Maths Workshop

KS1

At St Josephs RC Infant School, Mathematics is normally taught discretely from topic, although links are made where possible and relevant. We strongly believe that all our lessons should promote joy, challenge and progression in Maths.

To ensure this, we use White Rose Maths to plan our curriculum, which is supported by materials from Primary Stars Education.

It is taught in blocks of different topics, focusing on a teaching for mastery approach, giving children time to deepen their learning. Children who master the basic concepts at a young age are able to grow into skilled mathematicians.

Maths is divided into the areas of: Number and place value, addition and subtraction, multiplication and division, fraction, decimals, percentages, measurement, geometry and statistics.

What Is Maths Mastery?

Maths mastery ensures that all children are given the opportunity to acquire a **deepened understanding** of the subject.

This approach stems from high-performing nations such as Singapore who regularly rank at the top of the world in maths. A strong emphasis is put on **problem solving** and **reasoning** which results in understanding the concepts in greater depth.

Before this can be achieved, children need to have a solid enough understanding of the concepts and procedures before they can move on to more advanced material. This can be achieved by using a **CPA** (concrete, pictorial, abstract) approach to maths giving all children the opportunity to work towards **mastery**.

The Primary Stars Education and White Rose Maths schemes encourage a deeper understanding of the concepts taught by following a **CPA** (Concrete, Pictorial, Abstract) approach to ensure all children can access learning without the need of memorising mathematical procedures. Furthermore, to encourage a deepened understanding of the concepts, we use resources that are designed to **avoid rote learning** and repetition of the same task.

CPA Approach

CONCRETE

Using physical objects.

PICTORIAL

Using pictures or drawings.

3

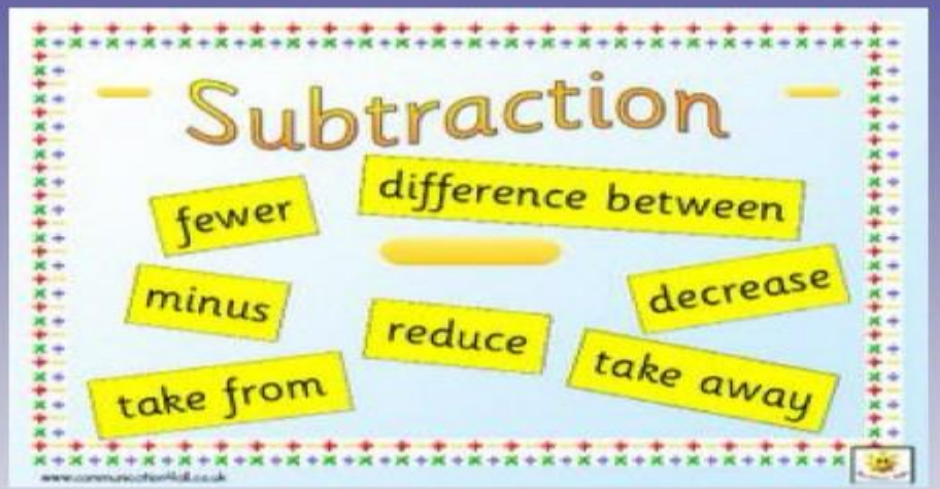
ABSTRACT

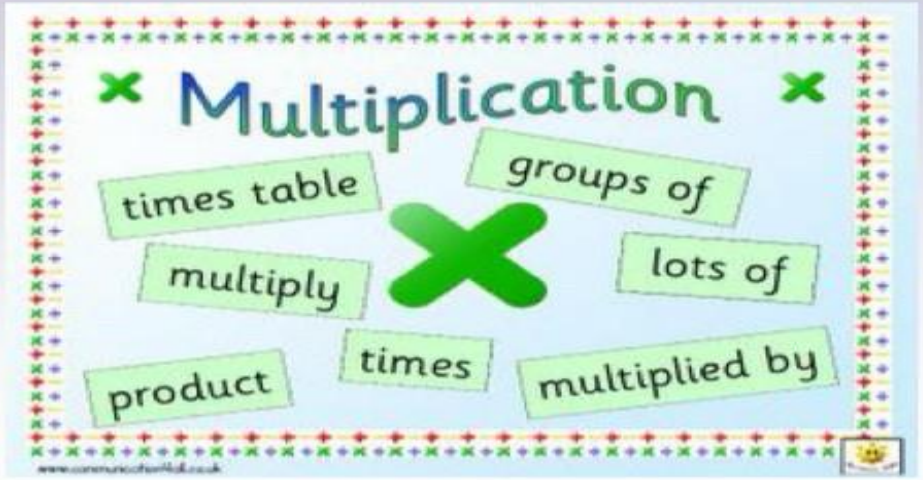
Using only numbers.

What do we teach in KS1 Maths?

