Mathematics

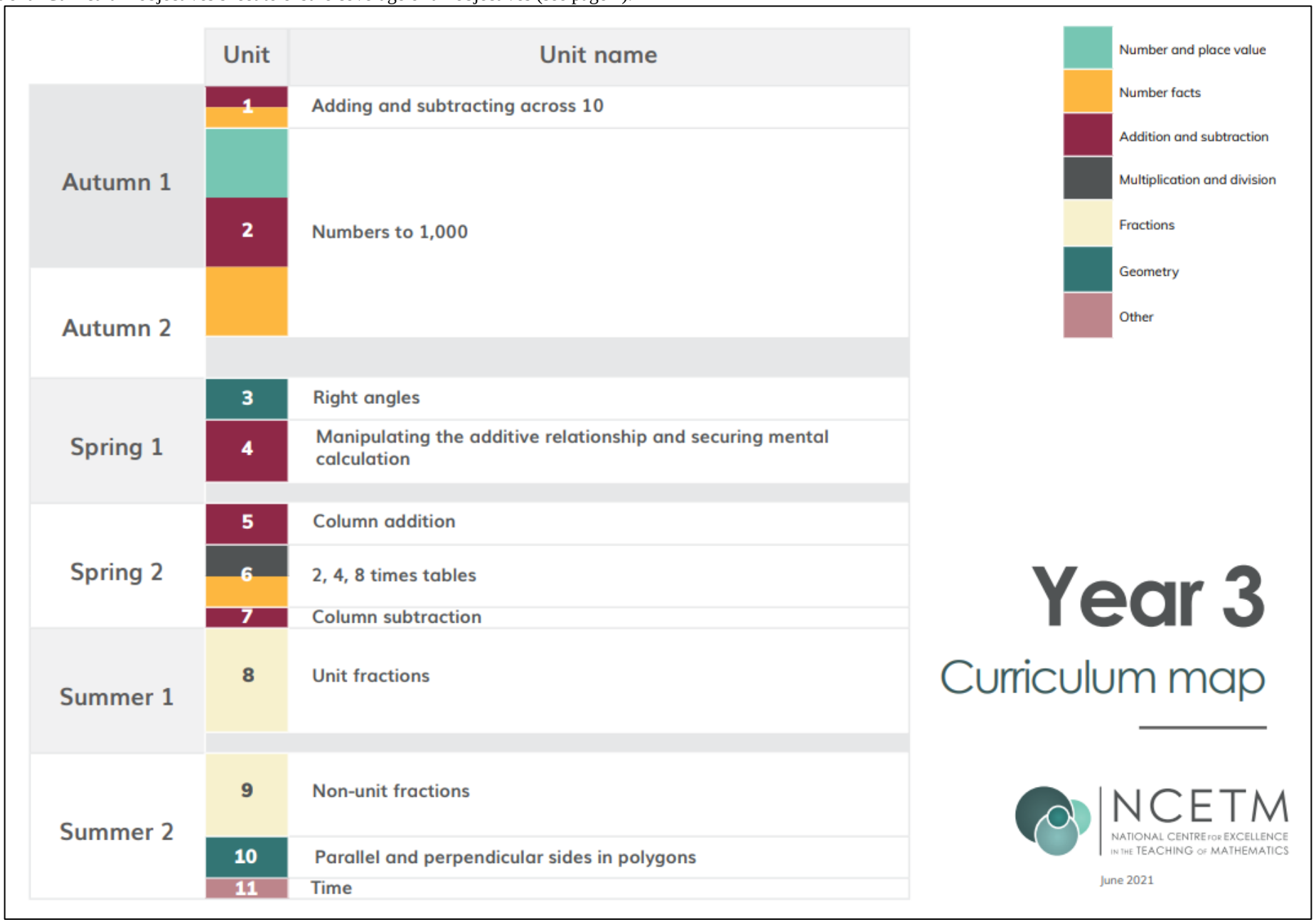
Year 3 Planning 2023-24

(Updated September, 2023)

This is a working document.

Teachers to make changes, where appropriate, based on both formative and summative assessment. Rich tasks and curriculum links are also to be identified and added to planning.

