



Maths Fluency Map – Year 1

Place Value

- Count to 100
- Count back from 100
- Recognise numbers to 100
- Write numbers to 100
- Understand the value of 10s and 1s within numbers to 100

Tens	Ones
 1	 2

12 has 1 ten and 2 ones

- Know 1 more than a number
- Know 1 less than a number
- Understand odds and evens
- Count in 2s, 5s and 10s to 100

Addition and Subtraction

- Know number bonds to 5
($3+2=5$)
- Know number bonds to 10
($2+8=10$)
- Know number bonds to 20
($2+18=20$)
- Know number facts within 20
($10+2=12$, $9+3=12$, $8+4=12$)

Multiplication and Division

- Know doubles of numbers to 20
(Double 6 is 12)

Shape

- Know names of 2D shapes: Square, circle, triangle, rectangle



- Know names of 3D shapes: Cone, cube, cylinder, sphere, pyramid, cuboid



Measure

- Say the days of the week in order
- Recognise coins



- Recognise notes



- Tell the time to the hour
- Tell the time to half past the hour

Fractions

- Understand 'half' and know that 2 halves equal a whole



- Understand 'quarter' and know that 4 quarters equal a whole





Maths Fluency Map – Year 2

Place Value

- Write and order numbers to 100
- Partition 2-digit numbers

Tens	Ones
9	1

- Count in 3s
- Count in 100s to 1000

Addition and Subtraction

- Secure all number facts from the Year 1 curriculum
(Bonds to 10, bonds to 20, addition and subtraction facts within 20)
- Understand inverse operations
($13+4=17$ so $17-4=13$)
- Know number bonds to 100
($1+9=10$ so $10+90=100$)
- Know 10 more and 10 less than a number

Multiplication and Division

- Know the 2, 5 and 10 times tables
- Recognise odd and even numbers
- Double numbers to 24

Shape

- Identify and recognise the properties of 2D shapes: square, circle, triangle, rectangle, pentagon, hexagon



- Identify and recognise the properties of 3D shapes: Cone, cube, cylinder, sphere, pyramid, cuboid



Measure

- Know that:
 $100\text{p} = \text{£}1$
 $100\text{cm} = 1\text{m}$
 $60 \text{ minutes} = 1 \text{ hour}$
 $30 \text{ minutes} = \frac{1}{2} \text{ an hour}$
 $15 \text{ minutes} = \frac{1}{4} \text{ of an hour}$
 $45 \text{ minutes} = \frac{3}{4} \text{ of an hour}$
There are 24 hours in a day
- Say the months in year in the correct order
- Tell the time to the nearest 5 minutes including quarter past and quarter to

Fractions

- Understand $\frac{1}{3}$



- Know that $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1 \text{ whole}$



- Know that $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$



- Know that $\frac{2}{4} = \frac{1}{2}$



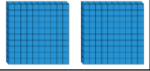
- Know half of all the even numbers to 24



Maths Fluency Map – Year 3

Place Value

- Recognise the value of 100s, 10s and 1s in 3 digit numbers

Hundreds	Tens	Ones
		
Hundreds	Tens	Ones
2	3	3

- Read, write and order numbers to 1000 in numerals and words
- Count in 4s
- Count in 8s
- Count in 50s
- Count in 100s

Addition and Subtraction

- Add and subtract numbers mentally:
 - A three-digit number and ones
 - A three-digit number and tens
 - A three-digit number and hundreds
- Know pairs of numbers that total 1000 (300+700=1000)
- Find 10 or 100 more or less than a number
- Column addition and subtraction (3 digits)

Multiplication and Division

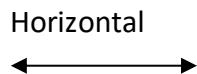
- Know the 3, 4 and 8 times tables and related division facts
- Know that $\times 2$ is doubling
- Know that $\div 2$ is halving
- Know that:
 - $50 \times 2 = 100$
 - $25 \times 4 = 100$
 - $20 \times 5 = 100$

Measure

- 60 seconds = 1 minute
- Know how many days in each month / year / leap year
- Tell the time to the nearest minute
- Know that:
 - $50p \times 2 = £1.00$ $£50 \times 2 = £100$
 - $25 \times 4 = £1.00$ $£25 \times 4 = £100$
 - $20p \times 5 = £1.00$ $£20 \times 5 = £100$
 - $1000g = 1kg$ $1000ml = 1L$
 - $1000m = 1km$
 - $\frac{1}{2} \text{ l/kg/km} = 500g$
 - $\frac{1}{4} \text{ l/kg/km} = 250g$
 - $\frac{3}{4} \text{ l/kg/km} = 750g$

Shape/Geometry

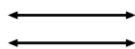
- Understand:



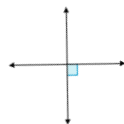
Vertical



Parallel



Perpendicular

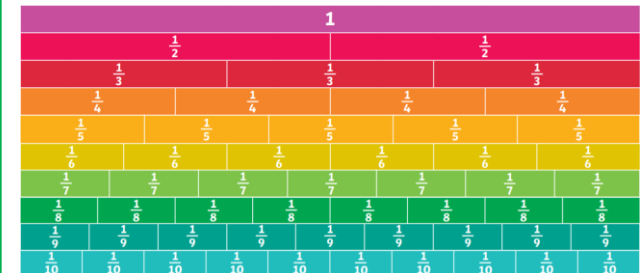


- Know that:
 - Right angle = 90°



Fractions

- $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10}$
- Know that:
 - 5 fifths = 1 whole, 6 sixths = 1 whole, 7 sevenths = 1 whole, 8 eighths = 1 whole
 - 9 ninths = 1 whole, 10 tenths = 1 whole
- Understand fraction facts related to whole numbers
 - $\frac{1}{6} + \frac{5}{6} = \frac{6}{6}$ (whole)
- Order unit fractions
- Count in tenths





Maths Fluency Map – Year 4

Place Value

- Recognise the value of 1000s, 100s, 10s and 1s in 4 digit numbers

Thousands	Hundreds	Tens	Ones
••••• •••••	•	•••••	••••• •
6	1	3	4

- Read, write and order numbers to 10,000 in numerals and words
- Count in 6s
- Count in 7s
- Count in 9s
- Count in 25s
- Count in 1000s

Addition and Subtraction

- Add and subtract two 2 digit numbers mentally
- Know pairs of numbers that total 10 000 (2000+8000=10 000)
- Add and subtract 1000 to any number
- Column addition and subtraction (4 digits)

Multiplication and Division

- Know the 6, 7 and 9 times tables and related division facts
- Know that a factor is a number that divides exactly into another number
- Multiply a 2 or 3 digit number by a 1 digit number
- Divide a 1 or 2 digit number by 10 or 100
- Know that:

$$500 \times 2 = 1\ 000$$

$$1000 \div 2 = 500$$

$$250 \times 4 = 1000$$

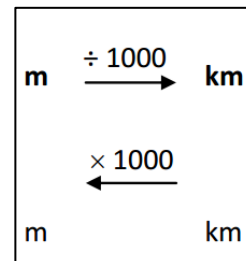
$$1000 \div 4 = 250$$

$$200 \times 5 = 1000$$

$$1000 \div 5 = 200$$

Measure

- Know that:
 - $\pounds 5.00 \times 2 = \pounds 10.00$ $\pounds 500 \times 2 = \pounds 1000$
 - $\pounds 2.50 \times 4 = \pounds 10.00$ $\pounds 250 \times 4 = \pounds 1000$
 - $\pounds 2.00 \times 5 = \pounds 10.00$ $\pounds 200 \times 5 = \pounds 1000$
 - $10\text{cm} = \frac{1}{10}\text{ m}$ $1\text{cm} = \frac{1}{100}\text{ m}$
 - $100\text{g} = \frac{1}{10}\text{ kg}$
 - 1 minute = 60 secs 1 hour = 60 mins
 - 48 hours = 2 days
 - 120 minutes = 2 hours
 - 90 minutes = 1 $\frac{1}{2}$ hours
- Tell the time to the nearest minute



Shape/Geometry

- Quadrilaterals: square, rectangle, parallelogram, rhombus, trapezium



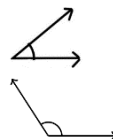
- Triangles: right angled, scalene, equilateral, isosceles



- Know that:

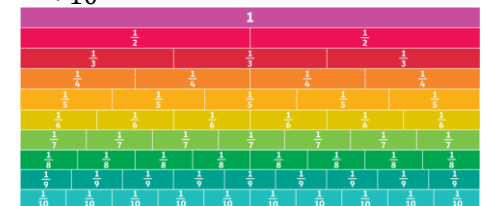
Acute angle = less than 90°

Obtuse angle = more than 90°



Fractions

- Count in hundredths
- Know that:
 - $\frac{1}{2} = 0.5$
 - $\frac{1}{4} = 0.25$
 - $\frac{3}{4} = 0.75$
- Know that $1 \div 100 = \frac{1}{100} = 0.01$ up to $10 \div 100 = \frac{1}{10} = 0.1$





Maths Fluency Map – Year 5

Place Value

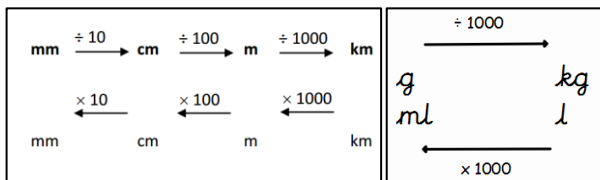
- Recognise the value of 100 000s, 10 000s, 1000s, 100s, 10s and 1s in 6 digit numbers