- Place value (ones, tens and hundreds)
- Number bonds from 10 and 20
- Addition and subtraction to 100
- Basic multiplication
- Basic division
- Fractions
- Time
- Length and Height
- Mass, Capacity and Temperature
- Money (everyday money- calculating cost and change)
- Problem solving
- Statistics (graphs, tables, sorting data)
- Shape
- Position and direction

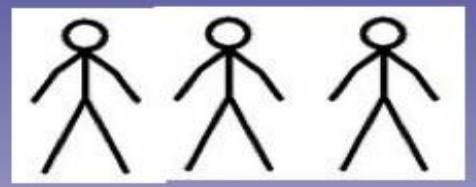
Children should know the different terminology for the same word

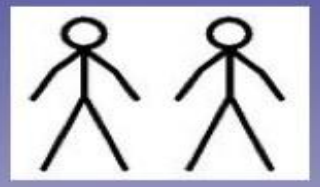




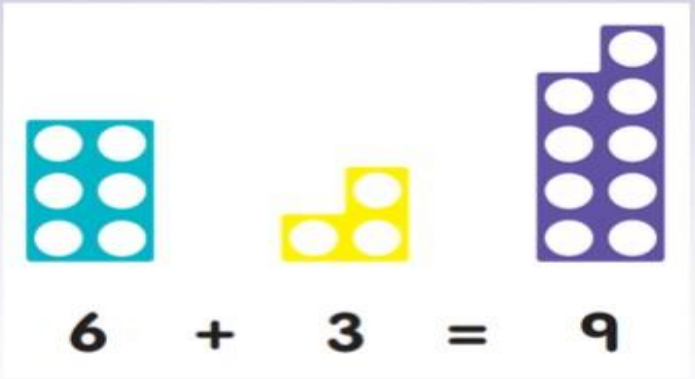
Practical Addition

(using objects and pictures)

