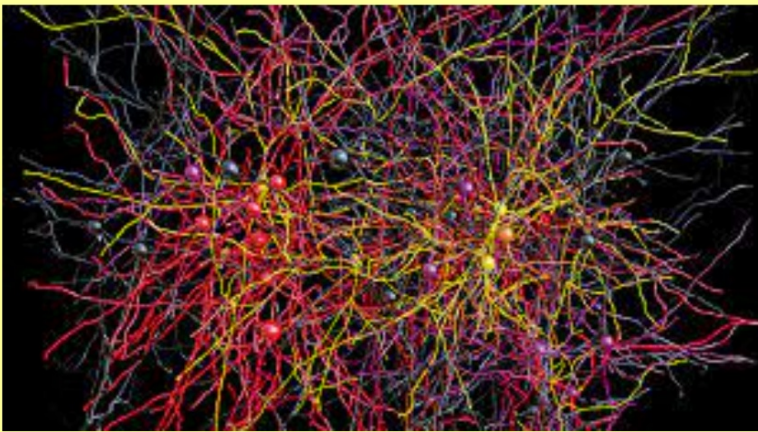
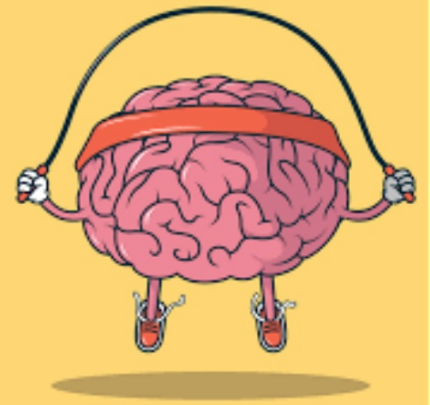


Positivity



**Making Connections
between topics**

Addition / Subtraction
Multiplication / Division



Growth Mindset

Daily arithmetic in
school

Fact Fluency

$$8 + 5$$

8+2+3 (make 10)

5+5+3 (double 5)

$$6 + 7$$

6+4+3 (make 10)

6+6+1 (doubles)

7+7-1 (doubles)

Near doubles

10 and a bit

Adding/Subtracting 0

Commutativity (swap)

+	0	1	2	3	4	5	6	7	8	9	10
0	0+0	0+1	0+2	0+3	0+4	0+5	0+6	0+7	0+8	0+9	0+10
1	1+0	1+1	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+9	1+10
2	2+0	2+1	2+2	2+3	2+4	2+5	2+6	2+7	2+8	2+9	2+10
3	3+0	3+1	3+2	3+3	3+4	3+5	3+6	3+7	3+8	3+9	3+10
4	4+0	4+1	4+2	4+3	4+4	4+5	4+6	4+7	4+8	4+9	4+10
5	5+0	5+1	5+2	5+3	5+4	5+5	5+6	5+7	5+8	5+9	5+10
6	6+0	6+1	6+2	6+3	6+4	6+5	6+6	6+7	6+8	6+9	6+10
7	7+0	7+1	7+2	7+3	7+4	7+5	7+6	7+7	7+8	7+9	7+10
8	8+0	8+1	8+2	8+3	8+4	8+5	8+6	8+7	8+8	8+9	8+10
9	9+0	9+1	9+2	9+3	9+4	9+5	9+6	9+7	9+8	9+9	9+10
10	10+0	10+1	10+2	10+3	10+4	10+5	10+6	10+7	10+8	10+9	10+10

Adding 0, Adding 1, Adding 2, Doubles,
Near doubles, Make 10, 10 and a bit

Column Addition

Use of manipulatives

Language use - Hundreds, Tens, Ones, Exchange

$$24.09 + 7.137$$

$$\begin{array}{r} 1 \quad 2 \quad 4 \\ + 6 \quad 3 \quad 7 \\ \hline 7 \quad 6 \quad 1 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \quad 4 \cdot 0 \quad 9 \quad 0 \\ + \quad 7 \cdot 1 \quad 3 \quad 7 \\ \hline 3 \quad 1 \cdot 2 \quad 2 \quad 7 \\ \hline 1 \quad \quad 1 \end{array}$$

Using zero as a
place holder so
each number
has the same
number of
decimal places

Column Subtraction

Use of manipulatives

Language use - Hundreds, Tens, Ones, regrouping

$$\begin{array}{r} 3^8 9^1 2 \\ - 67 \\ \hline 325 \end{array}$$

$$\begin{array}{r} 6^6 7^9 10^1 2 \\ - 468 \\ \hline 6,234 \end{array}$$

Times Tables

36 key facts

$2 \times 2 = 4$

$3 \times 2 = 6$

$3 \times 3 = 9$

$4 \times 2 = 8$

$4 \times 3 = 12$

$4 \times 4 = 16$

$5 \times 2 = 10$

$5 \times 3 = 15$

$5 \times 4 = 20$

$5 \times 5 = 25$

$6 \times 2 = 12$

$6 \times 3 = 18$

$6 \times 4 = 24$

$6 \times 5 = 30$

$6 \times 6 = 36$

$7 \times 2 = 14$

$7 \times 3 = 21$

$7 \times 4 = 28$

$7 \times 5 = 35$

$7 \times 6 = 42$

$7 \times 7 = 49$

$8 \times 2 = 16$

$8 \times 3 = 24$

$8 \times 4 = 32$

$8 \times 5 = 40$

$8 \times 6 = 48$

$8 \times 7 = 56$

$8 \times 8 = 64$

$9 \times 2 = 18$

$9 \times 3 = 27$

$9 \times 4 = 36$

$9 \times 5 = 45$

$9 \times 6 = 54$

$9 \times 7 = 63$

$9 \times 8 = 72$

$9 \times 9 = 81$

Multiplying & Dividing by 10, 100, 1000

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
		3	2			
			3	2		

$$32 \div 10$$

To divide by 10, we move the digits one place to the right

$$0.3 \div 10 =$$



Formal Method Multiplication

Expanded, Short, Long (for two digits)

$$\begin{array}{r} 35 \\ \times 7 \\ \hline 245 \end{array}$$

$$\begin{array}{r} 35 \\ \times 7 \\ \hline 245 \end{array}$$

$$\begin{array}{r} 23 \\ \times 17 \\ \hline 161 \\ 230 \\ \hline 391 \end{array}$$

Written division: Short & Long Division

With drawing / PV counters

1 2 4 **r** 3
5 6 ¹2 ²3

$$5,746 \div 5 =$$

2	6	4	4	7	2
---	---	---	---	---	---

Long division

$$\begin{array}{r}
 0357 \\
 19 \overline{) 6783} \\
 \underline{57} \downarrow \\
 108 \downarrow \\
 \underline{95} \downarrow \\
 133 \\
 \underline{133} \\
 000
 \end{array}$$

Importance of
times tables

Multiples

Box

19
38
57
76
95
114
133
152
171
190

SATs Examples

Importance of Times Tables and Related Facts

$$2 \times 4 \times 30 =$$

$$450 \div 9 =$$

$$2,800 \div 7 =$$

$$2,700 \div 3 =$$

$$3.2 \times 12 =$$

$$70 + 48 \div 6 =$$
