

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: <u>https://www.gov.uk/government/publications/teaching-mathematics-in-primary-schools</u>

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

Chapter	Торіс					
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.	<u>3NPV-1</u> 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 <i>two</i> -digit numbers, and compose and decompose <i>two</i> -digit numbers using standard and non-standard partitioning.	<u>3NPV-2</u> 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 <i>two</i> -digit number in the linear number system, including identifying the previous and next multiple of 10.	<u>3NPV-3</u> Reason about the location of any <i>three</i> -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.	<u>3NPV-4</u> 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 cr	iteria is the essentia	al learning for the	end of Y3 in orc	ler to be ready fo	or Y4.	
1	Numbers to	1000 – Plac	ce Value - C	ounting		

	 Read, write and count to 1000 (in numerals and words) – count from 0 (this will continue during fact fluoney soscions) 					
	 Count in hundreds, tens and ones (inc. finding 10 or 100 more or less than any given number) 					
	represent using resources)			n any given namber	u	
	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 diffe ways) 					
	 Estimate the answer to a calculation and use inverse to check 					
	 Compare and arrange (<i>order</i>) numbers within 1000, including use of equality and inequality 					
	symbols (check previous understand	ding)				
	Complete number patterns					
	Solve problems involving place value	e				
	Roman Numerals can be covered d	uring Romans topi	c – also can be link	ed with place value		
	teac	hing (using anothe	r base)			
		Year 2 conceptual prerequisite	Year 3 ready-to-progress criteria	Future applications		
		Automatically recall number bonds to 9 and to 10.	<u>3AS-1</u> Calculate complements to 100, for	Calculate complements to other numbers, particularly		
		Know that 10 ones are equivalent to 1 ten, and 10 tens are equivalent to 1 hundred.	example: 46+?=100	powers of 10. Calculate how much change is due when paying for an item.		
Fa	act fluency sessions	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.	<u>3NF-2</u> 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 $30 \times 4 = 120$	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100), for example: 8 + 6 = 14 and $14 - 6 = 8so800 + 600 = 1,4001,400 - 600 = 800$		
			120 ÷ 4 = 30	$3 \times 4 = 12$ 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	<u>3NF-1</u> 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:			
F			45 3 -12 4	-		
2	Addition an (use calculation r ten (Dienes & Un	nd Subtraction mats & part/whole nifix with tens fram	DN e mats to make lin nes where necessa	ik explicit ary (strug	between. Use base gling learners))	
	 Assess in first day facts is h addresse 	of term (enlist pa ighlighted throug	rent support). Ens	sure fluen	cy with number & any gaps	
	 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 and up to 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:					
	addition/subtrac	etm org uk/resou	rces/50640			
	addition/subtrac https://www.nce NB: By end of Y3 alongside Dienes generally take pla working with lard	children may be i children may be i focussing on who ace in Y4, when p ger numbers.	rces/50640 ntroduced to Place at's the same/wha lace value is more	e Value co t's differe secure an	ounters, initially nt, but this will ad they start	

3	Recognise repeated addition contexts and division represent them with multiplication equations. Relate grouping problems where the number of groups is unknown to multiplication equations with a discrete the number of division equations (quotitive division). 3MD-1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotifive and partitive division. Multiplication and Division anissing factor, and to division equations with different structures, including quotifive division. Multiplication and Division anissing factor, and to division equations with different structures, including quotifive division. Multiplication and Division anissing factor, and to division equations (quotifive 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. . 3 times table (children begin counting in 3s in v2)					
	 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 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. Partial tables should be introduced & frequently used in fact fluency sessions, ensuring children see link with division. The key focus of Y3 is that they end the year fluent with mental strategies. 					
5	Length (& Height)					
	(continue to convert during fact fluency sessions, ideal opportunity to review place value)					
	 Measure & write length in metres (m) and centimetres (cm) Convert lengths (mm/cm/m) from m and cm to cm 					

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	 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) NB km beyond Y3 NC so not essential Convert length from km and m to m Convert length from m to km to m 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.
6	Mass
	 Read the scales for mass in kg and g (there are resources in the whiteboard tools for measure) <i>To convert kg to g and vice versa</i> 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.
7	Volume
	 Resources (ensure these are ready before the day of the lesson as demand may be high): Objects with different capacities/shapes Measuring jugs/cylinders (between three) Measuring beakers (ml) Different small containers (between three) 1 measuring jug Containers with 1 capacity Measuring beakers up to 1 (between three) Empty plastic bottles (set between three) 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) Measure & compare volume 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
	Textbook 3B (by February - speak to maths lead if behind)

8	 Money 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 (<i>NB this does not involve calculating with decimals, but is an easy way to introduce the idea of decimals in context</i>) Subtract money in pounds and pence Calculate change in pounds and pence Solve problems on money in context 					
9	 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 vesabulary such as "paper" & "midnight" 					
	 To use vocabulary such as noon & midnight Tell and write the time shown on different types of clocks <i>inc. 12 and 24 hours</i> 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 					
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. 					
		Year 2 conceptual	Year 3 ready-to-progress criteria	Future applications		
			<u>3F-1</u> 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 $\frac{6}{5} = 1\frac{1}{5}$		
			<u>3F-2</u> 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.	<u>3F-3</u> 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.	<u>3F-4</u> 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 Count in tenths (<i>up and down</i>) – this could inc a link to money Make number pairs that form one whole Add and subtract two fractions Find, list and <i>show using diagrams</i> equivalent fractions Write a fraction in its simplest form Compare <i>and order</i> 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						
Διτρισ	s these at start of Sent term	Recognise standard and non-standard examples of 2D shapes presented in different orientations. Identify similar shapes.	<u>3G-1</u> 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.			
	Assess these at start of sept term.		<u>3G-2</u> 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 (<i>linking to right angles</i>) 						
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 <u>https://nrich.maths.org/7280</u> Numerically Equal <u>https://nrich.maths.org/1045</u> Dicey Perimeter Game <u>https://nrich.maths.org/11895</u> 						