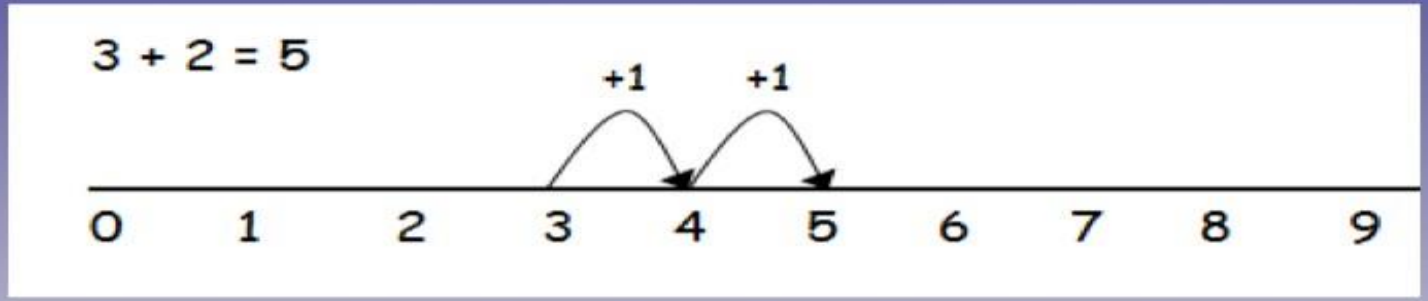


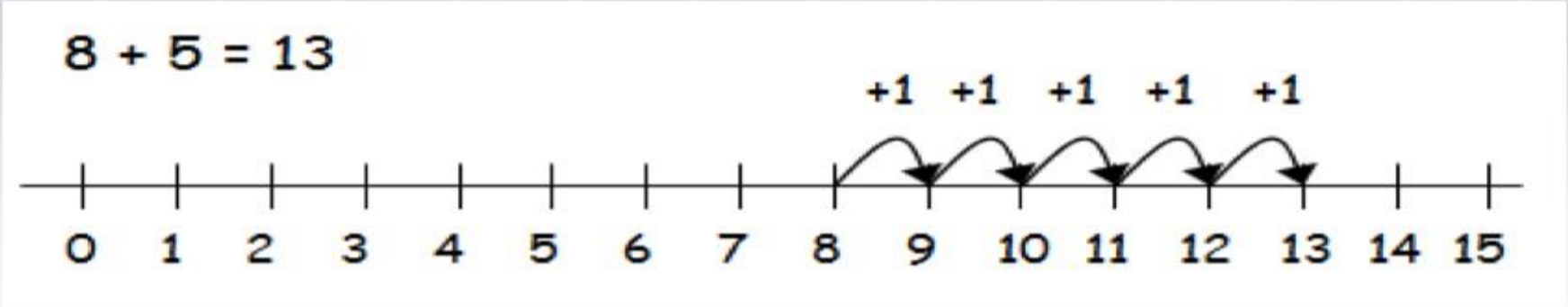


3 + 2 = 5

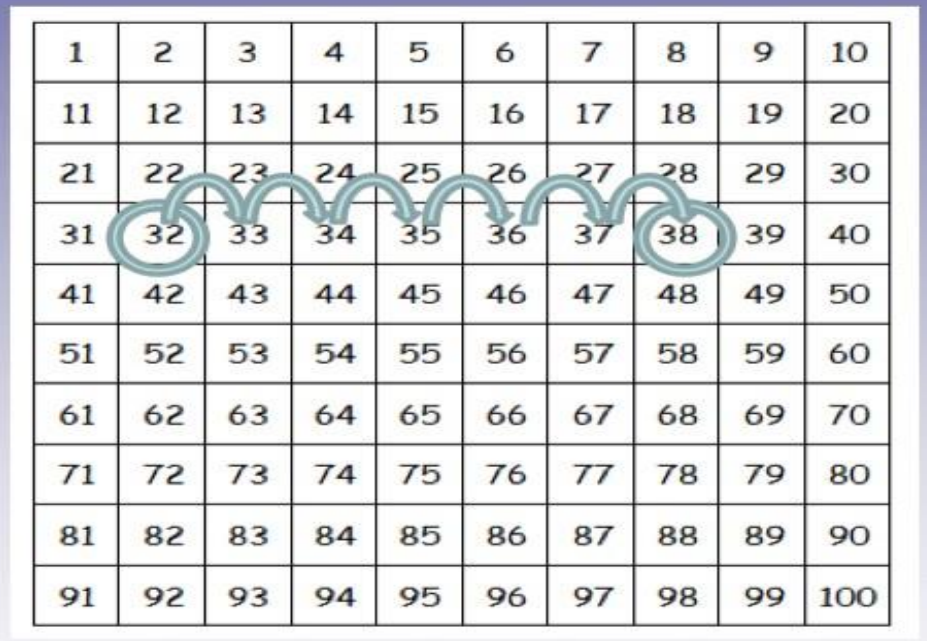


Addition
(using a number line)





Addition
(using a number square)



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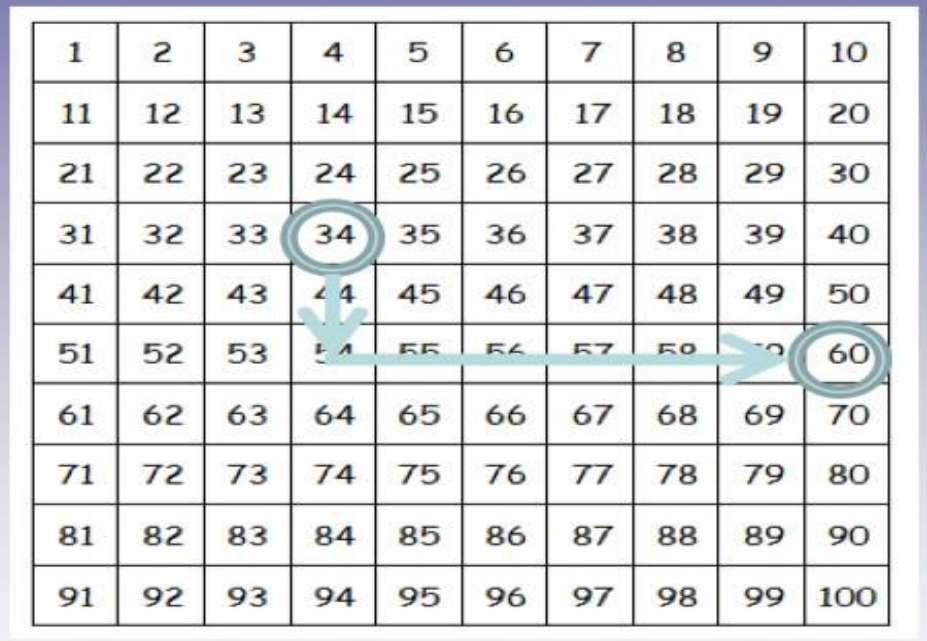
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

32 + 6 = 38

"Start at 32 and add on 6 more jumps"



1	2	3	4	5	6	7	8	9	10
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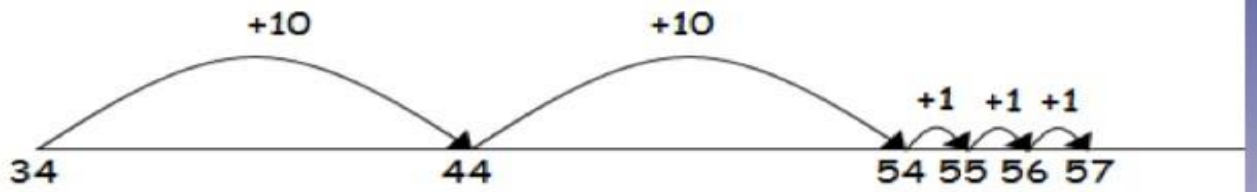
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

34 + 26 = 60

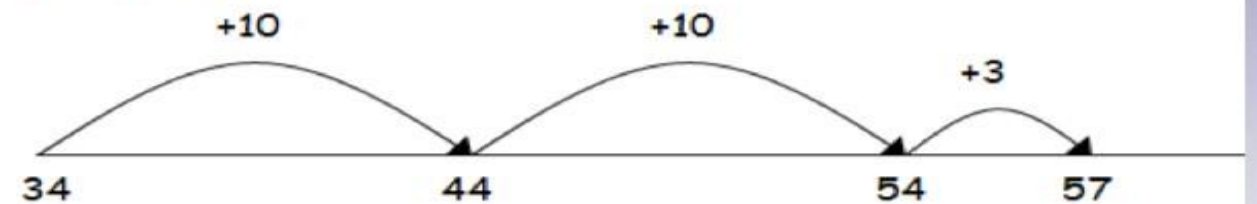
"Start at 34 jump down 10, 20 and across 21, 22, 23, 24, 25, 26"

Addition
(using an 'empty' number line)

