MATHS AT NORBURY

WHY?

- Children spend 75-85% of there waking hours out side of school
- Parental engagement over the course of a childs school life is equivalent to an extra 2-3 years of schooling – J. Hattie 2008

END GOAL?

By the time your children leave us in year 6 we want them to be problem solves of the future

Fluent in the 4 basic operations (addition, subtraction, multiplication and division

Be able to use maths in wider contexts and to support with other areas of the curriculum for example scientists collecting data

FOCUS?

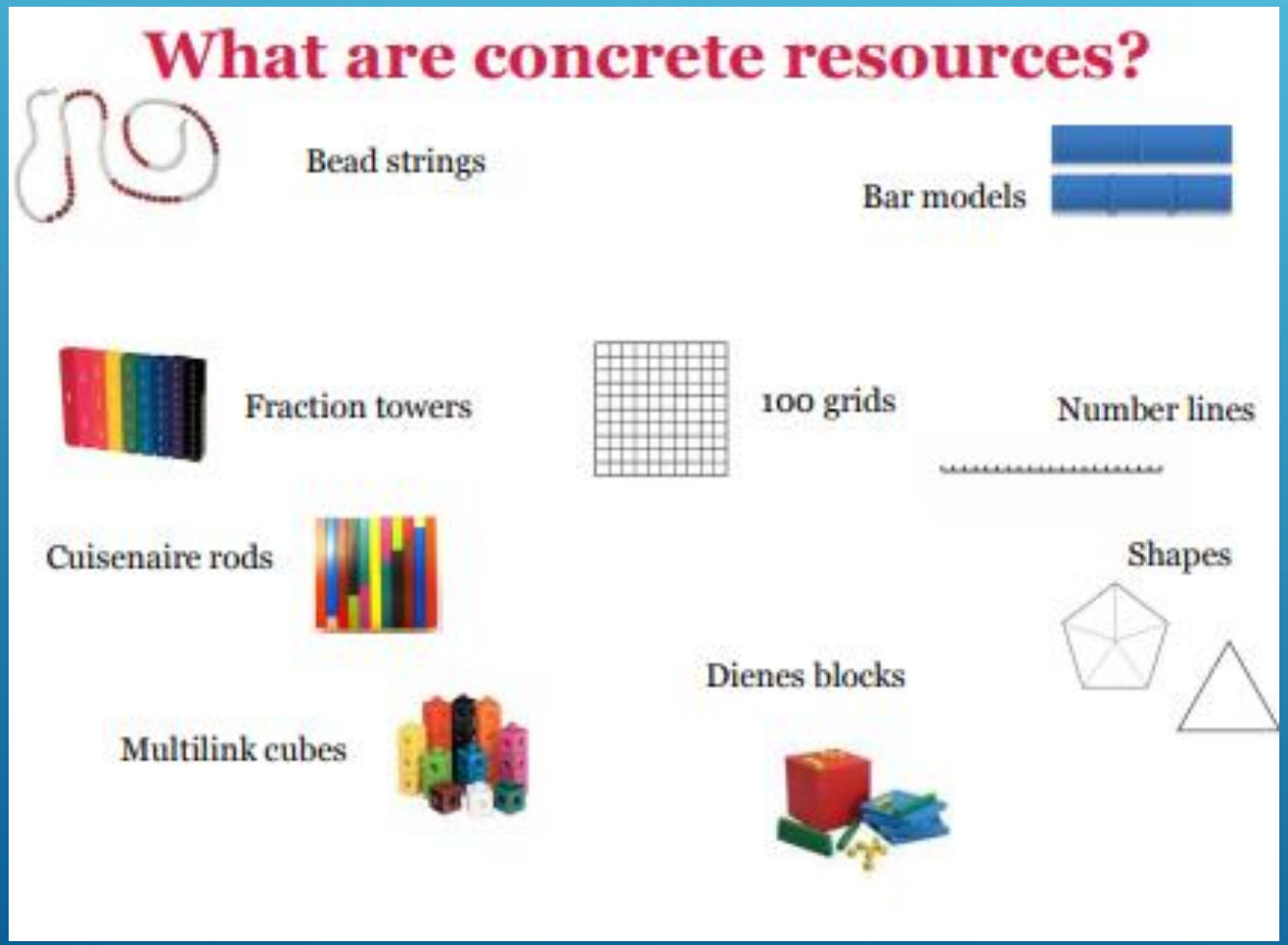
- Fluency, problem solving and reasoning

These are the core ideas which underpin the lessons we teach at Norbury. During every maths lesson, in every keystage, there will be an element of fluency, reasoning and problem solving.

