Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

Aims of the Session:

- To help you to help your child at home
- Show how maths strategies develop across key stage 1
- Share useful resources and websites

Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

The National Curriculum (Sept 2014) states:

"Mathematics is a **creative** and highly **inter-connected** discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is **essential to everyday life**, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to **reason** mathematically, an appreciation of the beauty and power of mathematics, and a **sense of enjoyment and curiosity** about the subject."

Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

How would you solve these calculations?

2	+	5	=
2	+	8	=
7	+	7	=
6	+	7	=
15	+	11	=
24	+	9	=
32	+	21	=
45	+	36	=
120	+	11	=

Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

How would you solve these calculations?

2 + 5 =	(start with the larger number & count on)
2 + 8 =	(number bonds to 10)
7 + 7 =	(doubling)
6 + 7 =	(near doubles; double 6, then add 1 more)
15 + 11 =	(add 10, add 1)
24 + 9 =	(add 10, subtract 1)
32 + 21 =	(could add 20, add 1 or add tens, add units/ones and then total)
45 + 36 =	(adding by partitioning)
120 + 11 =	(add 10, add 1)

Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

What do we teach in KS1 Maths?

*Number bonds to and within 10 and 20 (ie 7+3=10, 18+2= 20)

*Basic multiplication (2,3,5, 10)

*Basic division (2)

Fractions (½ , ¼, 1/3)

*Addition and subtraction to 100

*Place value (units/ones, tens and hundreds)

Time (o'clock, half past, quarter to, quarter past)

Measurement (weight, length, capacity)

Money (everyday money- calculating change)

*Problem solving

Handling data (graphs, tables, sorting data)

Shape and space

Today we will focus on the underlined examples

Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

Key Stage 1 – Practice makes Permanent

- The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value.
- This should involve working with numerals, words and the four operations, including with practical resources (for example, concrete objects and measuring tools).
- An emphasis on practice at this early stage will aid fluency.