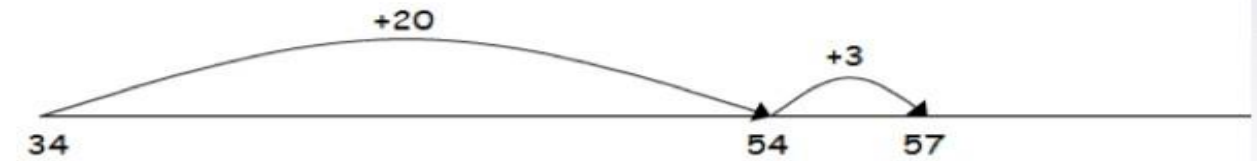
34 + 23 = 57



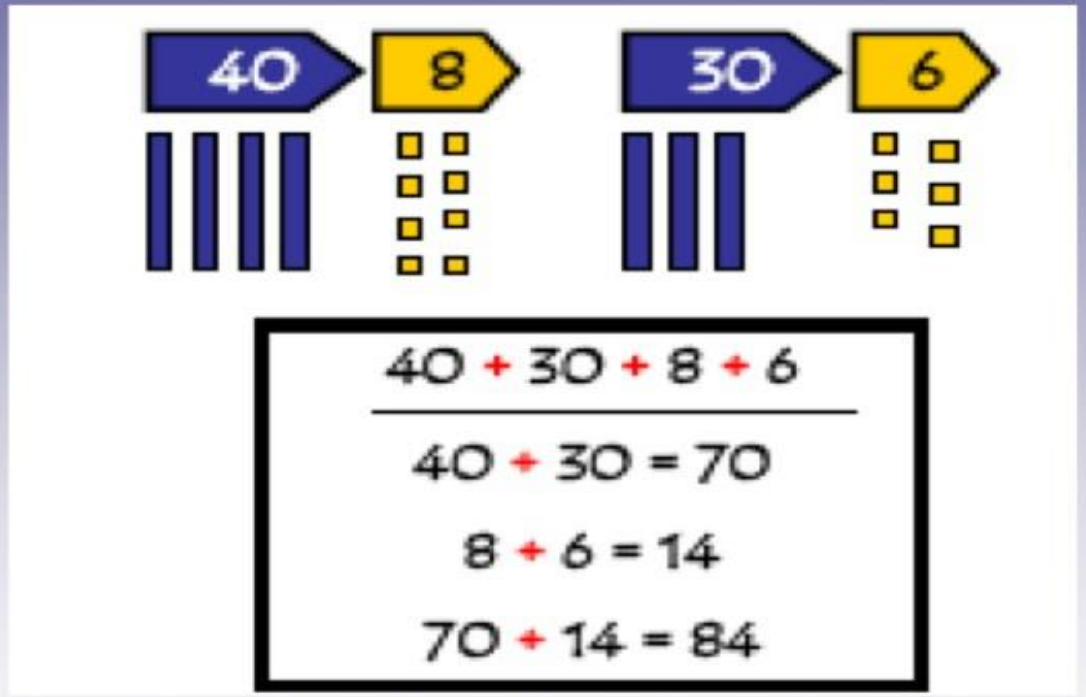
34 + 23 = 57



34 + 23 = 57



Addition
(using partitioning and recombining)



32 + 25 = 57

30 + 20 = 50

2 + 5 = 7

50 + 7 = 57

9 $8 + 5 + 4 =$ ☐

10 $36 + 24 =$ ☐

Write a digit in each box to make the sum correct.

7	☐	+	☐	=	8	3

Do these calculations have the same answer?

Write **yes** or **no** next to each box.

One is done for you.

	yes or **no**?
$8 + 2$ and $2 + 8$	yes
8×2 and 2×8	
$8 - 2$ and $2 - 8$	
$8 \div 2$ and $2 \div 8$	

Practical Subtraction

(using objects and pictures)

5 - 3 = 2

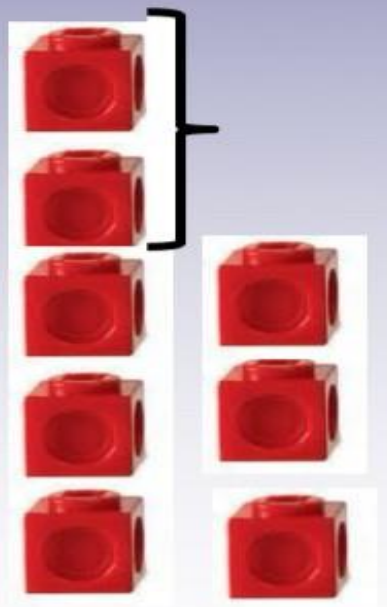
4 - 3 = 1

8 - 2 = 6

Subtraction
(Find the difference)

The difference between
3 and 6 is 3

The difference between
5 and 3 is 2



Subtraction
(using a number line)

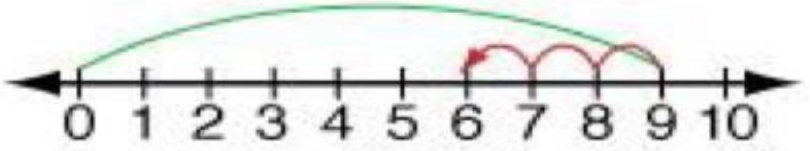
A number line can also help you solve subtraction problems.

$8 - 5 = 3$

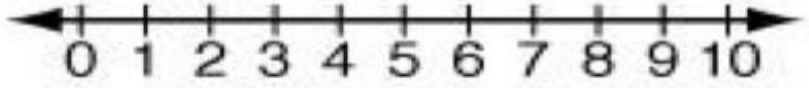
To show this problem on the number line, go from 0 to 8 and then count back 5.

Show each problem on the number line and write the answer.