To build on from the Ready to Progress Criteria which supported the post-pandemic catch-up, we will be using the NCETM Progression documents.
Follow the link below to access the interactive copy of this curriculum map. Click on the domain to download the learning objectives for each domain.
https://www.ncetm.org.uk/classroom-resources/cp-year-3-curriculum-map/
Use the National Curriculum objectives sheet to ensure coverage of all objectives (see page 4).



Year 3

1 Adding and subtracting across 10

- 2AS–1 Add and subtract across 10.
- 3NF–1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.
- 1.11 Addition and subtraction: bridging 10

2 Numbers to 1,000

- 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.
- 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.
- 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.
- 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.
- 3AS–1 Calculate complements to 100.
- 3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).
- 1.17 Composition and calculation: 100 and bridging 100
- 1.18 Composition and calculation: three-digit numbers

3 Right angles

- 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.

4 Manipulating the additive relationship and securing mental calculation

- 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.
- 1.19 Securing mental strategies: calculation up to 999

5 Column addition

- 3AS–2 Add and subtract up to three-digit numbers using columnar methods.
- 1.20 Algorithms: column addition

6 2, 4, 8 times tables

- 3MD–1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.
- 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.
- 3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).
- 2.7 Times tables: 2, 4 and 8, and the relationship between them

7 Column subtraction

- 3AS–2 Add and subtract up to three-digit numbers using columnar methods.
- 1.21 Algorithms: column subtraction

8 Unit fractions

- 3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.
- 3F–2 Find unit fractions of quantities using known division facts (multiplication tables fluency).
- 3.1 Preparing for fractions: the part–whole relationship
- 3.2 Unit fractions: identifying, representing and comparing

9 Non-unit fractions

- 3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.
- 3F–3 Reason about the location of any fraction within 1 in the linear number system.
- 3F–4 Add and subtract fractions with the same denominator, within 1.
- 3.3 Non-unit fractions: identifying, representing and comparing
- 3.4 Adding and subtracting within one whole

10 Parallel and perpendicular sides in polygons

- 3G–2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.

11 Time

- This topic is part of the National Curriculum but is not included in the DfE 2020 guidance or the NCETM Mastery PD Materials.



Dark grey references are ready-to-progress criteria from the DfE Guidance 2020

Light grey references are from the NCETM Primary Mastery Professional Development materials

Both are available online

Where year group objectives have not been covered by the NCETM Prioritisation Guidance, these will be covered in additional units. These objectives will also be covered in **daily Memory Jogger activities** and the **Daily Maths Meeting.**

Teachers will add support their children's Problem Solving and Reasoning skills with planned rich tasks and wider curriculum links as they deliver each objectives.

Term	Unit	Unit name	Learning Objectives/ Outcomes	Rich Tasks	Wider Curriculum Links
Autumn 1	1	Adding and subtracting across 10 **(KS1)**	*see learning outcomes detailed in curriculum map on website*		
Autumn 2	2	Numbers to 1,000	*see learning outcomes detailed in curriculum map on website*		
Spring 1	3	Right angles	*see learning outcomes detailed in curriculum map on website*		
	4	Manipulating the additive relationship	*see learning outcomes detailed in curriculum map on website*		
Spring 2	5	Column addition	*see learning outcomes detailed in curriculum map on website*		
	6	2, 4, 8 times tables	*see learning outcomes detailed in curriculum map on website*		
	7	Column subtraction	*see learning outcomes detailed in curriculum map on website*		
Summer 1	8	Unit fractions	*see learning outcomes detailed in curriculum map on website*		
Summer 2	9	Non-unit fractions	*see learning outcomes detailed in curriculum map on website*		
	10	Parallel and perpendicular sides in polygons	*see learning outcomes detailed in curriculum map on website*		
	11	Time	Tell and write the time from an analogue clock in 12/24-hour clocks. Tell the time using Roman numerals from I to XII. Estimate and read time with increasing accuracy and compare times using appropriate vocabulary. Know the number of seconds in a minute and the number of days in each month, year and leap year. Compare the durations of events.		
	See National Curriculum	**Statistics**	Interpret and present data using bar charts. Interpret and present data using pictograms. Interpret and present data using tables. Solve one-step problems using presented data. Solve two-step problems using presented data.		

