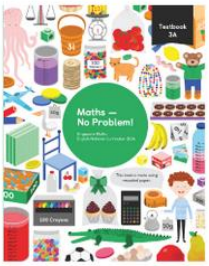


Ready to Progress?

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/

MNP Chapter	Topic
Textbook 3A	

Ready-to-progress criteria

Year 2 conceptual prerequisite	Year 3 ready-to-progress criteria	Future applications
Know that 10 ones are equivalent to 1 ten, and that 40 (for example) can be composed from 40 ones or 4 tens. Know how many tens there are in multiples of 10 up to 100.	3NPV–1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10.	Solve multiplication problems that that involve a scaling structure, such as 'ten times as long'.
Recognise the place value of each digit in *two*-digit numbers, and compose and decompose *two*-digit numbers using standard and non-standard partitioning.	3NPV–2 Recognise the place value of each digit in *three*-digit numbers, and compose and decompose *three*-digit numbers using standard and non-standard partitioning.	Compare and order numbers. Add and subtract using mental and formal written methods.
Reason about the location of any *two*-digit number in the linear number system, including identifying the previous and next multiple of 10.	3NPV–3 Reason about the location of any *three*-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10.	Compare and order numbers. Estimate and approximate to the nearest multiple of 1,000, 100 or 10.
Count in multiples of 2, 5 and 10.	3NPV–4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	Read scales on graphs and measuring instruments.

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

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

1

Numbers to 1000 – Place Value - Counting

In year 3 we use base 10 because it is less abstract than place value counters. If children are struggling, use items bundles in tens such as straws.

- *Read, write* and count to 1000 (*in numerals and words*) – count from 0 (this will continue during fact fluency sessions)
- Count in hundreds, tens and ones *(inc. finding 10 or 100 more or less than any given number & represent using resources)*
- Count in fifties (continued in fact fluency)
- Count in fours and eights (continued in fact fluency)
- Say the value of a digit in a number (this will continue to be checked throughout the year)
- *Identify and represent using different representations (include partitioning numbers in different ways)*
- *Estimate the answer to a calculation and use inverse to check*
- Compare and arrange (*order*) numbers within 1000, including use of equality and inequality symbols (check previous understanding)
- Complete number patterns
- *Solve problems involving place value*

Roman Numerals can be covered during Romans topic – also can be linked with place value teaching (using another base)

Fact Fluency to be consolidated throughout

Year 2 conceptual prerequisite	Year 3 ready-to-progress criteria	Future applications
Automatically recall number bonds to 9 and to 10. Know that 10 ones are equivalent to 1 ten, and 10 tens are equivalent to 1 hundred.	3AS–1 Calculate complements to 100, for example: $46 + ? = 100$	Calculate complements to other numbers, particularly powers of 10. Calculate how much change is due when paying for an item.
Automatically recall addition and subtraction facts within 10 and across 10. Recognise the place value of each digit in two- and three-digit numbers. Know that 10 ones are equivalent to 1 ten, and 10 tens are equivalent to 1 hundred.	3AS–2 Add and subtract up to three-digit numbers using columnar methods.	Add and subtract other numbers, including four-digits and above, and decimals, using columnar methods.
Have experience with the commutative property of addition, for example, have recognised that $3 + 2$ and $2 + 3$ have the same sum. Be able to write an equation in different ways, for example, $2 + 3 = 5$ and $5 = 2 + 3$ Write equations to represent addition and subtraction contexts.	3AS–3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.	All future additive reasoning.

