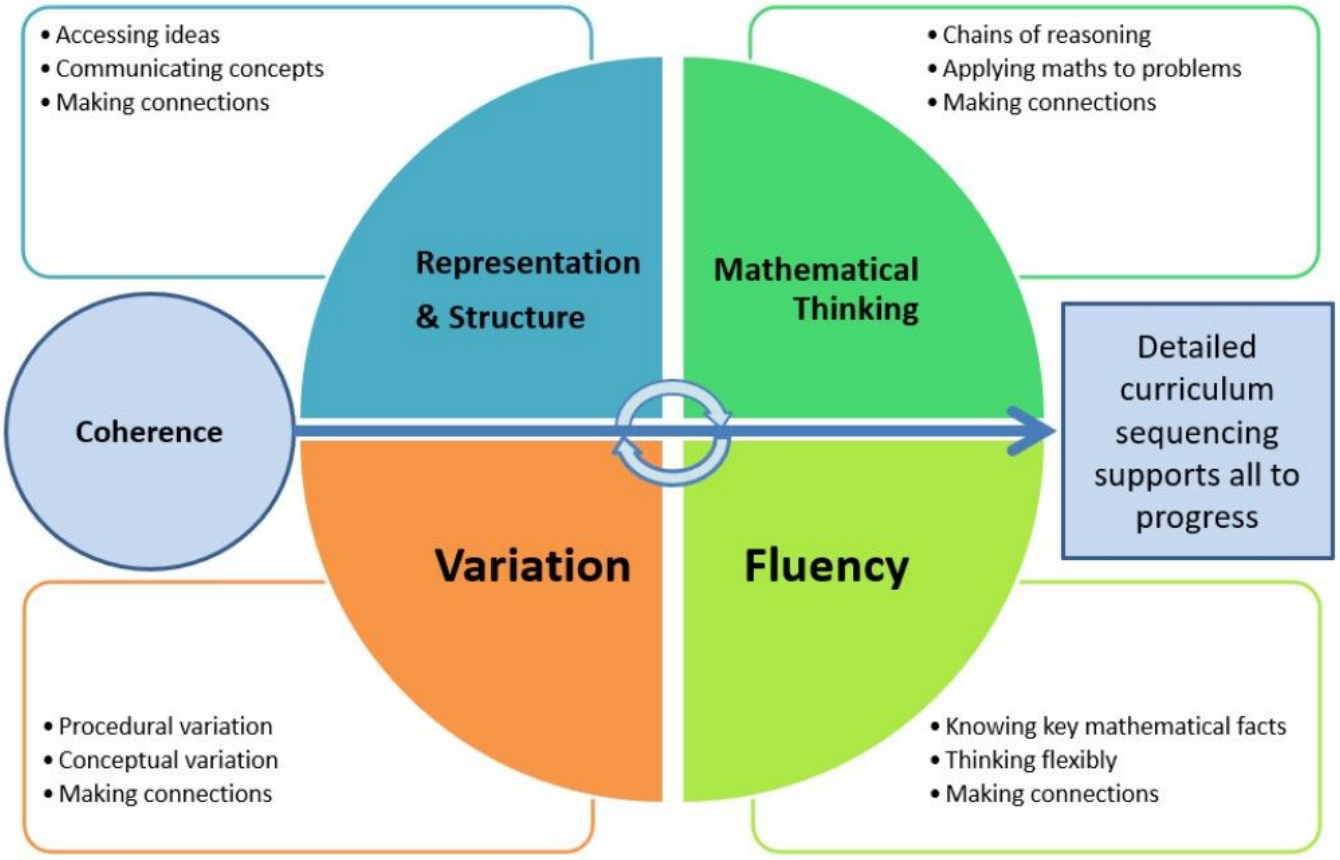
Maths at WHPS
Fluency

- Barnet
- Camden
- Enfield
- Haringey
- Islington
- Westminster

Teaching for Mastery



Teaching for Mastery

We represent maths with physical resources and pictures.