Windlesham School & Nursery

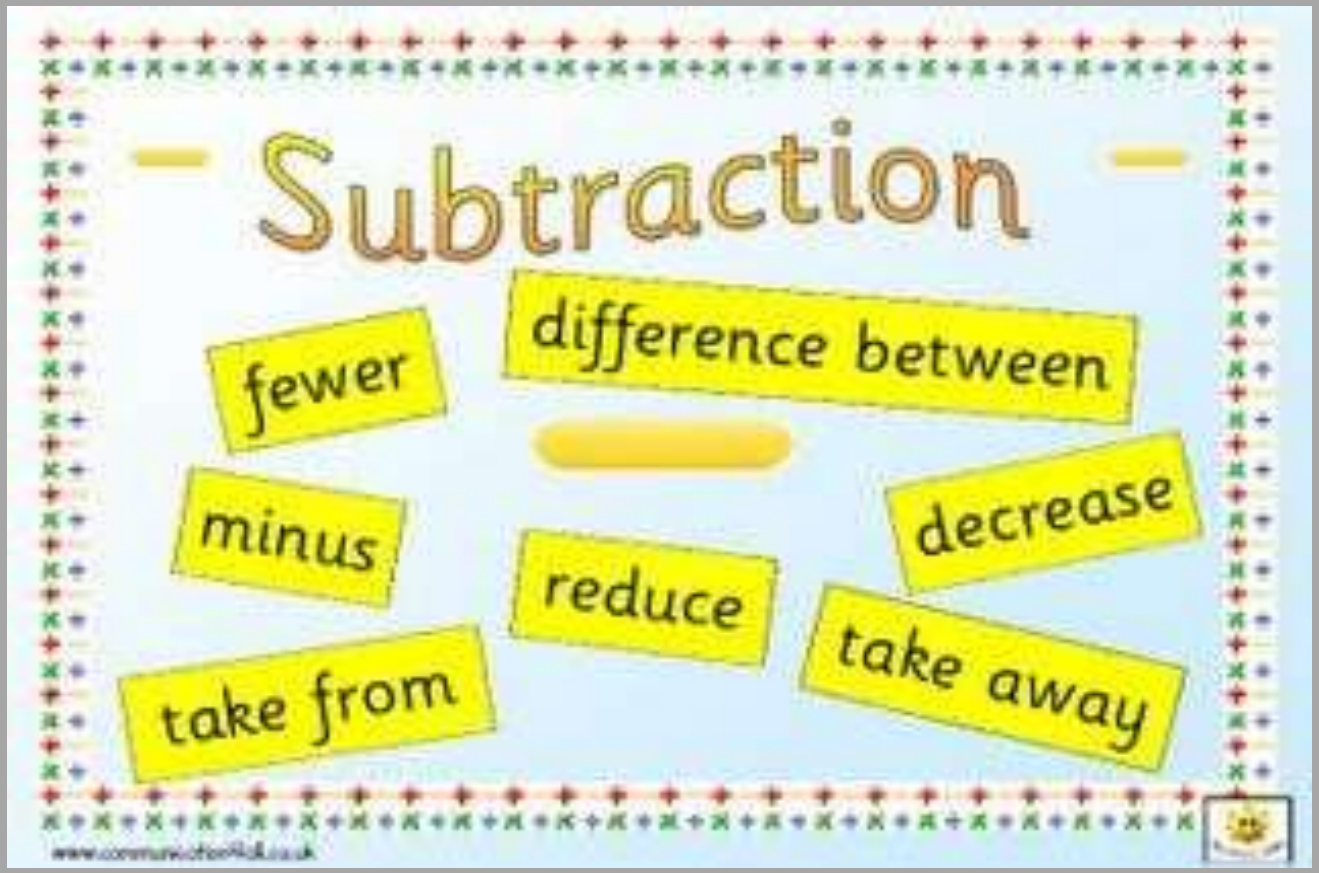
ISA INDEPENDENT SCHOOLS ASSOCIATION

Children should know the different terminology for the same word

Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

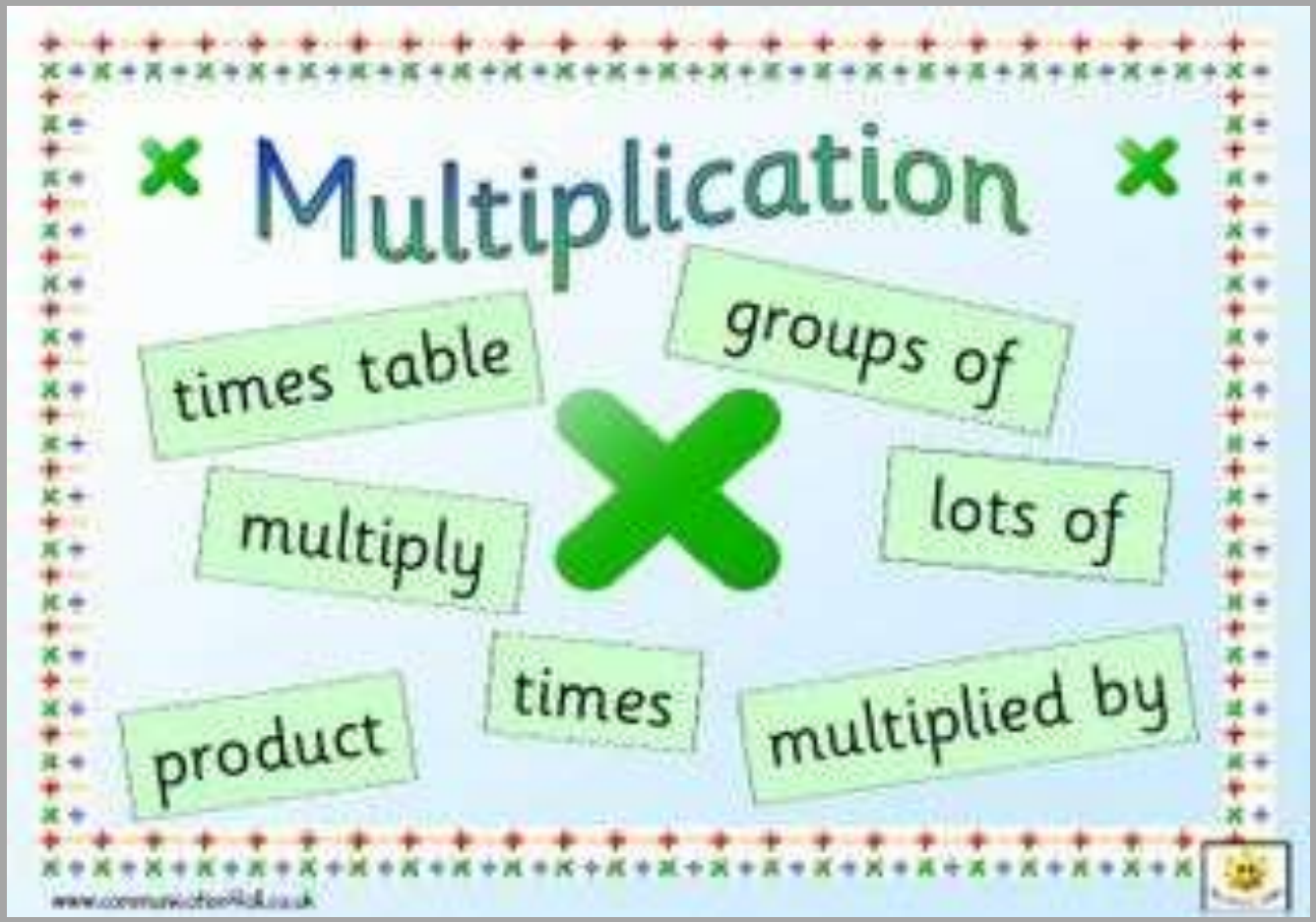
Children should know the different terminology for the same word



Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

Children should know the different terminology for the same word



Windlesham School & Nursery

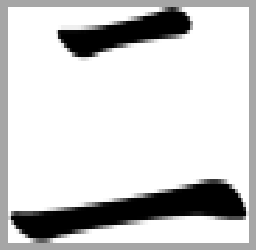
ISA INDEPENDENT SCHOOLS ASSOCIATION

Children should know the different terminology for the same word

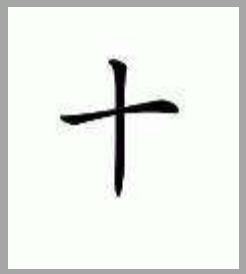
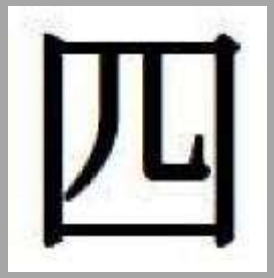
Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

Can you order these numbers?