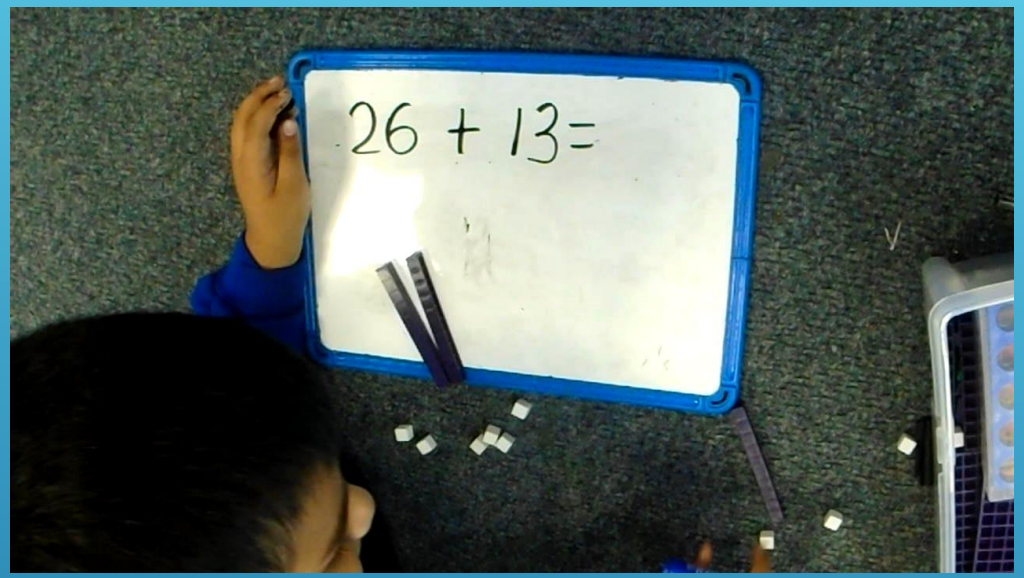
HOW DO WE GET THERE?

- In Key stage 1 there is a strong focus on calculation, using resources to help represent numbers but also to support the with the four operations
- Learning is reinforced through repetition and chanting e.g. by counting in twos
- Maths in this key stage is predominantly visual and takes a hands on approach

RESOURCES AT NORBURY



WHAT DOES THIS LOOK LIKE?



HOW DOES KEY STAGE 2 DIFFER?

- In key stage 2 there is still a strong focus on being able to see the maths being done
- Resources are still being used to show understanding
- Bigger focus on building the knowledge of fluency which is focused on in key stage 1 and extending it into problem solving and reasoning
- Focus on SAT style questions (this benefits reading skills, interpretation skills and maths skills)

1) Round this to the nearest 1000?

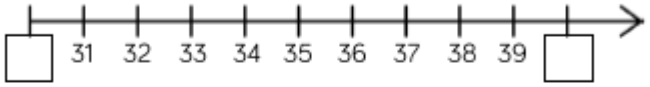
7969

ANSWER

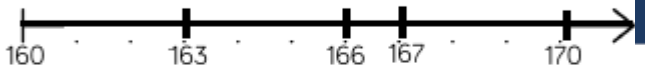
EXAMPLES

Varied Fluency

Which multiples of 10 do the numbers sit between?



Say whether each number on the number line is closer to 160 or 170?