Strand	**Year 3 National Curriculum Objectives** showing coverage through NCETM Curriculum Prioritisation Guidance (COVID recovery)
Number & Place value	I can read and write numbers to 100 in numerals and in words.
	I can solve number problems and practical problems.
	I can recognise the place value of each digit in a three-digit number.
	I can find 10 or 100 more or less than a given number.
	I can identify, represent and estimate numbers in different contexts.
	I can count from 0 in multiples of ***4,8***, 50 and 100.
	I can compare and order numbers up to 1000.
Addition and Subtraction	I can add and subtract a three-digit number and ones mentally.
	I can add and subtract a three-digit number and tens mentally.
	I can add and subtract a three-digit number and hundreds mentally.
	I can add numbers up to three digits using an efficient written method.
	I can subtract numbers up to three digits using an efficient written method.
	I can solve addition and subtraction problems.
	I can estimate the answer to a calculation and use inverse operations to check.
	I can solve missing number problems.
Multiplication and Division	I can use efficient written methods to multiply a 2 digit and a 1-digit number.
	I can recall and use multiplication and division facts for the 2 times table. **(KS1 objective)**
	I can recall and use multiplication and division facts for the 4 times table.
	I can write and calculate statements for x and ÷ using the multiplication tables that I know.
	I can use mental strategies to multiply a 2-digit number by a 1 digit.
	I can recall and use multiplication and division facts for the 8 times table.
	I can solve multiplication and division problems.
Measurement	I can measure, compare, ***add and subtract*** lengths (m/cm/mm).
	I can measure, compare, ***add and subtract*** mass (kg/g).
	I can measure, compare, ***add and subtract*** volume/capacity (l/ml).
	I can measure the perimeter of a 2D shape.
	I can add and subtract amounts of money to give change using £ and p.
	I can tell and write the time from an analogue clock in 12 and 24-hour clocks.
	I can tell the time using Roman numerals from I to XII.
	I can estimate and read time with increasing accuracy and compare times using appropriate vocabulary.
	I know the number of seconds in a minute and the number of days in each month, year and leap year.
	I can compare the durations of events.
Fractions and Decimals	I can count up and down in tenths.
	I can recognise that tenths arise from dividing an object into 10 equal parts.
	I can find and write fractions for a set of objects.
	I can recognise and use fractions as numbers.
	I can recognise and show, using diagrams, equivalent fractions.
	I can add and subtract fractions with the same denominator within one whole [5/7 + 1/7 = 6/7]
	I can compare and order fractions, and fractions with the same denominators.
	I can solve problems involving fractions.
Geometry	I can draw 2-D shapes.
	I can make 3-D shapes using modelling materials.
	I can recognise 3-D shapes in different orientations.
	I can recognise angles as a property of shape or a description of a turn.
	I can identify right angles.
	I can recognise that 2 right angles make a half-turn, 3 make 3/4 of a turn and 4 make a complete turn.
	I identify whether angles are greater than or less than a right angle.
	I can identify horizontal and vertical lines and pairs of perpendicular and parallel lines.
Stats	I can interpret and present data using bar charts, pictograms and tables.
	I can solve one-step and two-step questions using information presented in scaled bar charts, pictograms and tables.

	1. Adding and subtracting across 10 **(KS1)**		7. Column subtraction
	2. Numbers to 1,000		8. Unit fractions
	3. Right angles		9. Non-unit fractions
	4. Manipulating the additive relationship		10. Parallel and perpendicular sides in polygons
	5. Column addition		11. Time
	6. 2, 4, 8 times tables		

Pupils are to be given opportunities to apply their knowledge and understanding through problem solving and reasoning activities using the following criteria:

Problem Solving	Reasoning
Engage with mathematical activities and problems, making links and moving between different representations *(concrete, pictorial, abstract)* Independently choose to scaffold thinking using concrete, pictorial or abstract representations, if required Independently choose to represent thinking using concrete, pictorial or abstract representations, as appropriate Independently find an efficient way to solve a range of problems Independently work systematically Independently find possibilities using patterns spotted to support Independently check and improve work *(e.g. look for other possibilities, repeats, missing answers, errors and ways to improve)* Pattern spot and predict what will come next in a pattern/sequence *(numbers, shape or spatial)* Independently investigate conjectures and provide examples and counter-examples When they have solved a problem, pose a similar problem for a peer	Provide a convinced argument Give convinced reasons for their predictions of what will come next in a pattern/sequence using precise mathematical language Reflect on others' convinced explanations and use this to improve their work Edit and improve their own and a peer's convinced explanation Investigate 'what if?' questions Create 'what if?' questions