4.3	Fluency Focus	NC Objectives	Remember (Prior knowledge)	Know (New knowledge)	Mathematics Guidance June 2020 Ready-to-progress criteria
1	Formal written methods subtraction	• Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • 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 • Add and subtract fractions with the same denominator. • Recognise and write decimal equivalents of any number of tenths or hundredths. • Compare numbers with the same number of decimal places up to two decimal places.	Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10. This is the first unit of work that pupils come across involving decimals and therefore no prior knowledge	LO: Know how make a whole when provided with tenths and hundredths LO: Know how to read, write and partition decimal numbers LO: Know how to compare decimal numbers (up to 2dp, same amount of decimal places, followed by different amount of decimal places)	
2	Formal written methods multiplication Rounding	• Compare numbers with the same number of decimal places up to two decimal places. • Round decimals with one decimal place to the nearest whole number. • Recognise and write decimal equivalents to a quarter, a half and three quarters.	This is the first unit of work that pupils come across involving decimals and therefore no prior knowledge	LO: Know how to order decimals (same amount of digits before and after decimal point, then same amount before but different amount after, then different amount before but same amount after, then different amounts before and after) (x 2/3 lessons) LO: Know how to round to the nearest whole number LO: Know how to write halves and quarters as decimals, and vice versa	

3		• Convert between different units of measure. • Estimate, compare and calculate different measures, including money in pounds and pence.	This is the first unit of work that pupils come across involving decimals and therefore no prior knowledge	LO: Know how to write an amount of money as pound and pence (know how many pence are in £1) LO: Know how to order money LO: Know how to round money to the nearest pound LO: Know how to convert pounds and pence	
4	More or less bridging 100/1000 Temperature	• Estimate, compare and calculate different measures, including money in pounds and pence. • Solve simple measure and money problems involving fractions and decimals to two decimal places. • Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	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 of money interpret and present data using bar charts, pictograms and tables solve one-step and twostep questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	LO: Know how to add and subtract amounts of money, to find the total amount and the change LO: Know how to solve problems involving money and the 4 operations LO: Know how to read and understand charts LO: Know how to solve comparison, sum and difference problems with charts	

5	Sequences Negative numbers	• Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	solve one-step and twostep questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	LO: Know how to read and interpret line graphs LO: Know how to solve comparison, sum and difference problems with line graphs	• Read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.
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1	Roman Numerals	• Read, write and convert time between analogue and digital 12- and 24-hour clocks • Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	tell the time to the hour and half past the hour and draw the hands on a clock face to show these times know the number of minutes in an hour and the number of hours in a day. know the number of seconds in a minute and the number of days in each month, year and leap year	LO: Know how to tell the time to 5 minute intervals LO: Know how to tell the time to 1 minute intervals LO: Know how to use AM and PM and the 24 hour clock LO: Know how to convert between analogue and digital	

2	Applying number facts Invers operations Place value	• Read, write and convert time between analogue and digital 12- and 24-hour clocks • Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	tell the time to the hour and half past the hour and draw the hands on a clock face to show these times know the number of minutes in an hour and the number of hours in a day. know the number of seconds in a minute and the number of days in each month, year and leap year	LO: Know how to convert between seconds, minutes and hours LO: Know how to convert between days, weeks, months and years	
3	Word problems Area Inverse operation	• Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. • Identify acute and obtuse angles and compare and order angles up to two right angles by size.		LO: Know angles as a measure of a turn LO: Know what a right angle is and identify them in shapes LO: Know how to compare angles to right angles (identify if it is larger or smaller than a right angle, and therefore acute or obtuse) LO: Know how to compare and order angles (based on observations) LO: Know the properties of shapes (recognise, draw and describe)	• Identify regular polygons, including equilateral triangles and squares, as those in which the side lengths are equal and the angles are equal. • Find the perimeter of regular and irregular polygons

4	Estimation Multiplying by 1	• Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. • Identify lines of symmetry in 2-D shapes presented in different orientations • Complete a simple symmetric figure with respect to a specific line of symmetry.	compare and sort common 2-D and 3-D shapes and everyday objects identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	LO: Know the properties of different triangles LO: Know the properties of different quadrilaterals LO: Know the difference between horizontal and vertical lines LO: Know how to find and identify lines of symmetry in a shape LO: Know how to recreate symmetrical patterns	• Identify regular polygons, including equilateral triangles and squares, as those in which the side lengths are equal and the angles are equal. • Find the perimeter of regular and irregular polygons. • Identify line symmetry in 2D shapes presented in different orientations. • Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.
5	Fractions of amounts	• Describe positions on a 2-D grid as coordinates in the first quadrant • Describe movements between positions as translations of a given unit to the left/right and up/down • Plot specified points and draw sides to complete a given polygon	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)	LO: Know how to describe positions in the first quadrant LO: Know how to plot given points in the first quadrant LO: Know how to translate points and shapes in the first quadrant LO: Know how to describe translations (using up, down, left, right)	• Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.
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