Welcome to Maths at KS2

"Mathematics helps children to make sense of the world around them through developing their ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of Mathematics. (Highfield Mathematics Policy. 2011)

At Highfield Primary School we aim to:

Develop a positive attitude to Maths

Develop Mathematical understanding through systematic direct teaching of appropriate learning objectives

Encourage the effective use of Maths in meaningful contexts

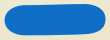
Develop an ability in the children to express themselves fluently

Develop an appreciation of relationships within Maths

- Develop Mathematical skills and knowledge and quick recall of basic facts in line with NNS recommendations.

(Highfield Mathematics policy available on our school web site www.highfield-pri.enfield.sch.uk/)

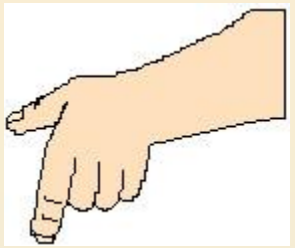
- Today's meeting is to primarily show you how calculation is taught at Highfield Primary School in KS2.


Learning styles

- **Tactile/Kinesthetic Learners:**

learn through , moving, doing and touching..

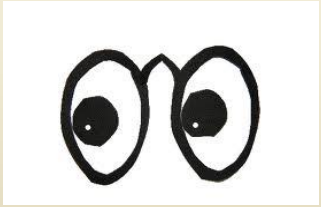


- **Auditory Learners:**

learn through listening.

- **Visual Learners:**

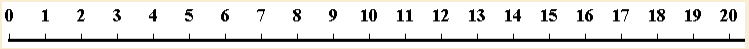
learn through seeing...



We endeavour to teach using all three.

Resources

- Number line



- Counters

- Online games

Number square

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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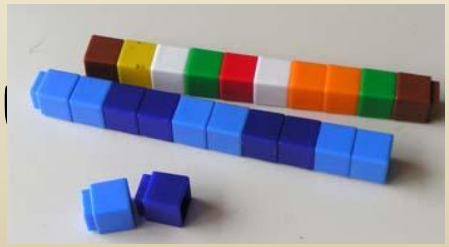


