Mathematics

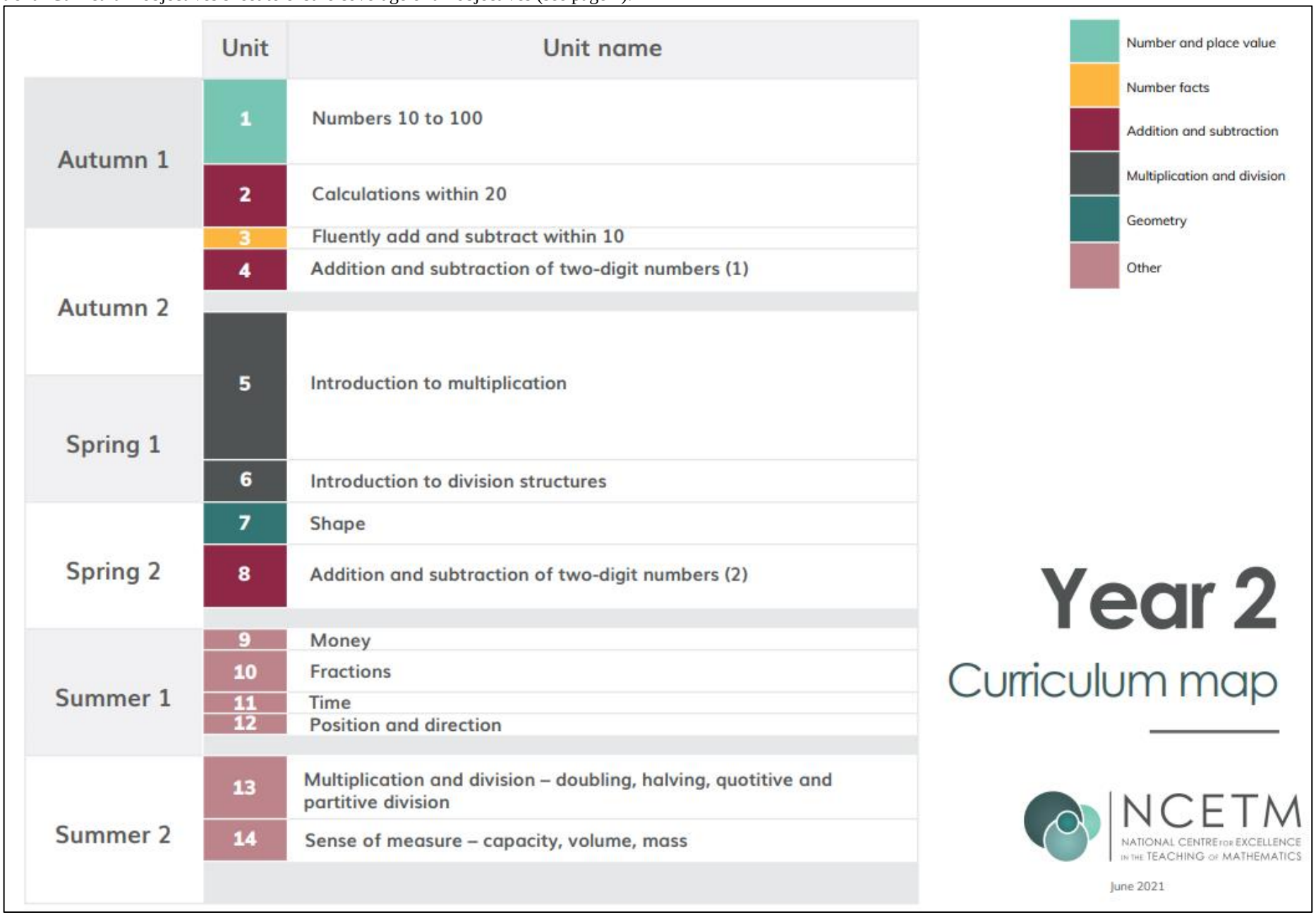
Year 2 Planning 2023-24

(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-2-curriculum-map/
Use the National Curriculum objectives sheet to ensure coverage of all objectives (see page 4).