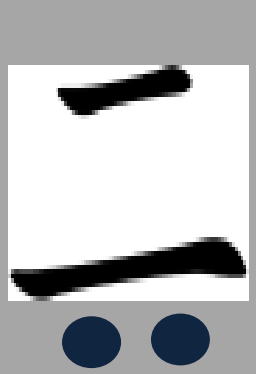



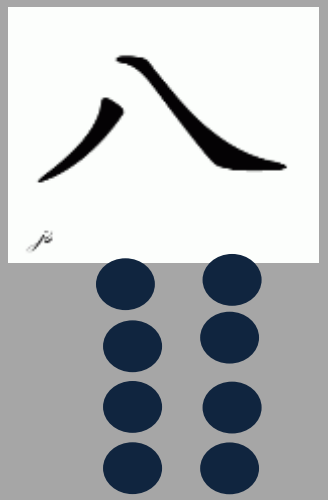


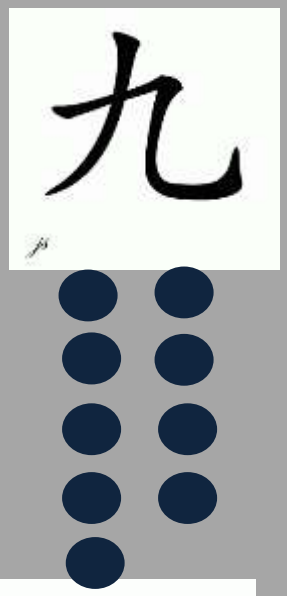
Windlesham School & Nursery

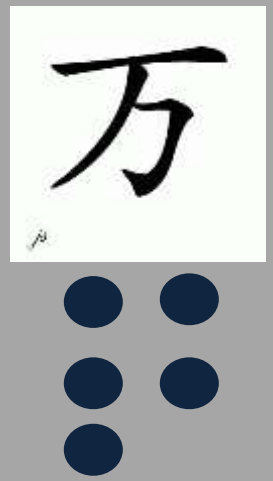
ISA INDEPENDENT SCHOOLS ASSOCIATION

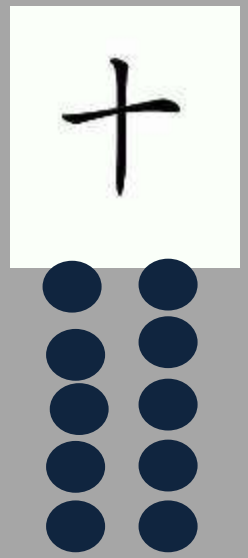
Can you order these numbers now?

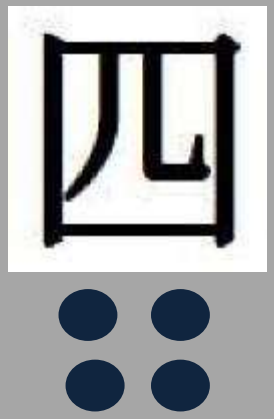


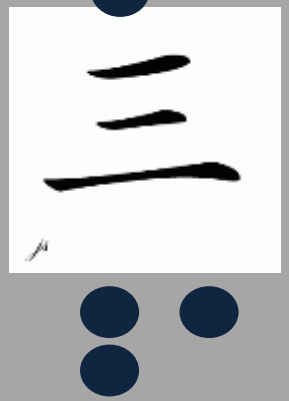


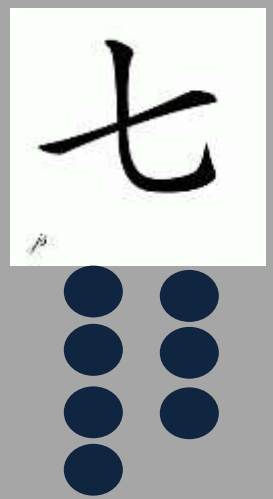


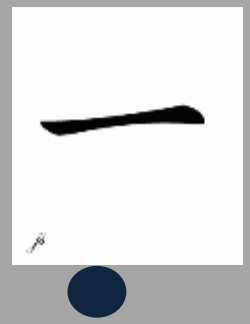












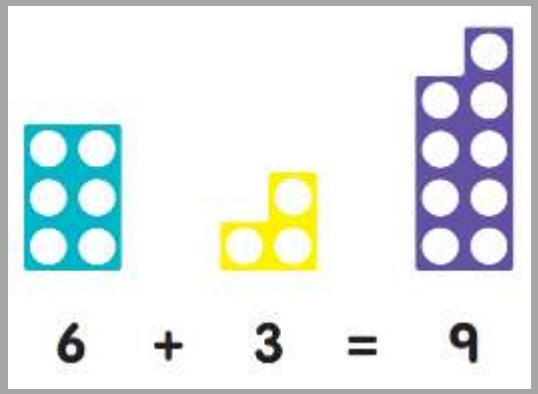
Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

Practical Addition

(Using objects and pictures)