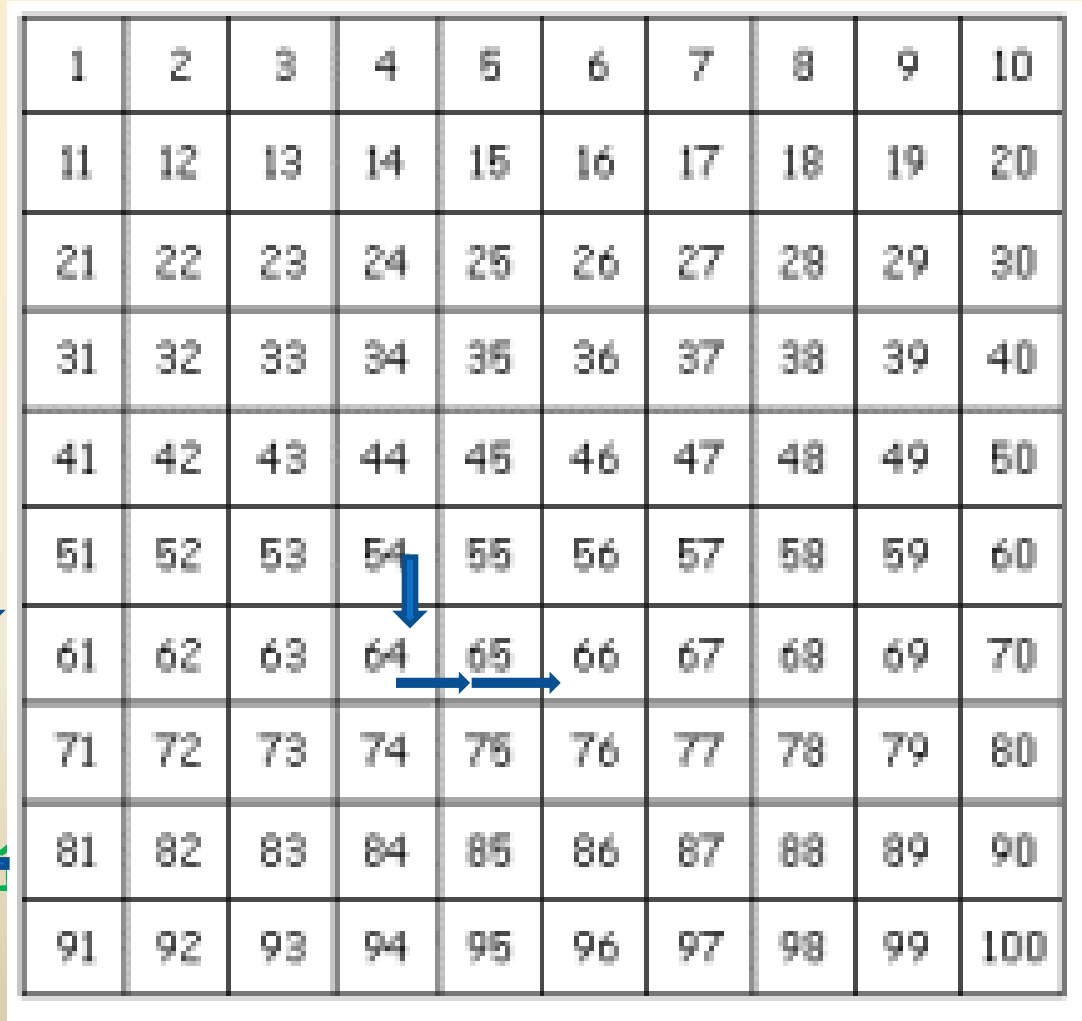
Place value cards

- The methods that I show you today for each of the operations are approved and recommended by the Department of Education.
- I will show you the progression of the more 'adult' methods used at Highfield. The more basic approaches to all of the four operations use a number line or a number square. They are used by children who are really developing their understanding of the operations. I will show you briefly some of their uses.

Addition and Subtraction a with number square

- Adding 12
- 54 +12= 66
- Step 1 :Partition the number (one 10, two units) 10 & 2
- Step 2: add on the 10 (down 1)
- Step 3 add on the units (right 2)

- Adding 10 go down 1
- Subtracting 10 up 1
- Adding 1go right
- Subtracting 1 go left



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Addition and Subtraction a with number square

Adding 9 :

25 + 9= 34

Step 1: find 25 on number square

Step 2: simplify the equation (add 10 -1).

To add 10 simple go down one on the numbe

Grid then then take 1 to make 9 (go left 1 s

Down 1 left 1

Subtracting 9:

25 -9= 16

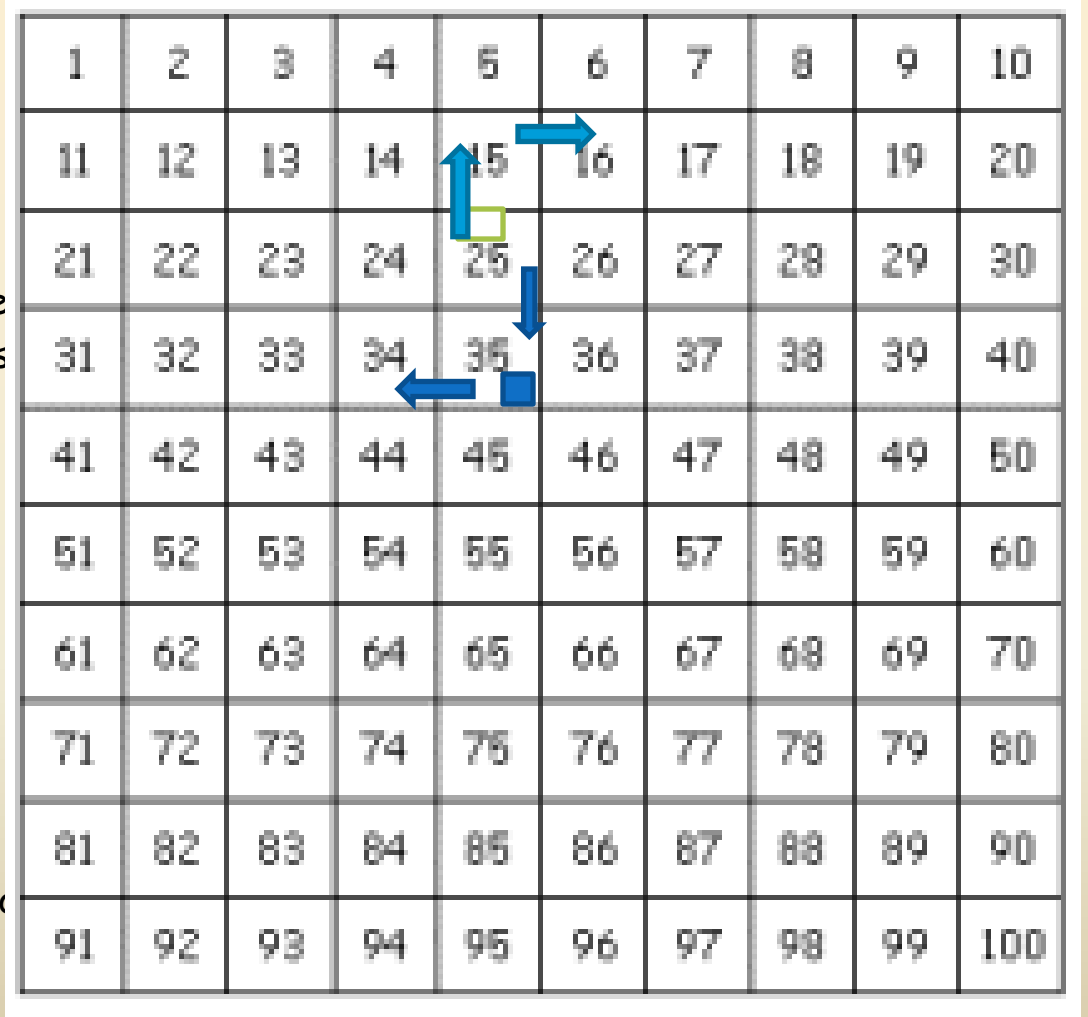
Step 1: find 25 on the number grid

Step 2: simplify the equation (take 10 +1)