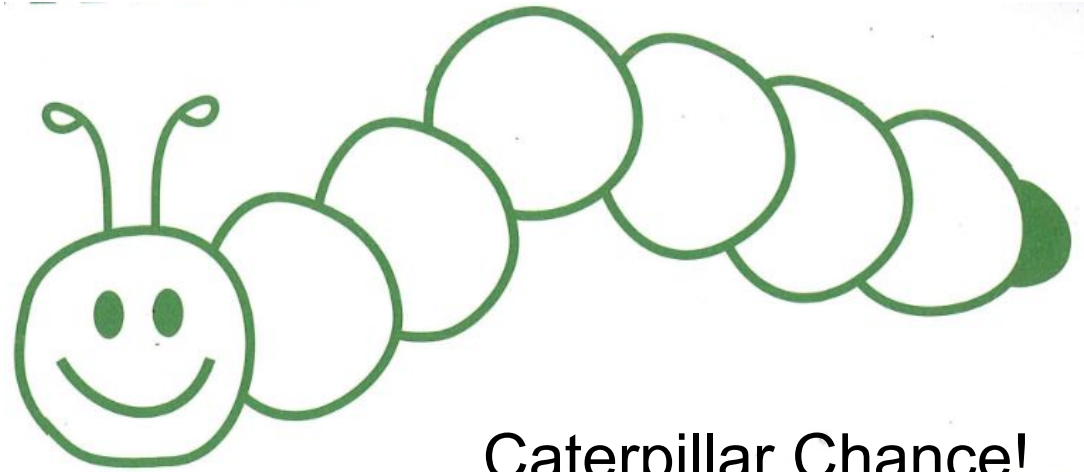
We teach children to think mathematically.

Children's learning builds up in smalls steps.

We present maths in a variety of different ways.

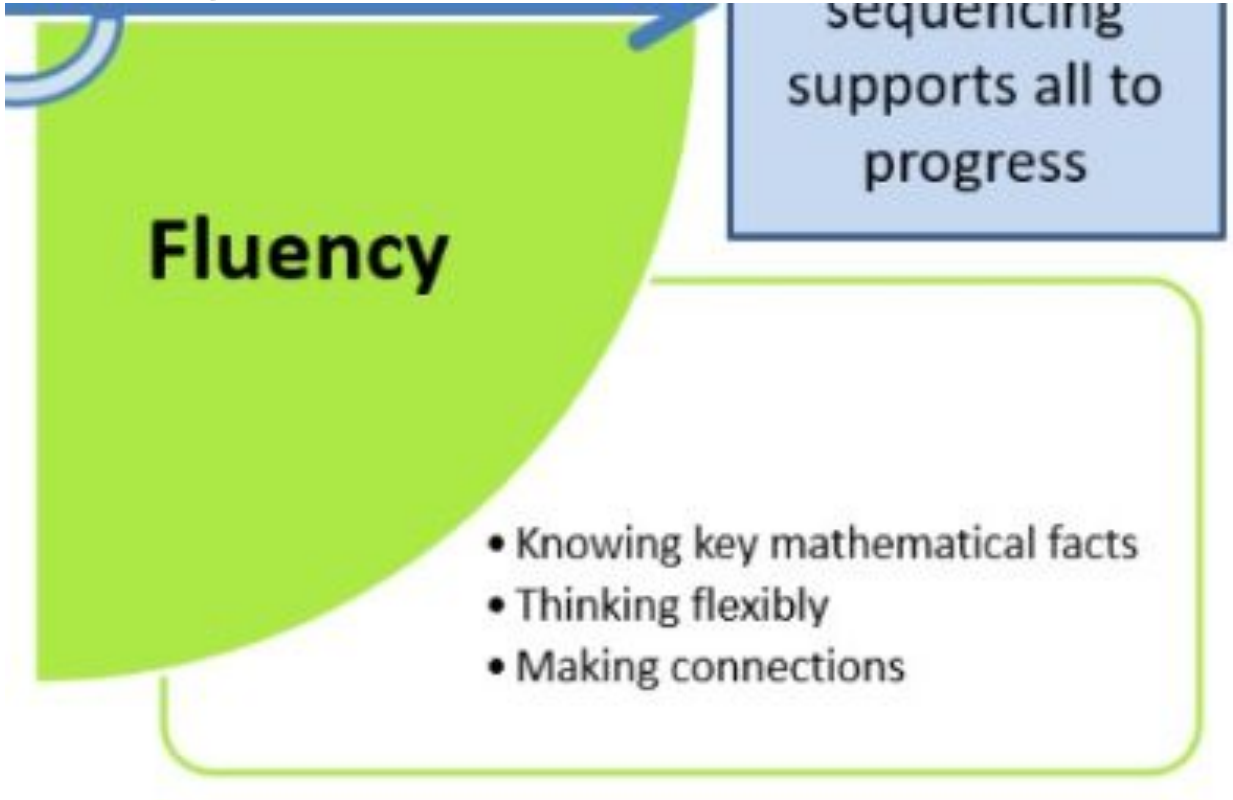
We expect children to be fluent in number facts.