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
● ● ●	● ● ● ● ● ● ● ●	● ● ●	● ● ● ● ● ●	● ● ● ● ●	●
3	9	3	6	4	1

- Read, write, order and compare numbers up to 1 000 000
- Count in 10s, 100s, 1000s, 10 000s and 100 000s from any number
- Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000

Measure

- Know that:
 - $1\text{mm} = \frac{1}{10}\text{cm} = \frac{1}{1000}\text{m}$
 - $1\text{kg} = 2.2\text{lbs}$
 - $1\text{l} = 1.8\text{pints}$
 - $1\text{m} = 39.4\text{ inches}$



Fractions

- Know that $1 \div 100 = \frac{1}{100} = 0.1$ up to $10 \div 100 = \frac{10}{100} = \frac{1}{10} = 0.1$
- Know that
 - $10\% = 0.1 = \frac{1}{10} = \frac{10}{100} = \frac{100}{1000}$
 - $50\% = 0.5 = \frac{1}{2} = \frac{5}{10} = \frac{5}{100}$
 - $25\% = 0.25 = \frac{1}{4} = \frac{25}{100}$
 - $75\% = 0.75 = \frac{3}{4} = \frac{75}{100}$
- Know that percent (%) means out of 100

Shape/Geometry

- Know that:
 - Straight line = 180°
 - Reflex angle = bigger than 180° but smaller than 360°
 - Angles on a straight line = 180°
 - Angles around a point = 360°
 - $360 \div 4 = 90$ $\frac{1}{4}$ of $360 = 90$
 - $360 \div 2 = 180$ $\frac{1}{2}$ of $360 = 180$
 - $\frac{3}{4}$ of $360 = 270$

Multiplication and Division

- Know all the times tables up to 12×12 and related division facts
- Know the square numbers up to 12^2
- Know the cubed numbers up to 5^3
- Know the prime numbers up to 19
- Know that a multiple is a number in a specific times table
- Multiply a 4 digit number by a 1 or 2 digit number
- Divide a 4 digit number by 1 digit number
- Multiply and divide whole numbers and decimals by 10, 100 and 1000
- Know that:
 - $10\,000 \div 2 = 5\,000$
 - $10\,000 \div 4 = 2500$
 - $10\,000 \div 5 = 2000$
 - $10\,000 \div 10 = 1000$
 - $10\,000 \div 100 = 100$

Addition and Subtraction

- Add and subtract two 3 digit numbers mentally
- Know pairs of numbers that total 100 000 ($40\,000 + 60\,000 = 100\,000$)
- Column addition and subtraction (5 digits)



Maths Fluency Map – Year 6

Place Value

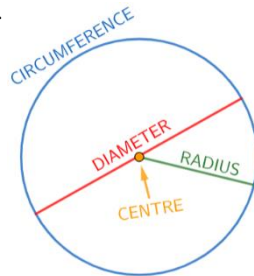
- Recognise the value of 1 000 000s, 100 000s, 10 000s, 1000s, 100s, 10s and 1s in 7 digit numbers

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
●	● ●	● ● ●	●	● ● ● ●	● ● ●	●
1	2	4	1	6	3	1

- Read, write, order and compare numbers up to 10 000 000
- Round any number to the required degree of accuracy

Shape/Geometry

- Identify and name parts of circles: radius, diameter and circumference
- Know that:
 - Angles in a triangle = 180°
 - Angles in a quadrilateral = 360°
 - Diameter = 2 x radius
 - Radius = $\frac{1}{2}$ diameter



Four Operations: addition, subtraction, multiplication and division

- Column addition and subtraction (6 or more digits)
- Multiply a 4 digit number by a 2 digit number
- Divide a 4 digit number by a 2 digit number
- Multiply and divide whole numbers and decimals by 10, 100 and 1000

Measure

- Know that 1km = 0.621371 miles
- Formula for area of a quadrilateral = length x width
- Formula for area of a triangle = $\frac{1}{2}$ base x height
- Formula for volume of a cube = length x width x height

Ratio and Proportion

- Recognise related percentage facts
 - eg. If I know 1%, then I can find 2% by doubling
 - If I know 10% then I can find 5% by halving

Fractions

- Know that:
 - $20\% = 0.2 = \frac{1}{5} = \frac{2}{10} = \frac{20}{100}$
 - $40\% = 0.4 = \frac{2}{5} = \frac{4}{10} = \frac{40}{100}$
 - $12.5\% = 0.125 = \frac{1}{8}$
 - $33.3\% = 0.333 = \frac{1}{3}$
- Write decimal numbers and percentages as fractions (eg. $0.71 = \frac{71}{100}$)