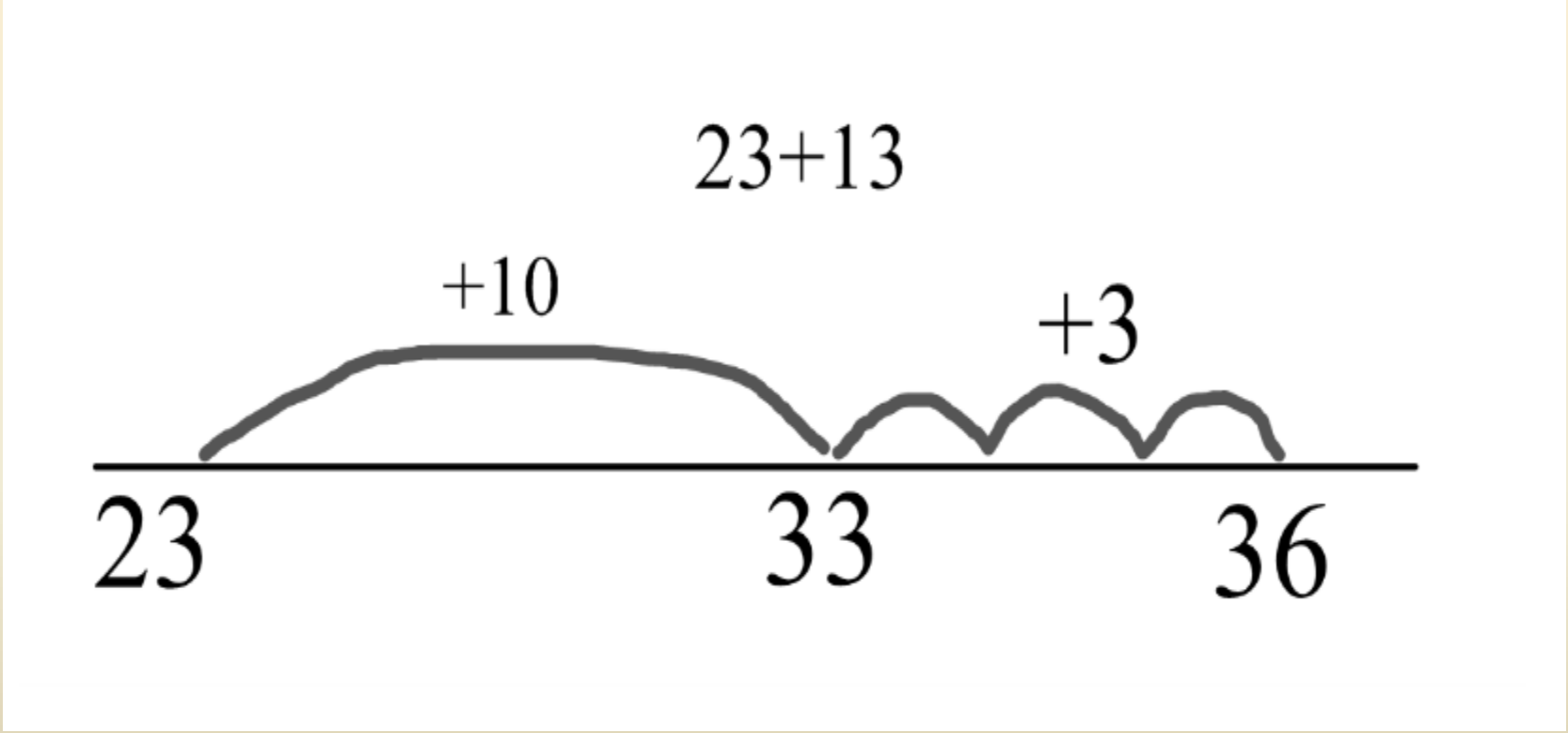
Step 3: to take ten go up 1 then take 1 by g

Right 1.