Fluency



Caterpillar Chance!

Fluency


sequencing supports all to progress
Fluency
• Knowing key mathematical facts
• Thinking flexibly
• Making connections

Fluency

Speaking with rhythm

Adapting to new situations

No pauses or breaks

Understanding the impact of context on different words

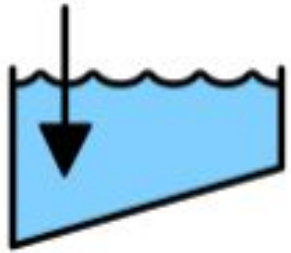
Without translating back and forth

Feeling at ease and confident when speaking and listening

Language Fluency

Fluency

Teaching for depth is essential.



All schools should make sure that:

- curriculums emphasise secure learning of, rather than encountering, mathematical knowledge.

Coordinating Mathematical Success: the maths subject report Ofsted 2023

Fluency

Practice is essential. Providing children with the time they need to practice and develop their understanding through experience will provide them with the best chance of fluency.

Fluency

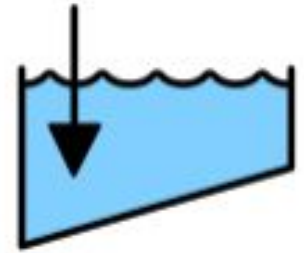
relational knowledge vs instrumental knowledge

Fluency - EYFS

6 six

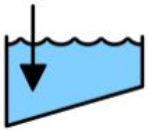
Fluency - EYFS

Six or not six?



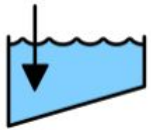
Fluency - EYFS

Find all the ways to make 6!

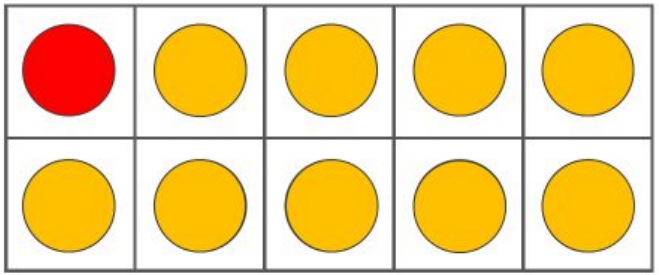


How do you know you've found **all** the ways?

Fluency - Year 1



Show all the ways to make 10 with 'fingers up and fingers down'



10 is made of _____ and _____;
_____ and _____ make 10.