3 + 2

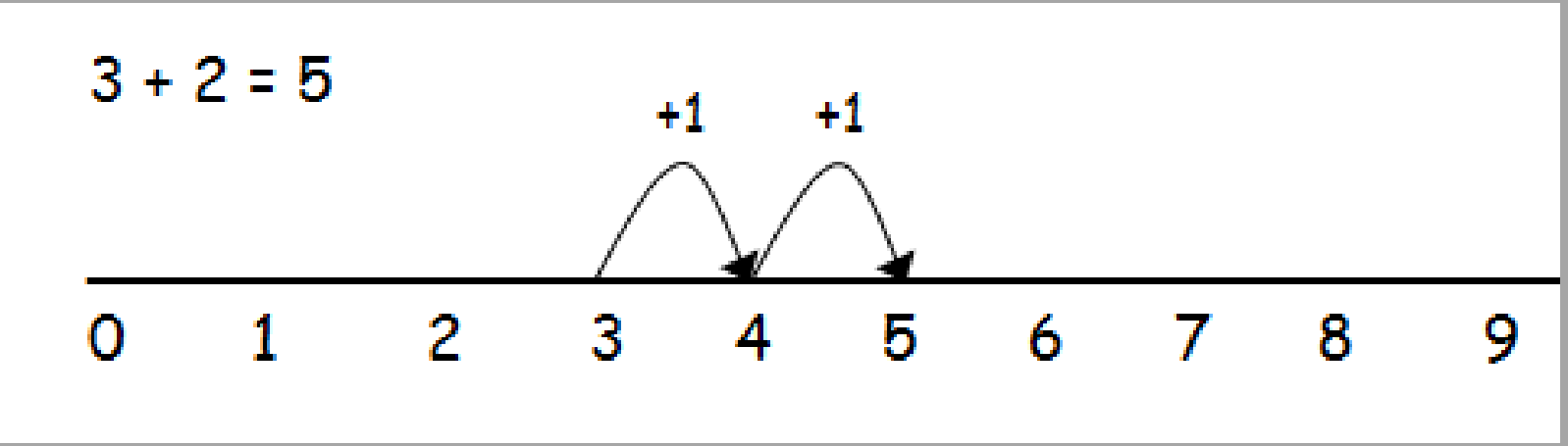


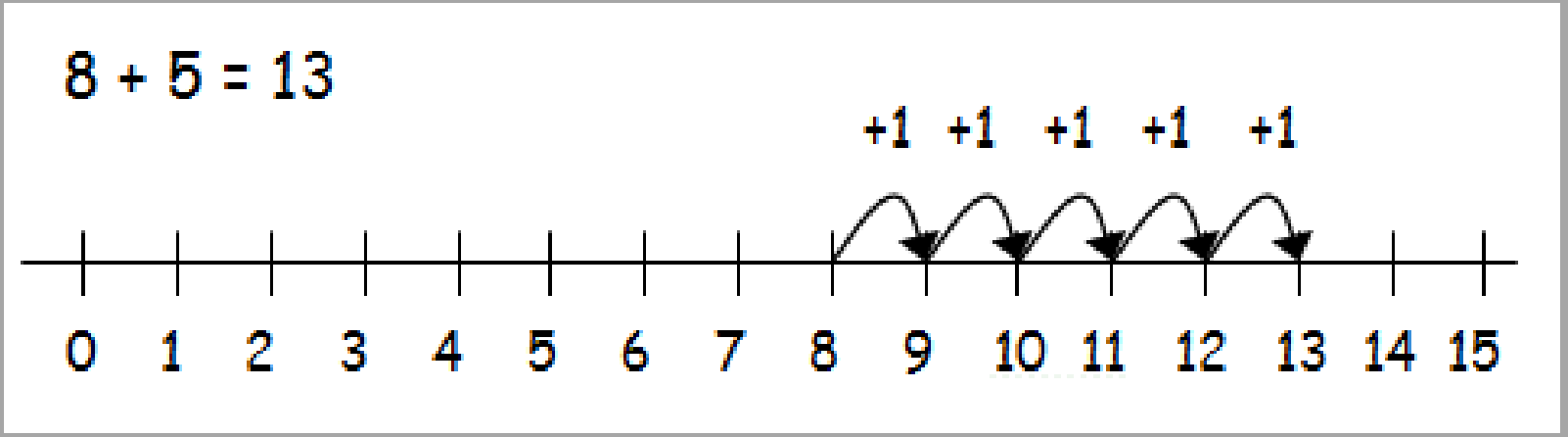
Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

Addition

(Using a number line)





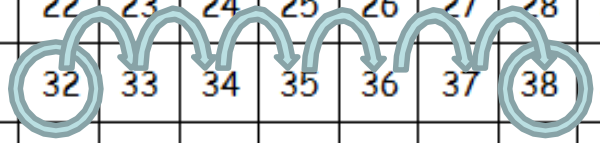
Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

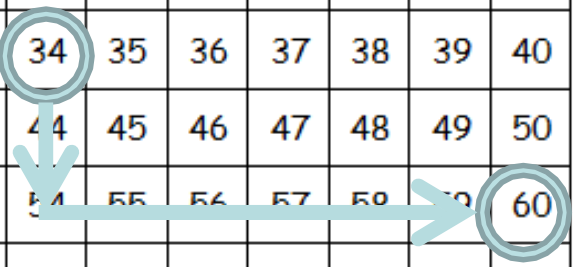
Addition

(using a number square)