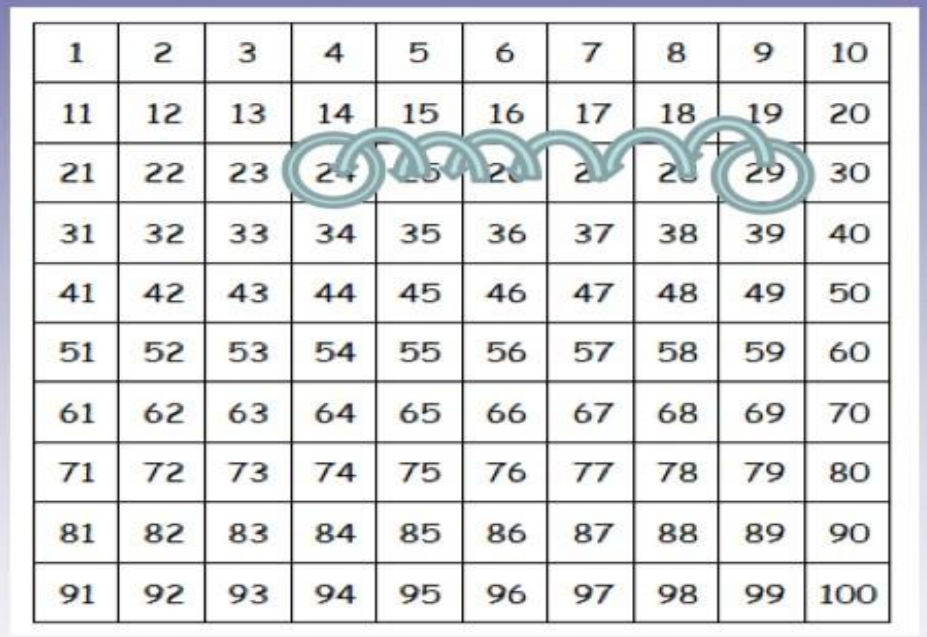
1. $9 - 3 = 6$



2. $5 - 4 =$



Subtraction
(using a number square)



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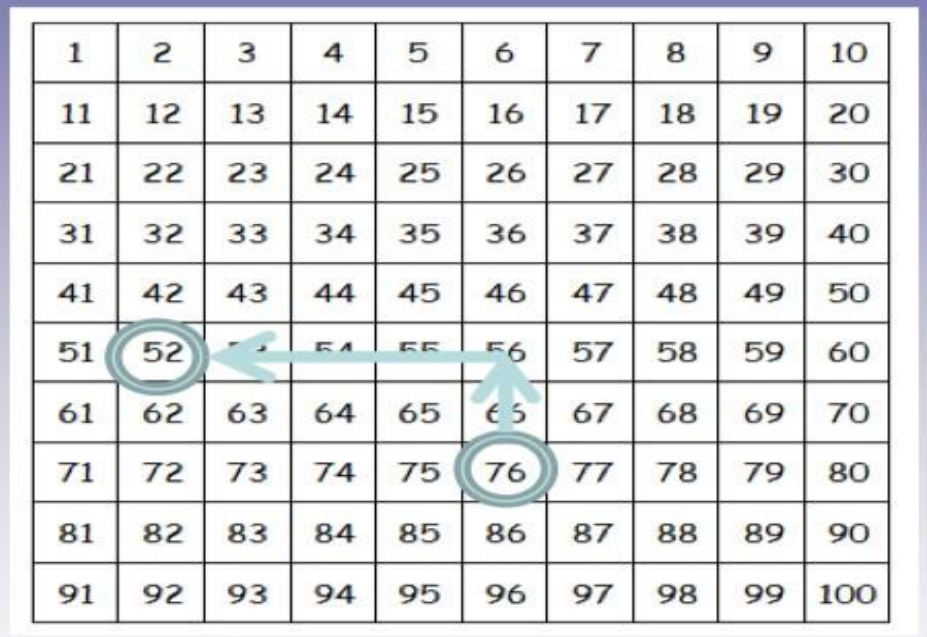
91	92	93	94	95	96	97	98	99	100

29 - 5 = 24

"Start at 29 and jump back 5"



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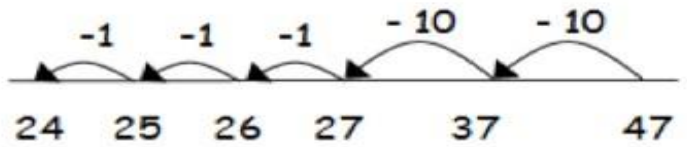
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

76 – 24 = 52

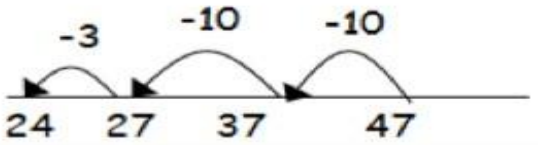
"Start at 76 jump up 10, 20 and back 21, 22, 23, 24 "

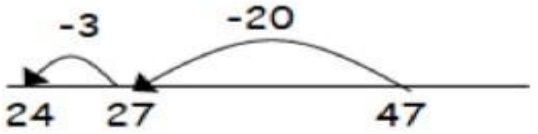
Subtraction
(using an 'empty' number line)

47 - 23 = 24



47 - 23 = 24





11 $87 - 40 = \square$

12 $50 - \square = 20$

27 Sita has **50** raisins.

She gives **23** to Ben.