Year 2

1 Numbers 10 to 100
- 2NPV–1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning.
- 2NPV–2 Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10.
- 1.8 Composition of numbers: multiples of 10 up to 100
- 1.9 Composition of numbers: 20–100

2 Calculations within 20
- 2AS–1 Add and subtract across 10.
- 2AS–2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?".
- 1.11 Addition and subtraction: bridging 10
- 1.12 Subtraction as difference

3 Fluently add and subtract within 10
- 2NF–1 Secure fluency in addition and subtraction facts within 10, through continued practice.
- 1.7 Addition and subtraction: strategies within 10

4 Addition and subtraction of two-digit numbers (1)
- 2AS–3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.
- 1.13 Addition and subtraction: two-digit and single-digit numbers
- 1.14 Addition and subtraction: two-digit numbers and multiples of ten

5 Introduction to multiplication
- 2MD–1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.
- 2.2 Structures: multiplication representing equal groups
- 2.3 Times tables: groups of 2 and commutativity (part 1)
- 2.4 Times tables: groups of 10 and of 5, and factors of 0 and 1
- 2.5 Commutativity (part 2), doubling and halving

6 Introduction to division structures
- 2MD–2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).
- 2.6 Structures: quotitive and partitive division

7 Shape
- 2G–1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.

8 Addition and subtraction of two-digit numbers (2)
- 2AS–4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.
- 1.15 Addition: two-digit and two-digit numbers
- 1.16 Subtraction: two-digit and two-digit numbers

9 Money
- **This topic is part of the National Curriculum but is not included in the DfE 2020 guidance or the NCETM Mastery Professional Development Materials.**

10 Fractions
- 3.0 Guidance on the teaching of fractions in Key Stage 1

11 Time
- **This topic is part of the National Curriculum but is not included in the DfE 2020 guidance or the NCETM Mastery Professional Development Materials.**

12 Position and direction
- **This topic is part of the National Curriculum but is not included in the DfE 2020 guidance or the NCETM Mastery Professional Development Materials.**

13 Multiplication and division – doubling, halving, quotitive and partitive division
- 2.5 Commutativity (part 2), doubling and halving
- 2.6 Structures: quotitive and partitive division

14 Sense of measure – capacity, volume, mass
- **This topic is part of the National Curriculum but is not included in the DfE 2020 guidance or the NCETM Mastery Professional Development Materials.**

Number and place value
Number facts
Addition and subtraction
Multiplication and division
Fractions
Geometry
Other

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	Numbers 10 to 100	*see learning outcomes detailed in curriculum map on website*		
	2	Calculations with 20	*see learning outcomes detailed in curriculum map on website*		
Autumn 2	3	Fluently add and subtract within 10	*see learning outcomes detailed in curriculum map on website*		
	4	Addition and Subtraction of two-digit numbers (1)	*see learning outcomes detailed in curriculum map on website*		
	5	Introduction to multiplication	*see learning outcomes detailed in curriculum map on website*		
Spring 1	6	Introduction to division structures	*see learning outcomes detailed in curriculum map on website*		
Spring 2	7	Shape	*see learning outcomes detailed in curriculum map on website*		
	8	Addition and Subtraction of two-digit numbers (2)	*see learning outcomes detailed in curriculum map on website*		
Summer 1	9	Money	Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value Find different combinations of coins that equal the same amounts Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change		
	10	Fractions	*see learning outcomes detailed in curriculum map on website*		
	11	Time	Compare and sequence intervals of time Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. Know the number of mins in hs and the number of hs in a day		
	12	Position and direction	Order/arrange combinations of objects in patterns and sequences Use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).		
Summer 2	13	Multiplication and division (doubling, halving, etc.)	*see learning outcomes detailed in curriculum map on website*		
	14	Sense of Measure	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 Compare and order lengths, mass, volume/capacity and record the results using >, < and =		

	See National Curriculum	**Statistics**	Interpret and construct simple pictograms. Interpret and construct tally charts. Interpret and construct block diagrams. Interpret and construct tables. Ask and answer simple questions by counting. Ask and answer simple questions by sorting the quantity. Ask and answer questions about totalling and comparing categorical data.		