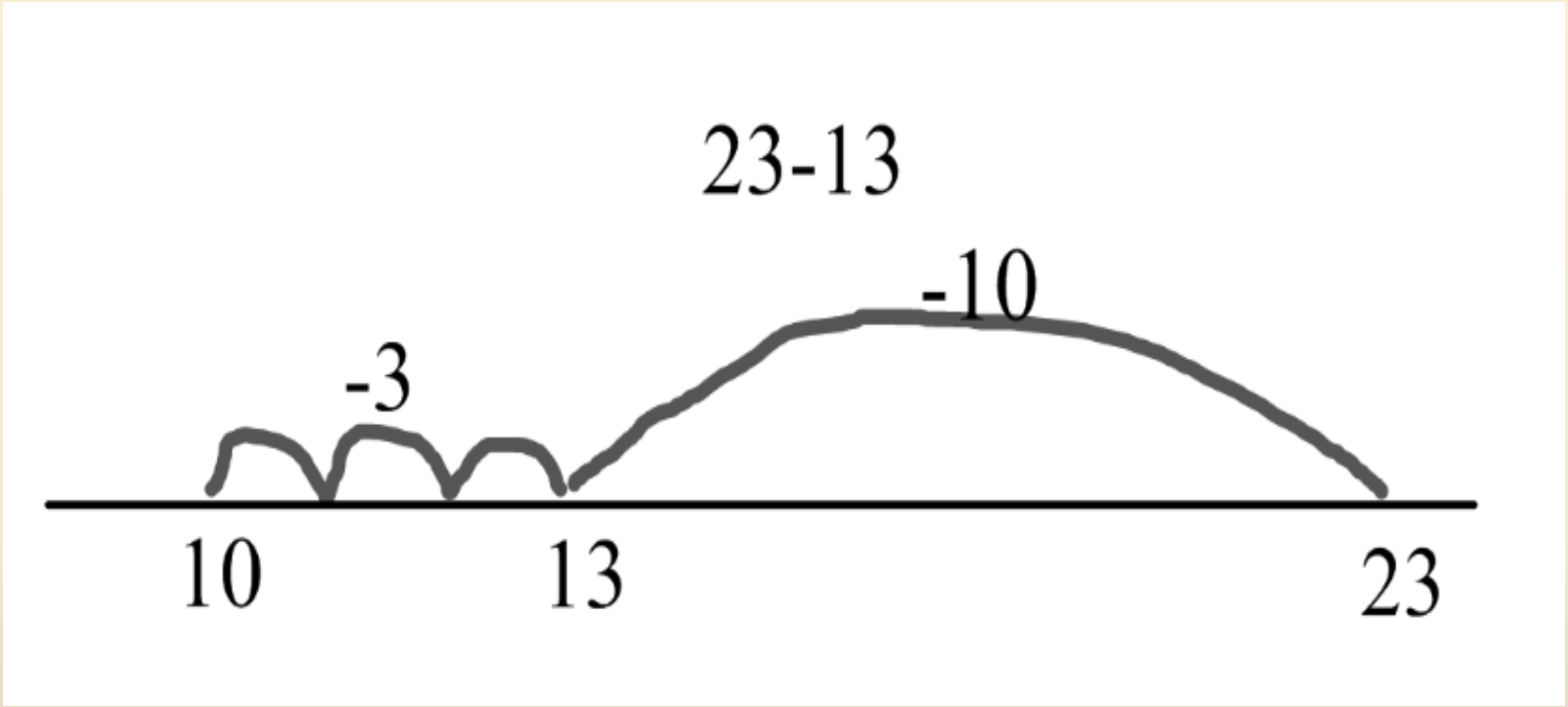
Up 1 right 1