She gives **15** to Amy.

How many raisins does Sita have left?

Show your working

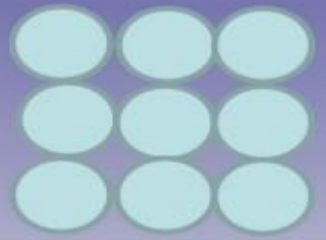
raisins

Multiplication
(repeated addition)

5 + 5 + 5 + 5 = 20

2 + 2 + 2 = 6

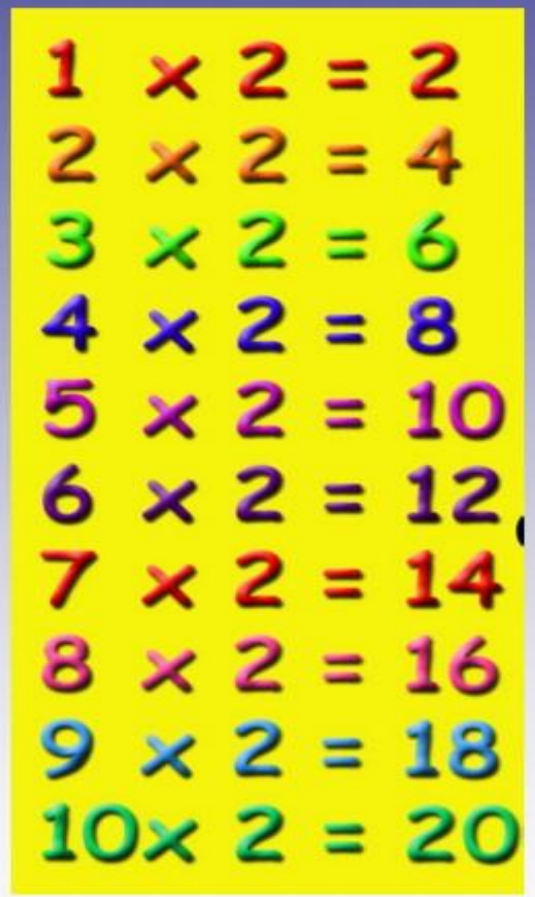
Multiplication
(drawing and using arrays)



3 + 3 + 3 = 9
3 "lots of" 3 = 9
3 x 3 = 9

5 + 5 + 5 = 15
3 "lots of" 5 = 15
3 x 5 = 15

Multiplication
(mental recall)



Once the children can count confidently in 2s, 5s and 10s and we begin teaching multiplication.

If children can count 2, 4, 6, 8, 10, 12... then they can work out 6 x 2!

Start by using the phrase...
what is 6 'lots of' 2?

Move on to...
What is 6 'times' 2?

Multiplication

Apply what you know & try this problem

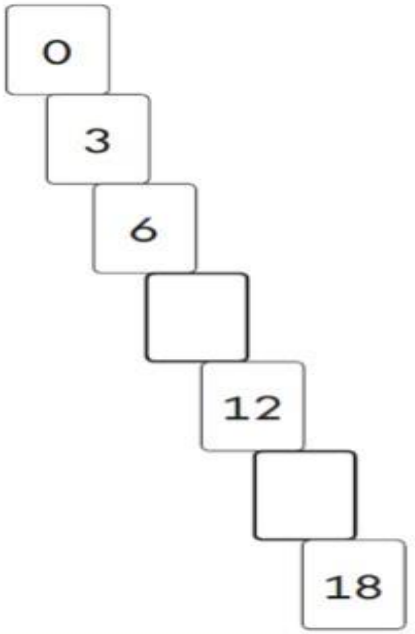
Joy picks 4 flowers a day on Monday, Tuesday, Wednesday and Thursday. How many flowers does she have?

5 cats have 4 kittens each. How many kittens are there in total?

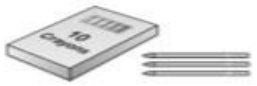
13 $8 \times 10 =$ ☐

14 $2 \times 0 =$ ☐

10 Write the **two** missing numbers in this pattern.

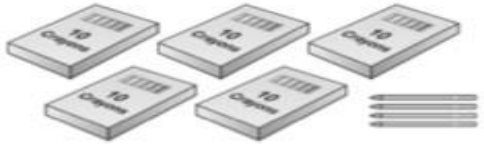


13 Ben has 13 crayons.



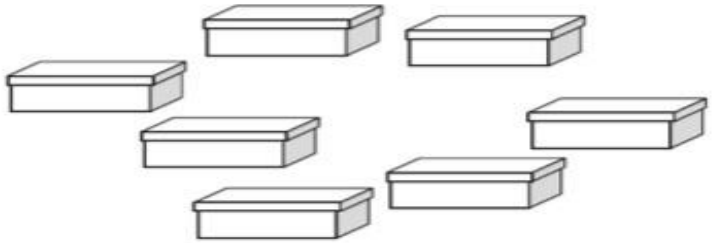
Here are Abdul's crayons.

How many crayons does Abdul have?