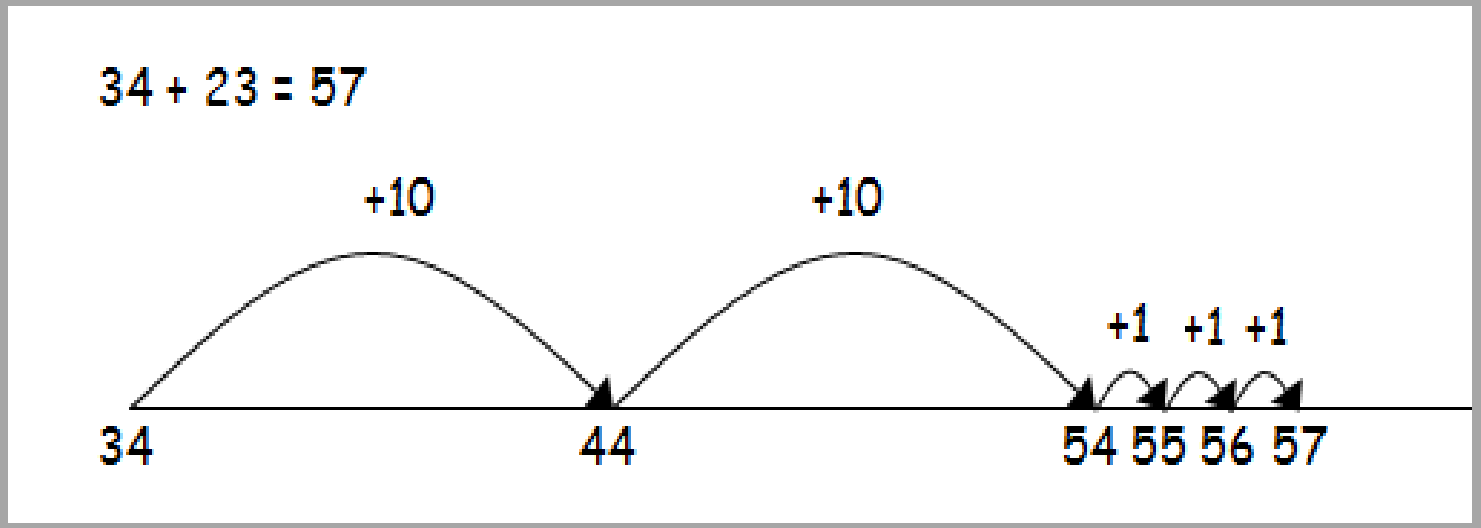
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

