4.2	Fluency Focus	NC Objectives	Remember (Prior knowledge)	Know (New knowledge)	Mathematics Guidance June 2020 Ready-to-progress criteria
1	(3,4,5,6x) Commutativity in multiplication Non-commutativity in division Fact families	Recognise and use factor pairs and commutativity in mental calculation.	Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.	To recognise and use factor pairs in calculations. To use efficient methods of multiplication.	4MD–2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.
2	(7,8,9,10x)	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder.	Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.	To multiply using formal written methods. To multiply 2-digits by 1-digit. To multiply 2-digits by 1-digit. To multiply 3-digits by 1-digit. To solve problems using formal written methods of multiplications.	4MD–3 Understand and apply the distributive property of multiplication.
3	(11x) Formal written methods division/multiplication 2-digit.		Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.	To divide 2-digits by 1-digit. To divide 2-digits by 1-digit To divide 2-digits by 1-digit To divide 2-digits by 1-digit To divide 3-digits by 1-digit	
4	(12x) Missing number problems Integer scaling problems Estimation Inverse operation to check Correspondence problems	Solve correspondence problems such as n objects are connected to m objects. Find the area of rectilinear shapes by counting squares.	Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects Estimate and use inverse operations to check answers to a calculation	To solve correspondence problems To recognise area of shapes. To find the area of shapes by counting squares. To make shapes using a given area. To compare the area or 2 or more shapes.	

5	(6,7,8,9,10,11,12 x) Count up in tenths Count down in tenths Solve problems involving counting in tenths Compare unit fractions Compare fractions (same denominator)		Count up and down in tenths	To identify unit and non-unit fractions. To know what makes a fraction. To recognise and identify tenths To count in tenths accurately	
6	(3,4,5,6,7,8,9,10,11,12x) Order unit fractions Order fractions (same denominator) Recognise equivalent fractions Show equivalent fractions	Recognise and show, using diagrams, families of common equivalent fractions	Compare and order unit fractions, and fractions with the same denominators. Recognise and show, using diagrams, equivalent fractions with small denominators.	To recognise and show equivalent fractions To recognise and show equivalent fractions To recognise and show equivalent fractions To recognise and show equivalent fractions To convert between mixed numbers and improper fractions.	4F–1 Reason about the location of mixed numbers in the linear number system. 4F–2 Convert mixed numbers to improper fractions and vice versa.
7	(6x) Recognise and use unit fractions Recognise and use non-unit fractions Add fractions Subtract fractions Add and subtract fractions	Add and subtract fractions with the same denominator.	Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. Add and subtract fractions with the same denominator within one whole.	To count in fractions To add fractions To add 2 or more fractions To subtract (one or two) fractions To subtract fractions from whole amounts	4F–3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.
8	(7x) Identify unit and non-unit fractions Recognise unit and non-unit fractions	Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. Solve problems that involve all of the above.	To find fractions of a set of objects. To find fractions of a set of objects. To calculate fractions of a quantity. To solve problems and calculate fractions of amounts.	
9	(6,7x) Count in fractions (half) (thirds) (quarters, fifths) Count in any fraction Count in any fraction	Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Recognise and write decimal equivalents of any number of tenths.	Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by10.	To identify and count in tenths and hundredths To recognise tenths and hundredths To recognise and count in tenths. To write tenths using a PV grid To represent and recognised tenths on a number line	
10	(8x) Multiply by 10			To divide 1-digit by 10	

	Multiply by 100 Divide by 10 (whole numbers) Divide by 100 (whole numbers) Multiply/divide by 10 and 100	Recognise and write decimal equivalents of any number of hundredths. Find the effect of dividing a one- or two-digit number by 10 identifying the value of the digits in the answer as ones, tenths and hundredths.		To divide 2-digit by 10 To recognise and count in hundredths. To write hundredths as decimals To write hundredths using a PV grid	4MD–1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.
11	(9x)	Find the effect of dividing a one- or two-digit number by100, identifying the value of the digits in the answer as ones, tenths and hundredths. Compare numbers with the same number of decimal places up to two decimal places.		To divide 1 or 2-digits by 100. To recall number bonds to 10 and 100 To make a whole using tenths and hundredths. To write decimals To compare decimals	
12	(8,9x)	Recognise and write decimal equivalents to ¼, ½, ¾ Round decimals with one decimal place to the nearest whole number.		To order decimals To round decimals To recognise and write halves and quarters as decimals.	