Progression in Mathematical Fluency

Year R

Times Tables Multiplication and division fractions	Find and recognise $\frac{1}{2}$ of objects Double objects to find amounts to 10.
Number bonds Addition and subtraction	Number bonds to 5 e.g 1+ 4 = 5, 2 + 3 = 5
Number facts	Count up to and back from 20 and order numbers to 20
Measures	
Shape	Begin to use names of 2D and 3D shapes eg squares, circles , cubes, spheres

Progression in Mathematical Fluency

Times Tables	Double numbers and quantities up to 10
Multiplication and division	Find and recognise 1/2 and 1/4 of an object, shape or quantity
fractions	
Number bonds	Become familiar and use all number bonds of all numbers to 10
Addition and subtraction	(eg 2+6=8, 9-3=6)
	Become familiar and use all number bonds of all numbers to 20
	(eg 8+7=15, 16-7=9)
Number facts	Counting up and back in 2s, 5s and 10s
	Find one more/one less of a number
	Find 10 more/10 less of a number
	Count to and across 100, forwards and backwards, from any number
	Write numbers from 0 to 20 in numerals and words
	Recognise odd and even numbers
Measures	Days of the week and months of the year
	Tell the time to the hour and half past
	Recognise and know the value of all coins and notes
Shape	Name 2D and 3D shapes

Progression in Mathematical Fluency

Times Tables Multiplication and division fractions	2, 3, 5, 10 Tables Find and recognise 1/3 and 1/4, 2/4, 3/4 of an object, shape or quantity
Number bonds	Learn and use all number bonds of all numbers to 20
Addition and subtraction	(eg 8+7=15, 16-7=9)
	Work out and use number facts to 100
	(eg 30+70=100, 70=100-30)
Number facts	Counting up and back in 2s, 3s, 5s from zero and in 10s from any number
	Order numbers from 0 to 100
	Write numbers to 100 in numerals and words
Measures	Number of minutes in an hour and hours in a day
	Tell the time to 5 minutes, quarter to and quarter past on an analogue clock
	Know $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ turns, clockwise and anti-clockwise
Shape	Describe properties of 2D and 3D shapes eg how many sides, edges, vertices and faces?

Progression in Mathematical Fluency

Times Tables Multiplication and division fractions	3, 4, 8 Tables
Number bonds	Know all fractions with denominators up to tenths
Addition and subtraction	Count up and down in tenths
	Connect tenths to their decimal equivalents
Number facts	Count in 4s, 8s, 50s and 100s from zero
	Find 10 or 100 more or less than a given number
	Order numbers up to 1000
	Read and write numbers up to 1000 in words and numerals
Measures	Number of seconds in a minute
	Read time to the nearest minute using both analogue and digital clocks including Roman numerals
	Number of days in each month, year and leap year
Shape	Identify right angles and their relationship to turns
Shape	Identify angles that are greater (obtuse)or smaller(acute) than a right angle
	Identify horizontal, vertical, perpendicular and parallel lines
	Measure the perimeter of simple 2D shapes

Progression in Mathematical Fluency

Times Tables	All tables to 12
Multiplication	
and division	
fractions	
Number bonds	Recognise families of equivalent fractions
Addition and	Count up and down in hundredths
subtraction	Know decimal equivalents of tenths and hundredths
Sub II de l'ion	Recognise decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$
	Divide a one or two digit number by 10 or 100
	Round decimals with one decimal place to nearest whole number
	Compare numbers up to two decimal places
Number facts	Count in 6s, 7s, 9s, 25s and 1000s
	Find 1000 more or less than any number
	Order numbers beyond 1000
	Round numbers to nearest 10, 100, 1000
	Count backwards through zero to include negative numbers
	Read Roman numerals to 100
	Recognise and use factor pairs of numbers to 100
Measures	Convert km to m.
	Convert pounds to pence
	Convert hours to minutes, minutes to seconds, years to months and weeks to days
	Convert between analogue and digital 12 and 24hr clocks

Progression in Mathematical Fluency

Shape	Identify lines of symmetry in 2D shapes
•	Measure and calculate perimeter rectilinear shapes
	Find the area of rectilinear shape by counting squares
	Compare and classify geometric shapes including different triangles and quadrilaterals
	Compare angles
	Describe and plot positions as co-ordinates in first quadrant

Progression in Mathematical Fluency

Times Tables Multiplication and division fractions	Multiply and divide whole numbers and decimals by 10, 100 and 1000
Number bonds	Convert between mixed numbers and improper fractions
Addition and subtraction	Identify equivalent fractions Round decimals with 2 decimals places to nearest whole and one decimal place Order numbers to 3 decimal places Use thousandths Know decimal equivalents of tenths, hundredths and thousandths
Number facts	Read and write numbers to 1,000,000 Round numbers up to 1,000,000 to nearest 10,100,1000,10,000,100,000 Count forwards and backwards in steps of powers of 10 Read Roman numerals to 1000 and recognise years in Roman Numerals Know all factor pairs of a given number Know common factors of 2 numbers
Measures	Convert between km/m/cm/mm, g/kg and I/ml Use approximate equivalents between metric and imperial units

Progression in Mathematical Fluency

Shape	Measure perimeter of composite rectangular shapes
•	Measure area of rectangles using square centimetres and metres
	Estimate volume and capacity
	Measure an angle in degrees using a protractor
	Know how many degrees in a whole, half, $\frac{1}{4}$ and $\frac{3}{4}$ turn
	Understand reflection and translation

Progression in Mathematical Fluency

Times Tables Multiplication and division fractions	Find common denominators to help solve problems Compare and order fraction including fractions bigger than 1 Multiply fractions and express answer in simplest form Divide proper fractions by whole numbers Find and use simple fraction, decimal and percentage equivalents Calculate percentages
Number bonds	Read, write and order numbers to 10,000,000
Addition and subtraction	Round all numbers to a required degree of accuracy
	Calculate across zero
	BIDMAS
	Use simple formulae using symbols and letters
Number facts	Read, write and order numbers to 10,000,000
	Round all numbers to a required degree of accuracy
	Calculate across zero
	BIDMAS
	Use simple formulae using symbols and letters
Measures	Convert between km/m/cm/mm,
	g/kg and I/ml to 3 decimal places
	Convert between miles and kilometres
	Calculate the mean
	Link percentages to degrees in pie charts
	Understand scale factor

Progression in Mathematical Fluency

Shape	Calculate the area of triangles and parallelograms
•	Understand units of speed eg mph
	Identify parts of a circle: diameter, radius and circumference
	Calculate volume of cuboids in cubic cm/m/mm/km
	Draw 2D shapes using given angles and dimensions
	Build simple 3D shapes using nets
	Compare and classify all geometric shapes
	Use co-ordinates in all quadrants
	Translate and reflect shapes