Round 163, 166 and 167 to the nearest 10

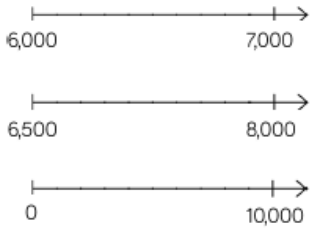
Complete the table:

Start number	Rounded to the nearest 10
	
851	
XCVIII	

19

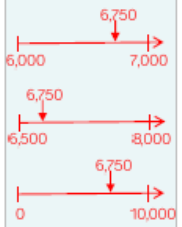
Reasoning and Problem Solving

Place 6,750 on each of the number lines.

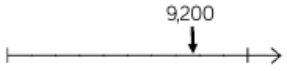


Are they in the same place on each line? Why?

No, each line has different numbers at the start and end so the position of 6,750 changes.



If the number on the number line is 9,200, what could the start and end numbers be?
Find three different ways.



Possible answers:

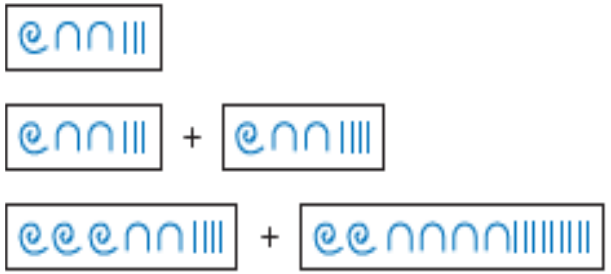
8,400 – 9,500
5,000 – 10,000
9,120 – 9,920

Mastery with Greater Depth

000 years ago Egyptians carved number symbols on their tombs:

| =1
∩ =10
@ =100

What is the value of these Egyptian numbers?



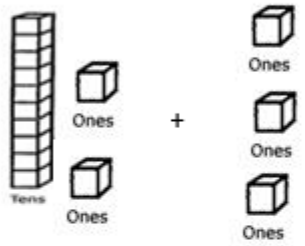
Addition

Year 1

+ = signs and missing numbers

3 + 4 = □ □ = 3 + 4
3 + □ = 7 7 = □ + 4
□ + 4 = 7 7 = 3 + □
□ + ▽ = 7 7 = □ + ▽
Promoting covering up of operations and numbers.

Use of concrete and drawn dienes eg; 12+3=



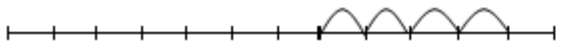
Numicon

Number lines (blank)

Using blank number lines

(Teacher model number lines with missing numbers)

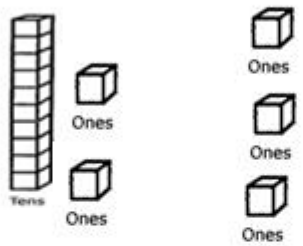
7 + 4 = 11



Year 2

+ = signs and missing numbers
Continue using a range of equations as in Year 1 but with appropriate, larger numbers.
Extend to
14 + 5 = 10 + □
and adding three numbers
32 + □ + □ = 100 35 = 1 + □ + 5

Use of concrete and drawn dienes eg; 12+3=



Partition into tens and ones and recombine

12 + 23 = 10 + 2 + 20 + 3
= 30 + 5
= 35

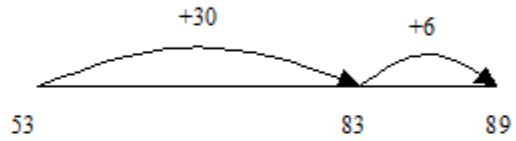
refine to partitioning the second number only:

23 + 12 = 23 + 10 +1 + 1
= 33 + 1 + 1
= 35

Year 3

+ = signs and missing numbers
Continue using a range of equations as in Year 1 and 2 but with appropriate, larger numbers.

Partition into tens and ones and recombine
Partition both numbers and recombine. Refine to partitioning the second number only e.g.
36 + 53 = 53 + 30 + 6
= 83 + 6
= 89



Add a near multiple of 10 to a two-digit number
Continue as in Year 2 but with appropriate numbers e.g. 35 + 19 is the same as 35 + 20 – 1.

Partition into hundreds, tens and ones and recombine
Either partition both numbers and recombine or partition the second number only e.g.
358 + 73 = 358 + 70 + 3
= 428 + 3
= 431