☐ crayons

7



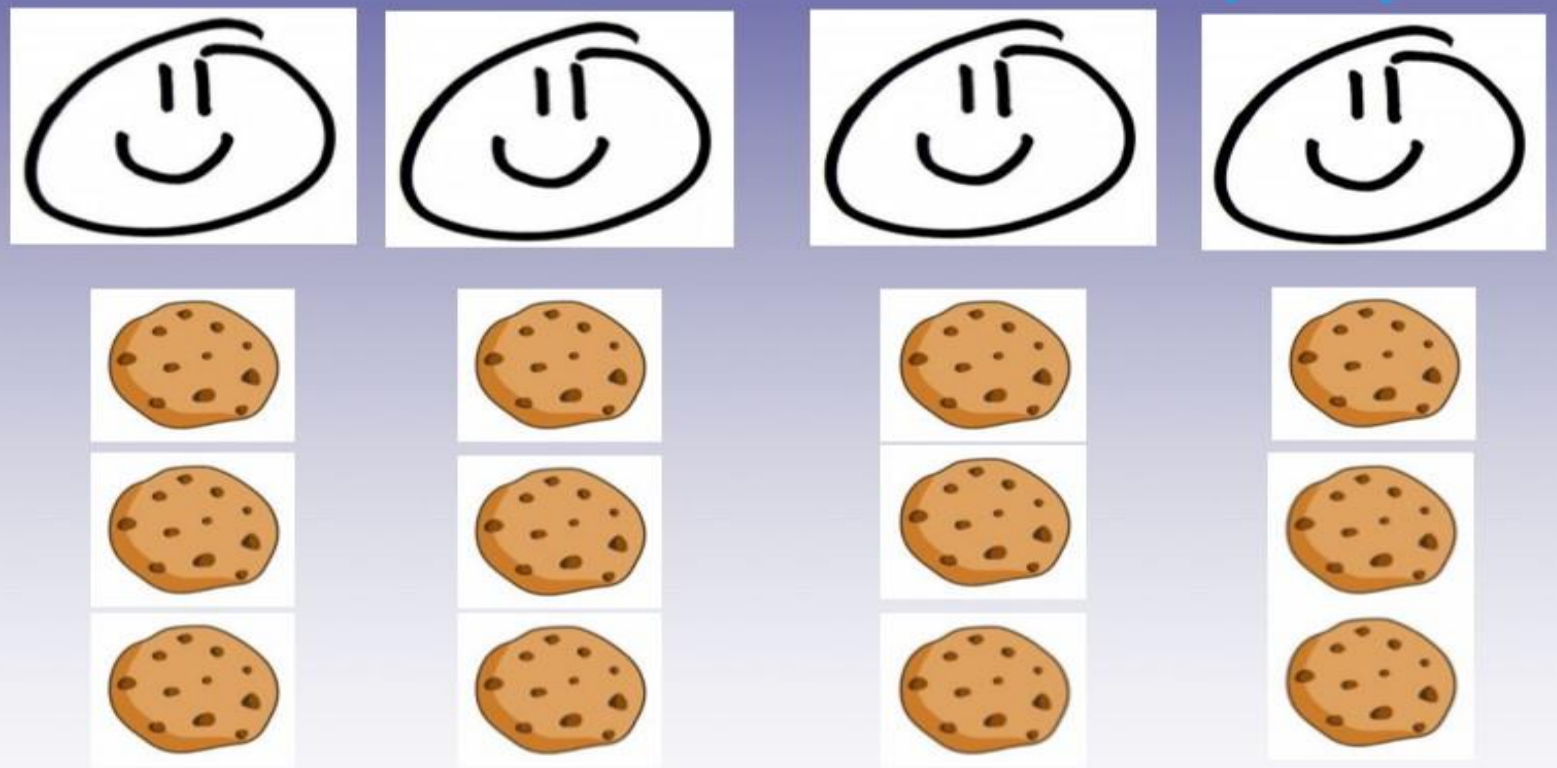
Sita puts **2** shoes in each of these boxes.

How many shoes are there altogether?

☐ shoes

Division
(as sharing)