MN Week 10 Slide 15, 26

Fluency - Year 2

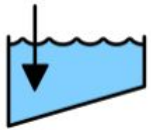
Adding 1 | Bonds to 10 | Adding 10 | Bridging/ compensating

Adding 2 | Adding 0 | Doubles | Near doubles

Y1 facts

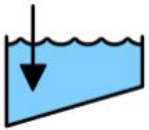
Y2 facts

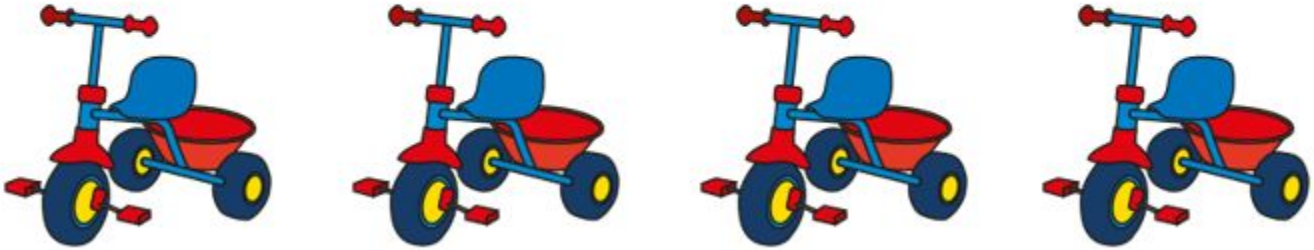
+	0	1	2	3	4	5	6	7	8	9	10
0	0 + 0	0 + 1	0 + 2	0 + 3	0 + 4	0 + 5	0 + 6	0 + 7	0 + 8	0 + 9	0 + 10
1	1 + 0	1 + 1	1 + 2	1 + 3	1 + 4	1 + 5	1 + 6	1 + 7	1 + 8	1 + 9	1 + 10
2	2 + 0	2 + 1	2 + 2	2 + 3	2 + 4	2 + 5	2 + 6	2 + 7	2 + 8	2 + 9	2 + 10
3	3 + 0	3 + 1	3 + 2	3 + 3	3 + 4	3 + 5	3 + 6	3 + 7	3 + 8	3 + 9	3 + 10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



Fluency - Year 3

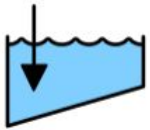
How many wheels? Count in groups of 3.





NCETM PD Materials Y3

Fluency - Year 3



This shows 4 x 3 = 12.

Represent 7 x 3 with your matchsticks.

I have 30 matchsticks. How many triangles will I have?

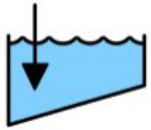
Fluency - Year 4

2x2=4	3x2=6	4x2=8	5x2=10	6x2=12	7x2=14	8x2=16	9x2=18	10x2=20	11x2=22	12x2=24
	3x3=9	4x3=12	5x3=15	6x3=18	7x3=21	8x3=24	9x3=27	10x3=30	11x3=33	12x3=36
		4x4=16	5x4=20	6x4=24	7x4=28	8x4=32	9x4=36	10x4=40	11x4=44	12x4=48
			5x5=25	6x5=30	7x5=35	8x5=40	9x5=45	10x5=50	11x5=55	12x5=60
				6x6=36	7x6=42	8x6=48	9x6=54	10x6=60	11x6=66	12x6=72
					7x7=49	8x7=56	9x7=63	10x7=70	11x7=77	12x7=84
						8x8=64	9x8=72	10x8=80	11x8=88	12x8=96
							9x9=81	10x9=90	11x9=99	12x9=108
								10x10=100	11x10=110	12x10=120
									11x11=121	12x11=132
										12x12=144

You actually only need to learn 66 facts!

Key	
Square numbers	
	Year 1 and 2
	Year 3
	Year 4 (5&6)

Fluency - Year 5



800 x 8.2 = _____

4 x 2 = ____
4 x 4 = ____
8 x 4 = ____
800 x 4 = ____
800 x 40 = ____
800 x 41 = ____
800 x 82 = ____
800 x 8.2 = ____

Ask yourself, how can I use what I already know to help me find out what I don't?

i.e. How do I use the answer to the previous question, to solve the next?

Fluency - Year 6

$$1002 - 99 = \_\_\_\_\_$$

So, what do we mean by fluency at WHPS?

What did you find most useful from this session?