Calculate products within the 2, 5 and 10 multiplication tables.	3NF–2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.	Use multiplication facts during application of formal written layout. Use division facts during short division and long division.
Automatically recall addition and subtraction facts within 10, and across 10. Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten.	3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10), for example: $80 + 60 = 140$ $140 - 60 = 80$ $30 \times 4 = 120$ $120 \div 4 = 30$	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100), for example: $8 + 6 = 14$ and $14 - 6 = 8$ so $800 + 600 = 1{,}400$ $1{,}400 - 600 = 800$ $3 \times 4 = 12$ and $12 \div 4 = 3$ so $300 \times 4 = 1{,}200$ $1{,}200 \div 4 = 300$

Year 2 conceptual prerequisite	Year 3 ready-to-progress criteria	Future applications
Add and subtract across 10, for example: $8+5=13$ $13-5=8$	3NF–1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	Add and subtract mentally where digits sum to more than 10, for example: $26+37=63$ Add and subtract across other powers of 10, without written methods, for example: $1.3-0.4=0.9$ Add within a column during columnar addition when the column sums to more than 10 (regrouping), for example, for: $126+148$ Subtract within a column during columnar subtraction when the minuend of the column is smaller than the subtrahend (exchanging), for example, for: $453-124$

2

Addition and Subtraction

(use calculation mats & part/whole mats to make link explicit between. Use base ten (Dienes & Unifix with tens frames where necessary (struggling learners))

- Assess fluency with KS1 addition facts & work on addressing gaps from first day of term (enlist parent support). Ensure fluency with number facts is highlighted throughout, inc using known facts & any gaps addressed.
- Add numbers without regrouping *(3 digit numbers and 1s, 10s & 100s)*
- Add numbers with regrouping *(3 digit numbers and 1s, 10s & 100s)*
- Subtract numbers without regrouping *(3 digit numbers and 1s, 10s & 100s)*
- Subtract numbers with regrouping *(3 digit numbers and 1s, 10s & 100s)*
- *Add (3 digit numbers and up to 3 digit numbers) using formal column method where appropriate and show understanding with manipulatives (ensure time is spent exploring when this strategy is appropriate & when a mental strategy is more appropriate)*
- *Subtract (3 digit numbers by up to 3 digit numbers) using formal column method where appropriate and show understanding using manipulatives (again spend time establishing when this is an appropriate strategy).*
- *Estimate a calculation and use inverse to check (continue to promote this throughout the year for calculations).*
- Solve problems (included empty box, with = in different positions) involving addition and subtraction (ensure bar modelling is embedded & include concrete representations as well as pictorial).

NCETM Mastery Professional Development Materials to support teaching of addition/subtraction:
https://www.ncetm.org.uk/resources/50640

NB: By end of Y3 children may be introduced to Place Value counters, initially alongside Dienes focussing on what's the same/what's different, but this will generally take place in Y4, when place value is more secure and they start working with larger numbers.

Year 2 conceptual prerequisite	Year 3 ready-to-progress criteria	Future applications

	Recognise repeated addition contexts and represent them with multiplication equations. Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	3MD–1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.	
3	**Multiplication and Division** Children need to develop multiple ways to access and apply tables facts through understanding relationships. Use practical apparatus and visual images to help reveal connections and build visual representations. Use the array throughout as a key image and question about related division facts. **Do not assume that the children understand the concepts of the 2, 5, and 10 times tables. Check for conceptual understanding as well as fact fluency and revisit if needed.** **Make explicit links to repeated addition and understanding the multiplier and multiplicand.** • 3 times table (children begin counting in 3s in y2) • 4 times table (linked to doubling 2s) • 8 times table (doubling 4s) • divide a number by 3 (using array and other concrete) • divide a number by 4 • divide a number by 8 • Solve problems involving the 3, 4, & 8 times tables • Solve problems involving the division of 3, 4, and 8 NCETM Mastery Professional Development Materials to support teaching of multiplication/division: https://www.ncetm.org.uk/resources/52830		
4	**Further Multiplication and Division** • To multiply a 2-digit number by a 1-digit number • Multiply without regrouping • Multiply with regrouping • Divide a 2-digit number by a 1-digit number • Divide without regrouping • Divide with regrouping • Solve problems involving multiplication • Solve problems involving division • NB: Teaching division – focus in Y3 is on securing range of **mental methods** & concept of division, inc grouping & sharing, along with relationship to multiplication & array rep. Big focus on partitioning & using known facts. **The key focus of Y3 is that they end the year fluent with mental strategies.**		
5	**Length (& Height)**		

Be aware, that due to lockdown, this was missed in Year 2:

- choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels

Ideal opportunity to review place value, any objectives that need consolidating from number and fractions.
Remember that in year 3, children work with numbers upto 1000. Km to m goes beyond year 3

- *Measure &* write length in metres (m) and centimetres (cm)
- Convert lengths (mm/cm/m) from m and cm to cm
- Convert length from cm to m to cm (NB: conversion between units of measure on NC in Y4, but introduced here & supports pv)
- Write length in kilometres (km) and meters (m) **beyond Y3 NC so not essential**
- Convert length from km and m to m **beyond Y3 NC so not essential**
- Compare different lengths, including equality and inequality symbols
- Solve problems (opportunities to apply in other curriculum areas, eg: science, DT, PE etc). Problems will involve applying calculation strategies and could involve simple scaling as understanding of multiplication is applied within context.

Year 2 conceptual prerequisite	Year 3 ready-to-progress criteria	Future applications
	3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.	Use unit fractions as the basis to understand non-unit fractions, improper fractions and mixed numbers, for example: $\frac{2}{5}$ is 2 one-fifths $\frac{6}{5}$ is 6 one-fifths, so $\frac{6}{5} = 1\frac{1}{5}$
	3F–2 Find unit fractions of quantities using known division facts (multiplication tables fluency).	Apply knowledge of unit fractions to non-unit fractions.
Reason about the location of whole numbers in the linear number system.	3F–3 Reason about the location of any fraction within 1 in the linear number system.	Compare and order fractions.
Automatically recall addition and subtraction facts within 10. Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten, and that these units can be added and subtracted.	3F–4 Add and subtract fractions with the same denominator, within 1.	Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.

11 Fractions

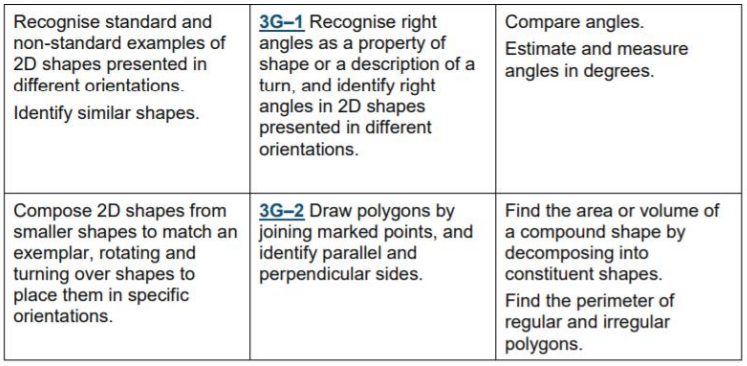
Allow 9 weeks for fractions, all of Spring 1. Cover year 2 content using the DfE Guidance and the NCETM Prioritisation Documents.

KS1 objectives:

♣ recognise, find, name and write fractions 3 1 , 4 1 , 4 2 and 4 3 of a length, shape, set of objects or quantity

♣ write simple fractions for example, 2 1 of 6 = 3 and recognise the equivalence of 4 2 and 2 1 .

	KS2 objectives: • Count in tenths (*up and down*) – this could inc a link to money • Make number pairs that form one whole • Add and subtract two fractions • Find, list and *show using diagrams* equivalent fractions • Write a fraction in its simplest form • Compare *and order* fractions • Find part of a set and fraction of a number • Share a number equally • Write fractions on the number line write fractions that are greater than 1 • Solve problems involving fractions **Note: The following appear in MNP but go beyond what is needed this year:** - **Addition and subtraction with different denominators** - **Decimals** - **Simplest form**
8	**Money** Remember that children in year 3 DO NOT use decimals so they should be recording money and pounds and pence e.g. £3 and 56 pence, not £3.56 and definitely not £3.56p. **Use it to revisit number and fractions work.** • Name the amount of money in pounds and pence • Use the different ways to show the same amount of money • Add money in pounds and pence *(NB this does not involve calculating with decimals, but is an easy way to introduce the idea of decimals in context)* • Subtract money in pounds and pence • Calculate change in pounds and pence • Solve problems on money in context
9	**Time** Time should have been addressed daily throughout year. • Tell and write the time in am and pm. • Tell and write the time using "past" and "to" (children learn time best by first saying it in digital style, eg: two thirty, then seeing the link to half past two) • To use vocabulary such as "noon" & "midnight" • Tell and write the time shown on different types of clocks *inc. 12 and 24 hours* • Measure time in seconds, hours and minutes • Find starting time, ending time and duration • Change minutes to seconds, and seconds to minutes • Know the number of days in each month, year and leap year • Find the number of days using a calendar • Roman numerals may be revisited here, by seeing them/reading them on clocks
6	**Mass** Be aware, that due to lockdown, this was missed in Year 2:

	• choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels **Ideal opportunity to review place value, any objectives that need consolidating from number and fractions.** Remember that in year 3, children work with numbers upto 1000, so ensure that children understand the **concept of kg and g** and that they can read scales in either kg or g but the conversion will be in year 4. **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): • Read the scales for mass in kg and g (there are resources in the whiteboard tools for measure) • *To convert kg to g and vice versa* **beyond Y3 NC so not essential** • Solve problems (addition/subtraction) involving mass (ensure children are secure with difference between weight and mass). Some problems could involve simple scaling as a structure of multiplication. • Ensure children have some key benchmarks to support estimation.
Assess these at start	 Recognise standard and non-standard examples of 2D shapes presented in different orientations. Identify similar shapes. | 3G–1 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. | Compare angles. Estimate and measure angles in degrees. Compose 2D shapes from smaller shapes to match an exemplar, rotating and turning over shapes to place them in specific orientations. | 3G–2 Draw polygons by joining marked points, and identify parallel and perpendicular sides. | Find the area or volume of a compound shape by decomposing into constituent shapes. Find the perimeter of regular and irregular polygons.
12	**Angles** • Recognise an angle • Find angles in shapes (review knowledge of shapes) • Find a right angle, an acute angle and an obtuse angle • Compare the size of angles • Make a half turn, a three-quarters turn and a full turn (*linking to right angles*)
13	**Lines and Shapes** (should be taught & assessed across curriculum throughout year) • Identify and name perpendicular and parallel lines • Find vertical and horizontal lines • Draw and describe two-dimensional shapes • Make and describe three-dimensional shapes
14	**Perimeter of figures** • Measure the total length around a shape • Find the perimeter of figures using a square grid • Find the perimeter of figures in cm and m • Find the perimeter of squares and rectangles

	Nrich: Area and Perimeter https://nrich.maths.org/7280 Numerically Equal https://nrich.maths.org/1045 Dicey Perimeter Game https://nrich.maths.org/11895
7	**Volume** Be aware, that due to lockdown, this was missed in Year 2: • choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels **Ideal opportunity to review place value, any objectives that need consolidating from number and fractions.** Remember that in year 3, children work with numbers upto 1000, so ensure that children understand the **concept of l and ml** and that they can read scales in either l or ml but the conversion will be in year 4. **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): • Objects with different capacities/shapes • Measuring jugs/cylinder • Measuring beakers (ml) • Different small containers • 1 l measuring jug • Containers with 1 l capacity • Measuring beakers up to 1 l • Empty plastic bottles • 100 ml measuring beakers (10) • Different everyday containers (set between groups of four or five) • Measuring beakers (large and small) (set between groups of four or five) • Jugs for pouring (between groups of four or five) **Objectives** • Measure & compare volume in millilitres (ml) and litres (l) • Measure & compare capacity in millilitres (ml) and litres (l) • Write volume in millilitres (ml) and litres (l) • Write capacity in millilitres (ml) and litres (l) • Solve problems (add and subtract) involving volume and capacity Please include simple scaling problems – important part of understanding multiplication.
This year, cover the following in Science:	
MNP 10	**Picture Graphs and Bar Graphs (inc science/topic)** • Draw picture graphs and bar graphs • Read and interpret bar graphs and picture graphs • Solve problems using information from bar graphs *(inc. one step and two steps problems) – good opportunity for cross curricular links. Opportunity to revisit calculation.*