Strand	**Year 2 National Curriculum Objectives** showing coverage through NCETM Curriculum Prioritisation Guidance (COVID recovery)
Number & Place value	I can count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward.
	I can recognise the place value of each digit in a two-digit number (10s, 1s).
	I can identify, represent and estimate numbers using different representations, including the number line.
	I can compare and order numbers from 0 up to 100; use <,> and = signs.
	I can identify, represent and estimate numbers in different contexts.
	I can read and write numbers to at least 100 in numerals and in words.
	I can use place value and number facts to solve problems.
Addition & Subtraction	I can solve problems with addition and subtraction using concrete objects and pictorial representations.
	I can solve problems with addition and subtraction – applying knowledge of mental and written methods.
	I can recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.
	I can add and subtract numbers using concrete/pictorial representations and mentally including a two-digit number and
	I can add and subtract numbers using concrete/pictorial representations and mentally including a two-digit number and
	I can add and subtract numbers using concrete/pictorial representations and mentally including a 2 two-digit numbers.
	I can add and subtract numbers using concrete/pictorial representations and mentally including a 3 one-digit numbers.
	I can show that addition of 2 numbers is commutative and subtraction of one number from another is not.
	I can recognise and use the inverse relationship between addition and subtraction and apply this to check calculations.
Multiplication & Division	I can recall and use multiplication and division facts for the 2 multiplication tables.
	I can recall and use multiplication and division facts for the 5 multiplication tables.
	I can recall and use multiplication and division facts for the 10 multiplication tables.
	I can calculate statements for x and ÷ using the multiplication tables that I know and the appropriate signs.
	I can show that the multiplication of 2 numbers is commutative and the division of 1 number by another is not.
	I can solve multiplication and division problems using arrays, repeated addition, mental methods or the x and ÷ facts.
Measurement	I can measure, compare, ***add and subtract*** lengths (m/cm/mm).
	I can choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm).
	I can choose and use appropriate standard units to estimate and measure mass (kg/g).
	I can choose and use appropriate standard units to estimate and measure temperature (˚C).
	I can compare and order lengths, mass, volume/capacity and record the results using >,< and =.
	I can recognise and use symbol for pounds (£) and pence (p) as well as combine amounts to make a value.
	I can find different combinations of coins that equal the same amounts of money.
	I can solve simple problems in a practical context involving addition and subtraction of money of the same unit (and
	I can compare and sequence intervals of time.
	I can tell and write the time to five minutes, including quarter past/to the hour and draw hands on a clock to show this.
	I know the number of minutes in an hour and the number of hours in a day.
Fractions and Decimals	I can recognise fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity.
	I can find fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity.
	I can name fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity.
	I can write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity.
	I can write simple fractions, for example 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.
Geometry	I can identify and describe the properties of 2-D shapes, including number of sides and line of symmetry (vertical line).
	I can identify and describe the properties of 3-D shapes, including number of edges, vertices and faces.
	I can identify 2-D shapes on the surface of 3-D shapes.
	I can compare and sort common 2-D and 3-D shapes and everyday objects.
P & D	I can order and arrange combinations of mathematical objects in patterns and sequences.
	I can use mathematical vocabulary to describe position, direction and movement in a straight line.
	I can distinguish between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (c/a-c).
Stats	I can interpret and construct simple pictograms, tally charts, block diagrams and tables
	I can ask and answer simple questions by counting the number of objects in a category and sorting by quantity
	I can ask and answer questions about totalling and comparing categorical data.

	1. Numbers 10 to 100		8. Addition and subtraction of two-digit numbers (1)
	2. Calculations within 20		9. Money
	3. Fluently add and subtract within 10		10. Fractions
	4. Addition and subtraction of two-digit numbers (1)		11. Time
	5. Introduction to multiplication		12. Position and direction
	6. Introduction to division structures		13. Multiplication and division
	7. Shape		14. Sense of Measure

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 With support (classroom discussion, paired work, guided group), find a starting point to break into a problem by identifying key facts/relevant information With support work systematically (adapting a suggested model, make connections, etc.) Independently find most possibilities that match the context Pattern spot and predict what will come next in a pattern/sequence *(numbers, shape or spatial)* With support, investigate conjectures and statements	Explain their work, verbally and where and when appropriate in written form, using precise mathematical language (e.g. strategy used) with the support of sentence stems Give an explanation for their predictions of what will come next in a simple pattern/sequence using precise mathematical language Explain why a statement or conjecture is correct or incorrect using precise mathematical language Listen to others' explanations, make sense of them and compare and evaluate Begin to edit and improve their own and a peer's explanation With support, investigate 'what if?' questions

NB - If pupils are not ready to record in written form or have a weakness, pupils' verbal reasoning should be captured by an adult (scribed for them, recorded on video, etc