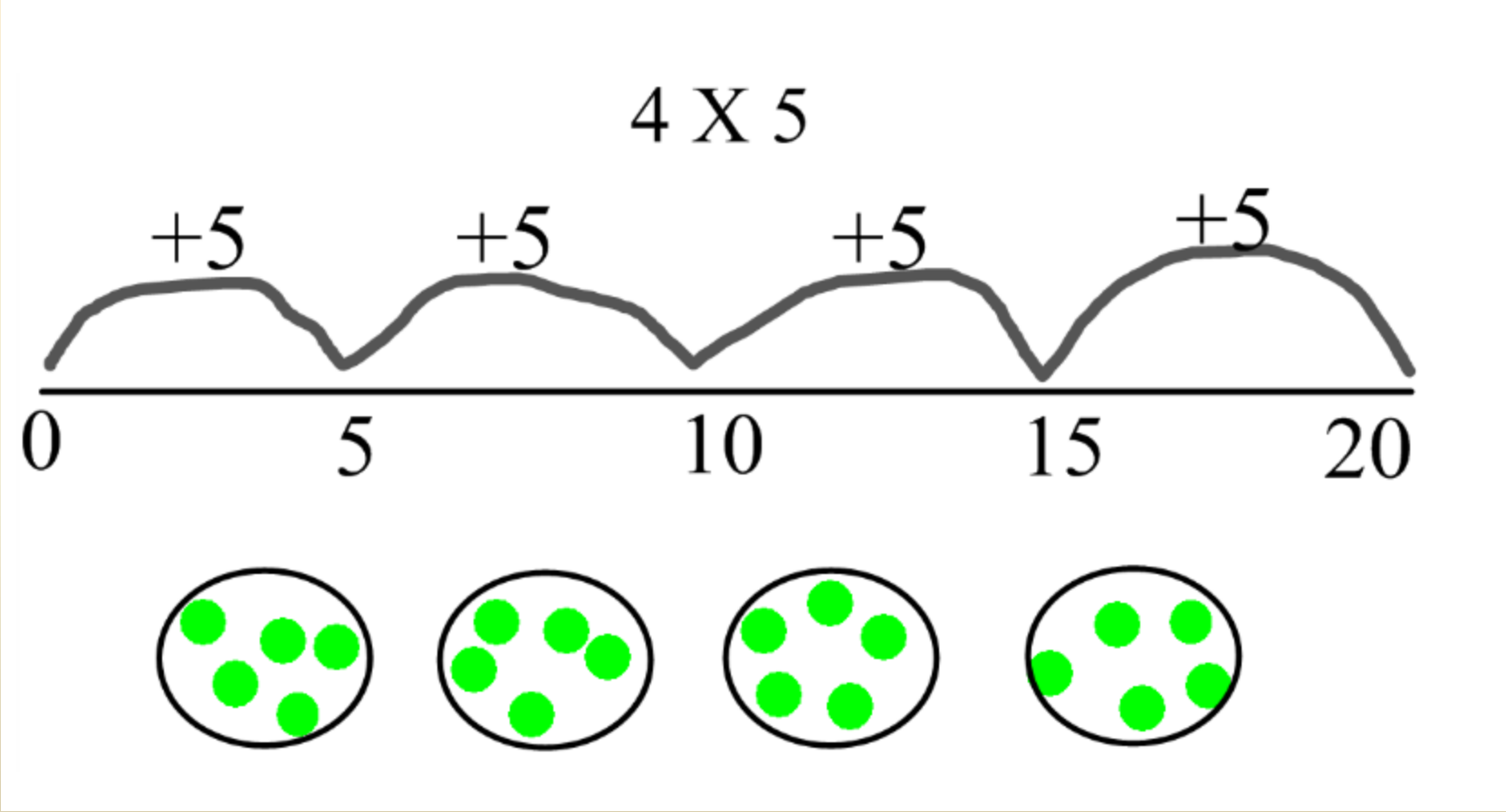
As a precursor to this, children would add in ones.