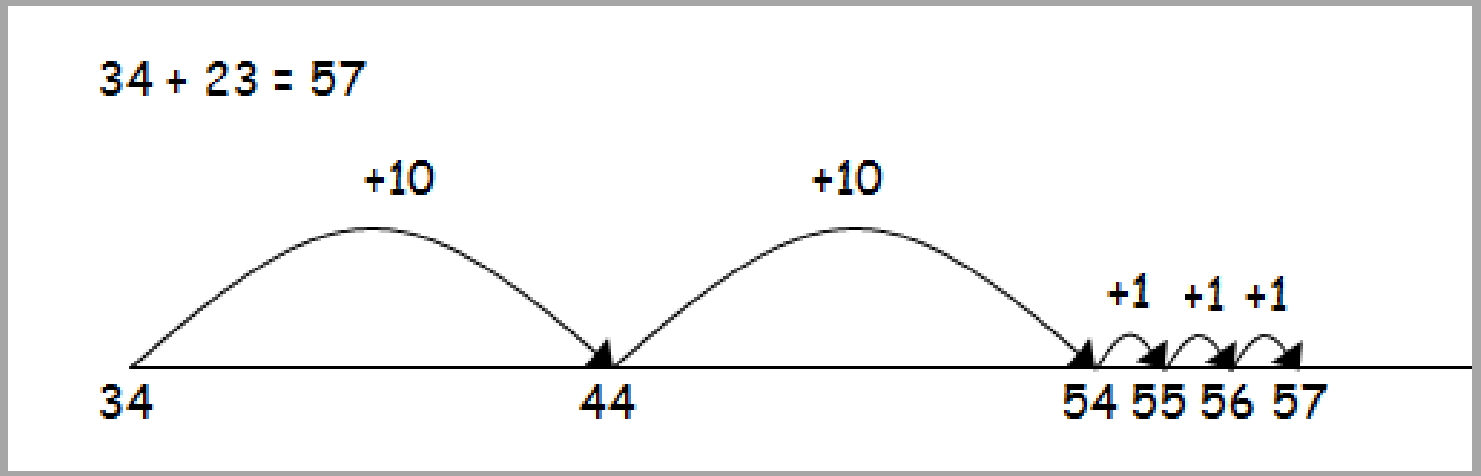


1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

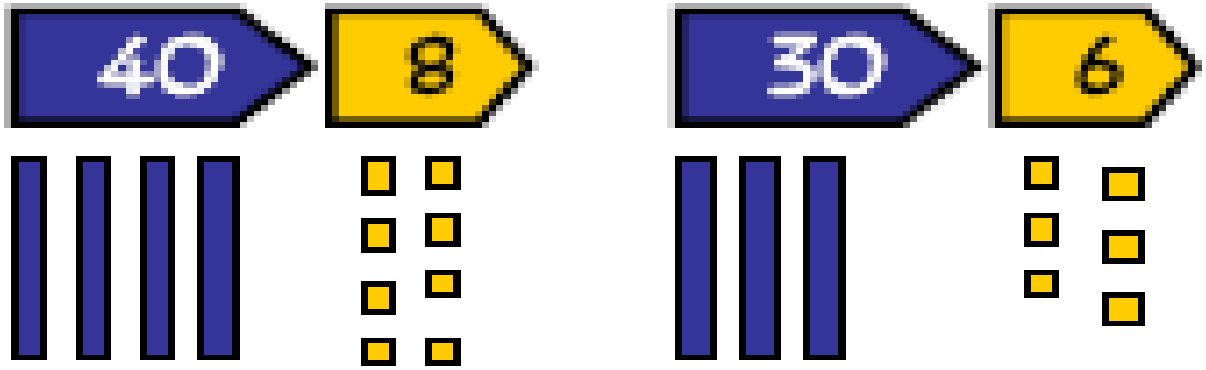


Addition using an empty number line





Addition using partitioning



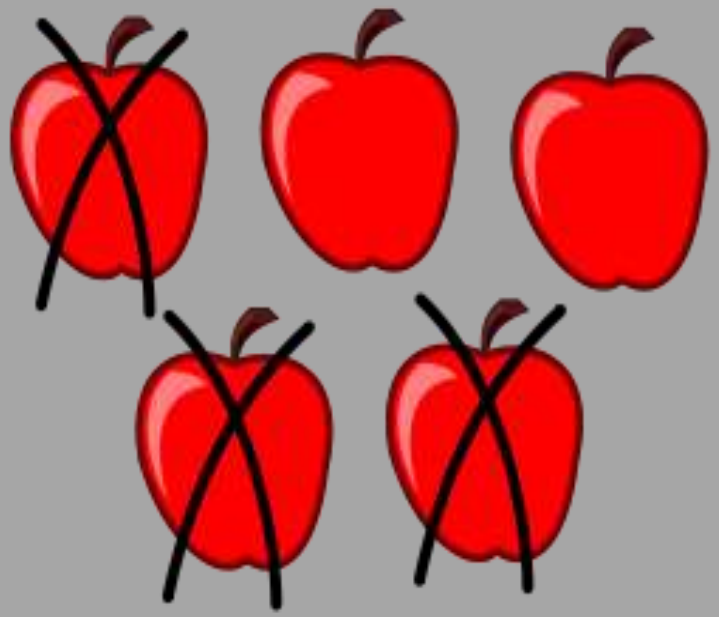
$$40 + 30 + 8 + 6$$

$$40 + 30 = 70$$

$$8 + 6 = 14$$

$$70 + 14 = 84$$

Practical Subtraction



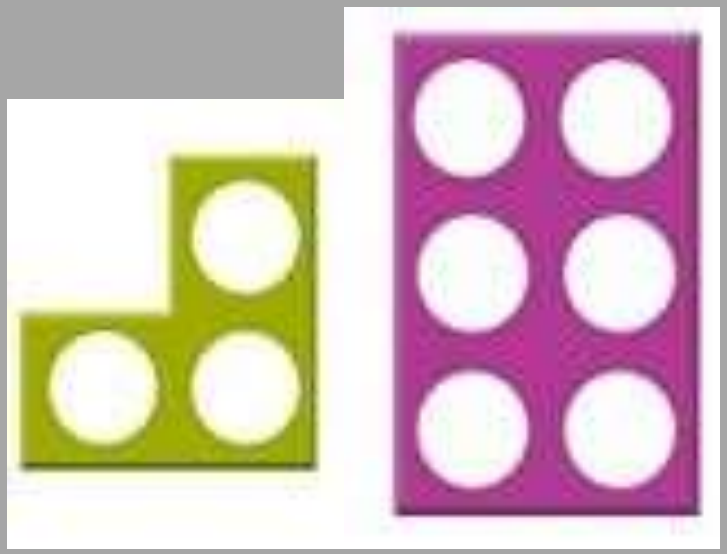
5 – 3 = 2

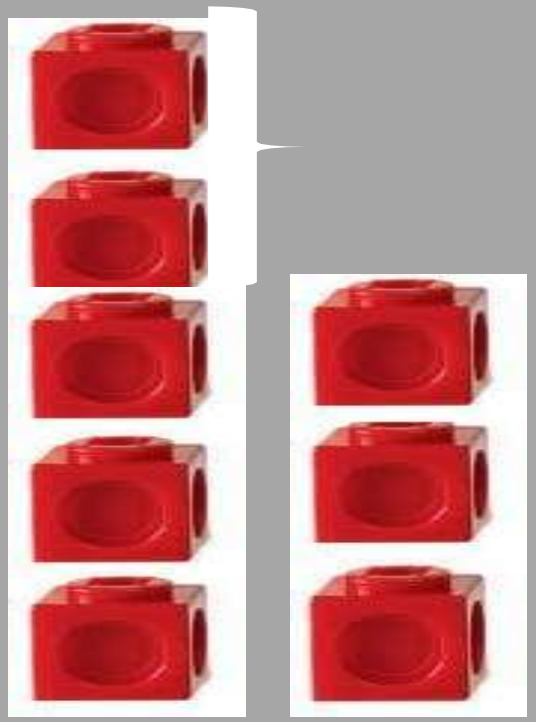
4 – 3 = 1

Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

Subtraction using finding the difference





Windlesham School & Nursery

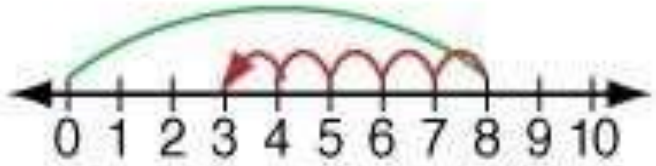
ISA INDEPENDENT SCHOOLS ASSOCIATION

Subtraction

(using a number line)

A number line can also help you solve subtraction problems.