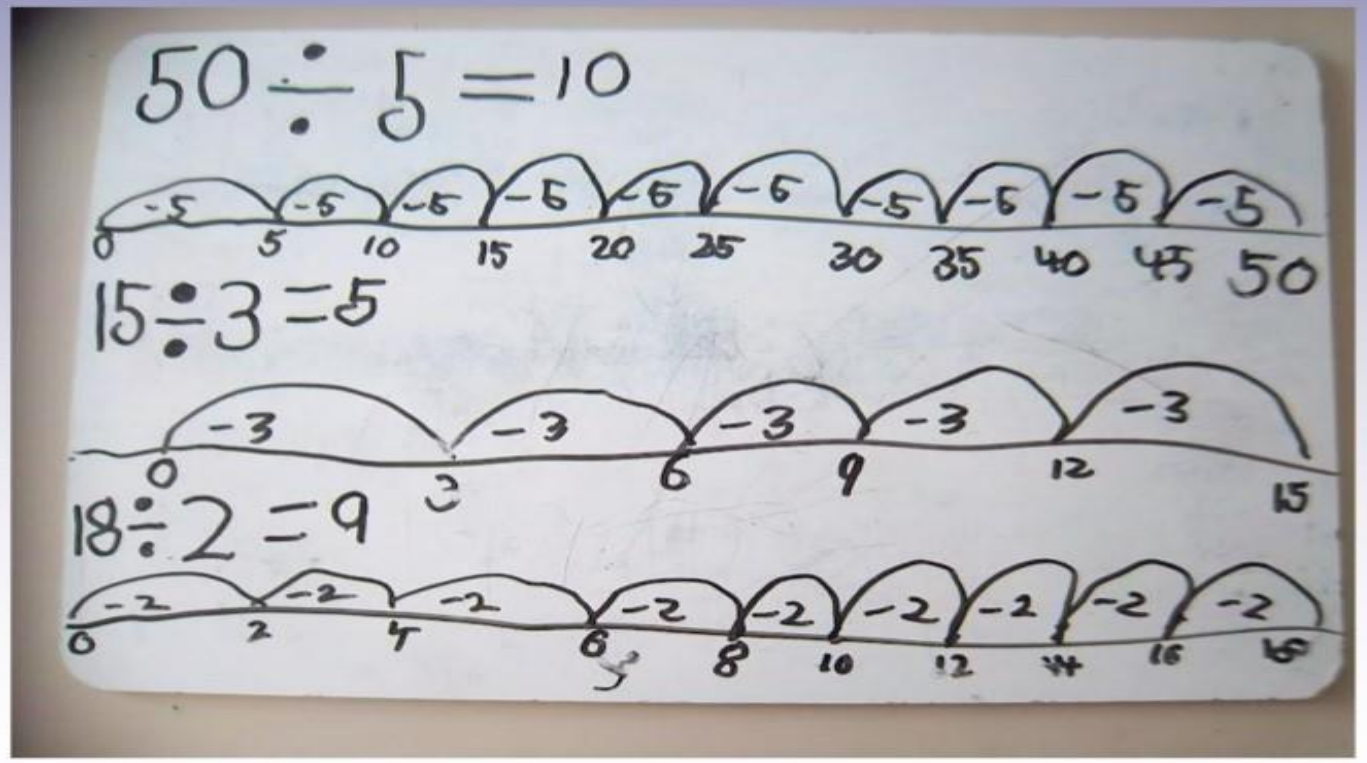
Share 12 cookies between 4 people...



$$12 \div 4 = 3$$

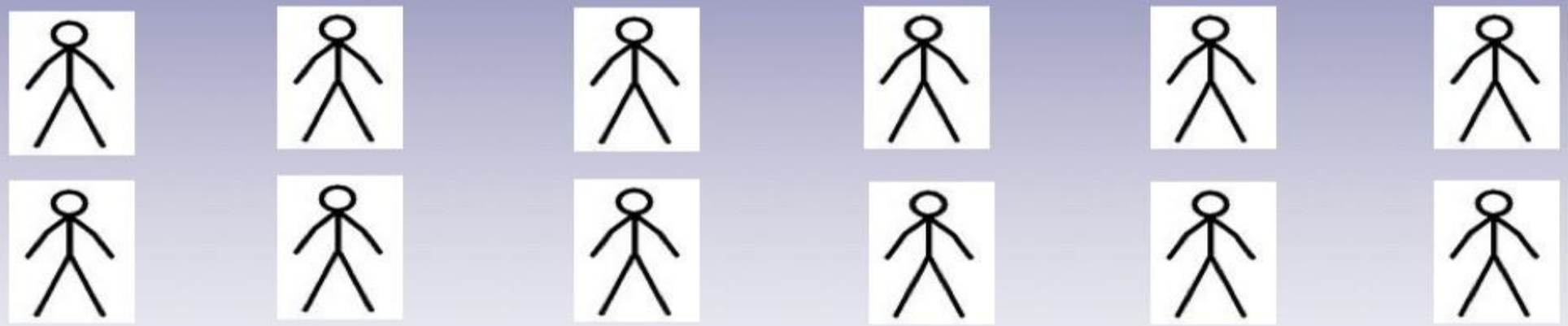
Division
(repeated subtraction)

50 ÷ 5 =
50 – 5 -5 -5 -5 -5 -5 -5 -5 -5 -5
How many jumps?



Division
(as grouping)

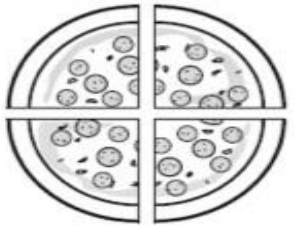
Put 12 people into 6 groups...



$12 \div 6 = 2$

17 $35 \div 5 =$ ☐

18 $\frac{1}{4}$ of 20 = ☐



Sita cuts a pizza into four equal slices.

She eats one slice.

What fraction of the pizza does she eat?

☐
—
☐

Amy makes **20** cakes.

She shares the cakes between **5** plates.

Tick the calculation that shows how many cakes are on each plate.

Tick **one**.

$20 + 5 = 25$ ☐

$20 - 5 = 15$ ☐

$20 \div 5 = 4$ ☐

$20 \times 5 = 100$ ☐

Free Workbooks

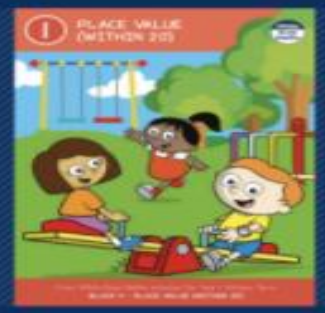
Get the free workbooks

Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6

Autumn Block 1

Autumn Block 2

Autumn Block 3



Autumn Block 4

Spring Block 1

WRM offer free, printable workbooks on their website for each year and learning block.

https://whiterosemaths.com/parent-resources