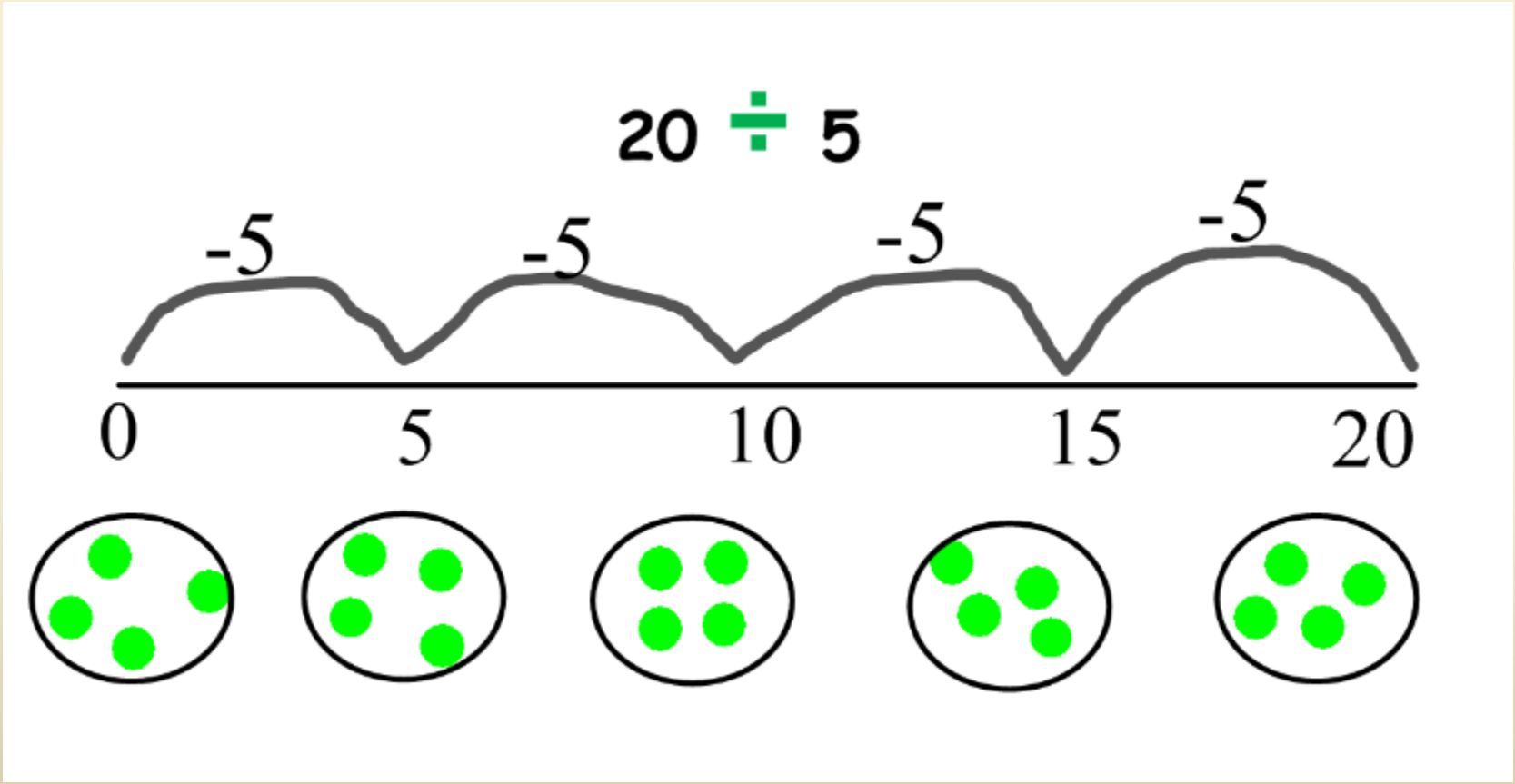
As a precursor to this, children would subtract in ones.



