimals up to three decimal places
8	**Percentages** • Recognise *and understand* the per cent symbol (%) • Find percentage of a given number • Interpret a percentage as a fraction of an amount *and a decimal* • *Solve problems which require knowing percentage and decimal equivalents*
	Chapter 9

Year 4 conceptual prerequesite	Year 5 ready-to-progress criteria	Future applications

	Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations. Identify whether the interior angles of a polygon are equal or not.	5G–1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.	Solve problems involving missing angles.
	Compose polygons from smaller shapes. Recall multiplication facts up to 12 × 12.	5G–2 Compare areas and calculate the area of rectangles (including squares) using standard units.	Calculate the area of compound rectilinear shapes and other 2D shapes, including triangles and parallelograms, using standard units. Use the relationship between side-length and perimeter, and between side-length and area to calculate unknown values.
9	**Geometry** Use the RtP to consolidate year 4 learning before working on the year 5 content. • Identify *and compare* acute angles, right angles, obtuse angles and reflex angles • Draw and measure given angles (different types of protractors available) • Identify angles on a straight line and angles that meet at a point • Find unknown angles *and lengths* in squares and rectangles • Identify regular polygons • Identify 3-D shapes from 2-D drawings (*including distinguishing between regular and irregular polygons*)		
10	**Position and Movement** **Recap language – including parallel and perpendicular** • Write the coordinates of points • Describe translations and reflections • Find the position of a shape after translation or after reflection		
11	**Measurements** **Continue to revisit conversions through fact fluency sessions using Mathletics.** **Ideal opportunity to review place value, any objectives that need consolidating from number and fractions.** **Resources MUST be used by the children and not just demonstrated** (ensure these are ready before the day of the lesson as demand may be high): • Convert measurements of length (*including imperial units*) • Convert measurements of mass (*including imperial units*) • Convert measurements of time • *Tell the temperature (interpreting negative numbers in context, counting forward and backwards, including through zero)*		

	• Solve problems involving measurements (continue to embed use of bar model as key representation)
12	**Area and Perimeter** Focus on mental calculations and the CONCEPTS. • Find the perimeter of a figure • Find the area of a figure (*including irregular shapes*) • Use scale diagrams to find the perimeter and the area of a figure • Estimate the area of a figure
13	**Volume** **Practice work with the tiny unifix – this year devote only 2 lessons to the 'concept' of volume. The rest can be covered in year 6.** • Find and compare the volumes of solids • Find and compare the capacity of rectangular boxes • Estimate volume and capacity **Cover in Year 6** • Convert units of volume • Solve word problems involving volume
Teach in Science and across the curriculum	
5	**Statistics** • Read and interpret information in a timetable (collection of timetables available in Maths Room) • Read, interpret and complete information in a table • Read and interpret information from a line graph • Solve word problems using information from a line graph
14	**Roman Numerals** **First introduced during topic in Y3 & revisited in Y4. Charts & dice available. Dates written in Roman Numerals all year.** • Write Roman numerals up to 1000 (use clock/watch faces using RN) • Write years in Roman numerals (use credits at end films etc)