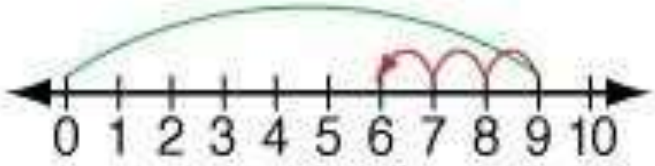
8 - 5 = 3



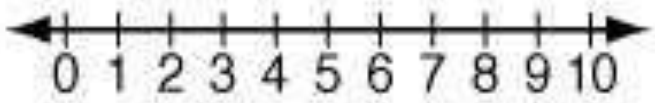
To show this problem on the number line, go from 0 to 8 and then count back 5.

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

1) 9 - 3 = 6



2) 5 - 4 =



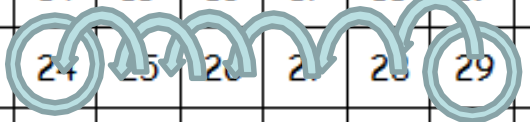
Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

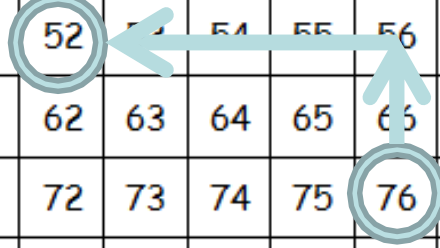
Subtraction

(using a 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



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



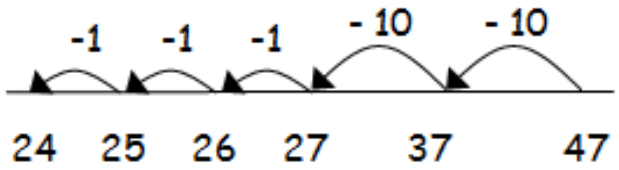
Windlesham School & Nursery

INDEPENDENT SCHOOLS ASSOCIATION

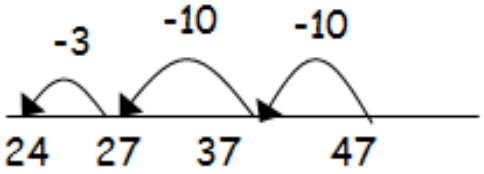
Subtraction

(using an 'empty' number line)

47 - 23 = 24



47 - 23 = 24

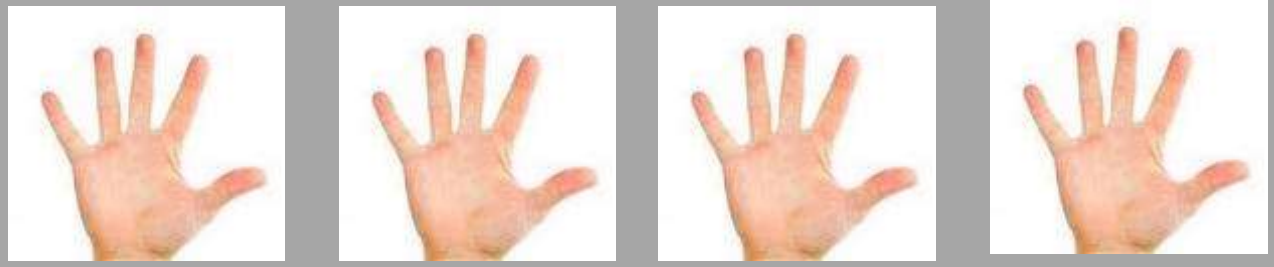


Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

Multiplication

(Repeated addition)



5 + 5 + 5 + 5 = 20

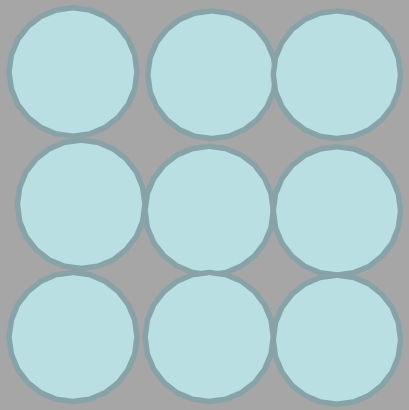
2 + 2 + 2 = 6

Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

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

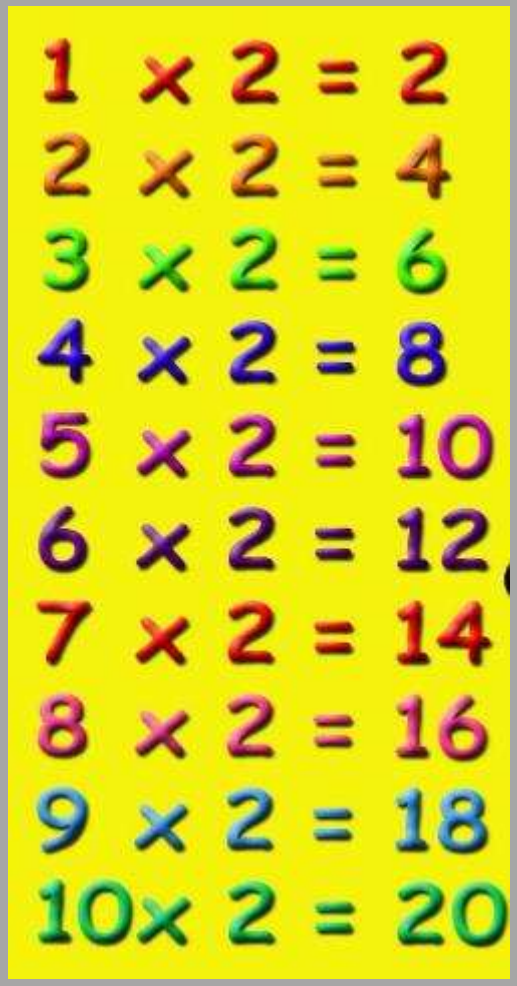
3 x 5 = 15

Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

Multiplication

(Mental recall)



Once the children can count confidently in 2s, 5s and 10s then 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?

Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

Multiplication

"Apply what you know and 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?

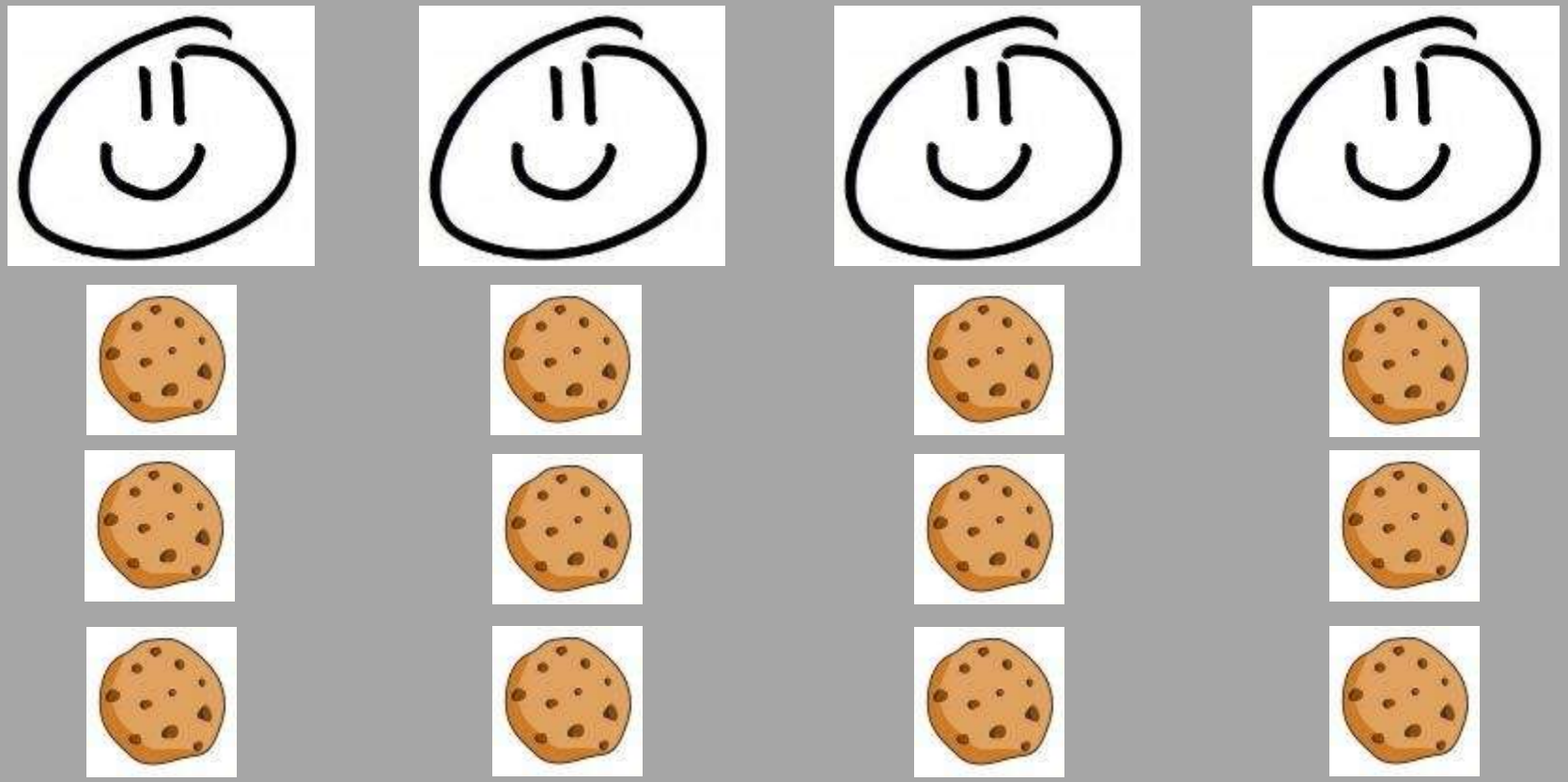
Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

Division

(as sharing)

Share 12 cookies between 4 people



12 ÷ 4 = 3

Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

Teachers promote reasoning during maths lessons, through using carefully chosen questions.

Counting and Representing Objects

Reasoning and Problem Solving

I am going to count on from 8 Will I say the number 6? Explain your answer.	No, you will say 9 and 10. If you were counting backwards you would say the number 6
Jo has counted the toy cars and said:  Explain the mistake she could have made.	Jo might not have started on the first car. Jo might have started counting from 0 instead of 1 She might have just counted the blue cars.

How many ways can you represent 6 glasses of apple juice? How many ways can you show me less than 4 sweets? How can you show me that there are more green cars than blue cars?	Children could line up 6 counters, cubes Children could line up 3, 2, 1 or get zero counters Children could get 1 blue cube and 2 green cubes etc.

Windlesham School & Nursery

ISA INDEPENDENT SCHOOLS ASSOCIATION

How to help your child:

www.ictgames.com
http://www.bbc.co.uk/bitesize/ks1/maths
http://www.crickweb.co.uk/ks1numeracy.html
http://www.happypuzzle.co.uk/maths-games-ks1.aspx