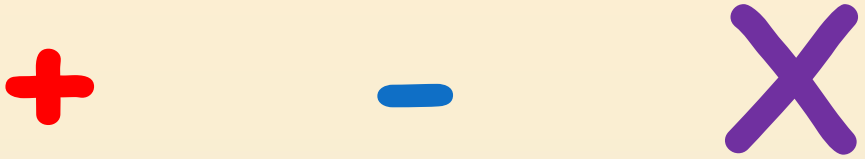
X (repeated addition)



(repeated subtraction)



Moving on to 'Adult methods'



- At Highfield we teach a number of methods for each operation. The reason for this is because we do so in real life when working our problems.

- For example, although we could use the same method to work this out, would it be as quick?
- 453-372=
- 2001-1993=

- Also, one strategy that works for one child might not work for another.

Moving on to 'Adult methods'

- We encourage the children to use the ways that they become most comfortable with (which are often the adult methods we know) but they need to build up to these methods I will now show you the more formal and 'adult' methods we use for the four operations in Highfield Primary School.

43+ 16=

40+10= + 3+6=

50 9

50+9=59

T U

43

+16

9

50

59

Addition

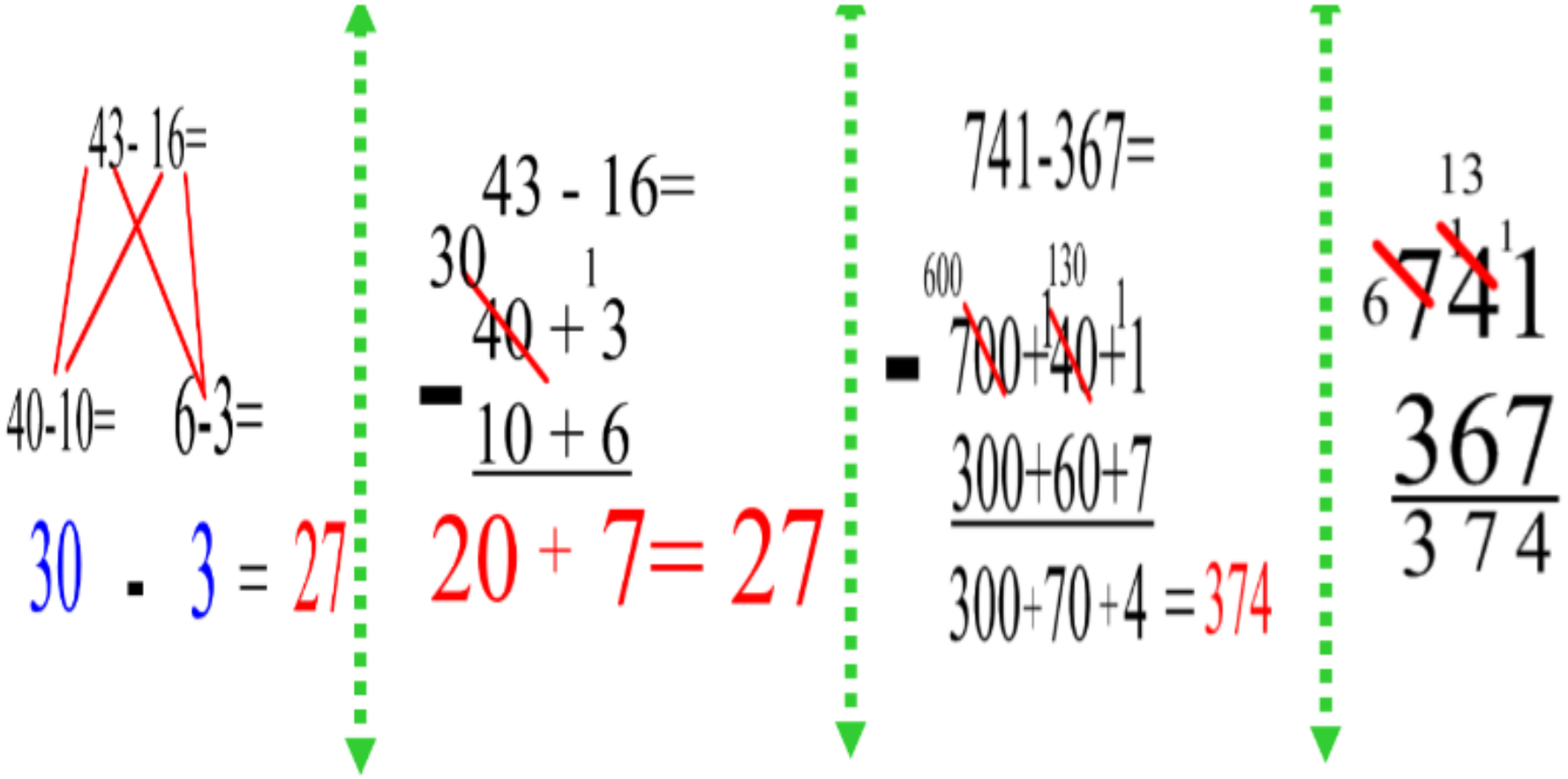
258

+ 87

345

1 1

Use the term "carry" and refer to the digit by its value- units, tens, hundreds, not, "Carry the one."


43- 16=
40-10=
6-3=
30 - 3 = 27
43 - 16=
30 40 + 3
1
- 10 + 6
20 + 7= 27
741-367=
600 130
700+40+1
- 300+60+7
300+70+4 =374
13
6741
367
374
Subtraction

Multiplication

43 x 6= 258

40 + 3

x 6

240 + 18= 258

When using the Grid Method- use TENS first.

X	30	8	
7	210	56	266

38 X 7

$$\begin{array}{r} 38 \\ \times\ 7 \\ \hline 210 \\ 56 \\ \hline 266 \end{array}$$

$$\begin{array}{r} 38 \\ \times\ 7 \\ \hline 266 \\ \hline 5 \end{array}$$

- Children are taught division by chunking in all schools now. The theory behind its use is to break down what looks like a complicated division question into an easier one.

- We also teach children the method we would have learnt at school. As with addition, subtraction and multiplication, the children are encouraged to choose the way they find comfortable.

Division

$196 \div 6$

Chunking is based on the mental process we do for division in our head.

I know that 6 X 3=18
so I know 6 X 30 =180

$$
\begin{array}{r}
32 \text{ r } 4 \\
6\overline{)196} \\
-180 \quad (6 \times 30) \\
\hline
16 \\
12 \quad (6 \times 2) \\
\hline
4
\end{array}
$$

$$
\begin{array}{r}
32 \text{ r}4 \\
6\overline{)19^{1}6}
\end{array}
$$

Please note: both are taught, the children are encouraged to choose the way they find comfortable.

Practical Maths

Making maths practical by using real materials. Try some of these at home with your child.

- Using coins

- Using measuring cups
- 

Using food

Cooking

mymaths.co.uk

highfieldps

multiplying

mymaths.co.uk