St Anne's Primary School

Mathematics workshop for parents and carers
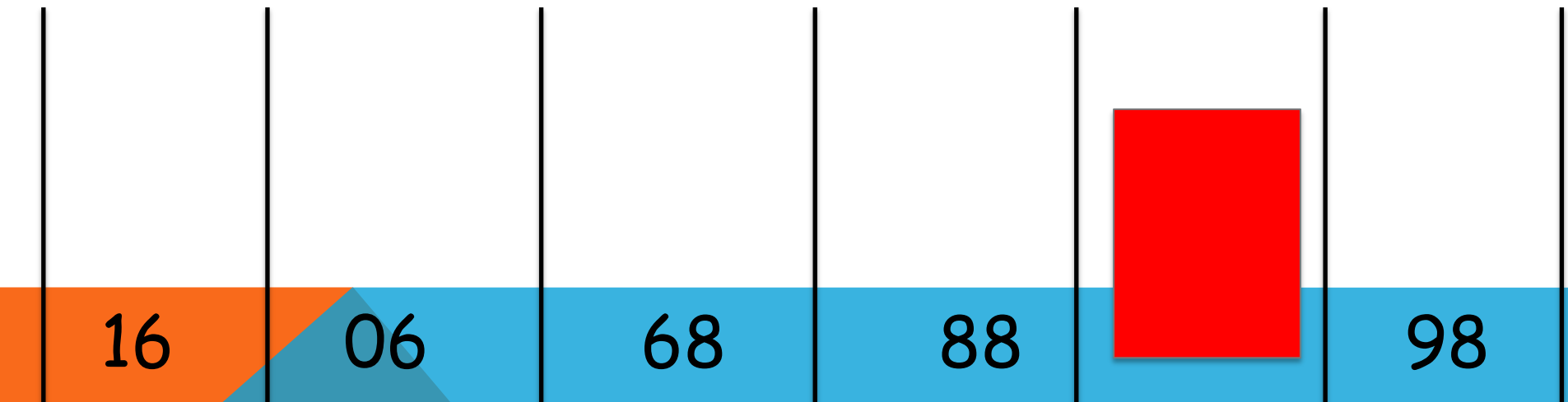# 3.10.19
UKS2
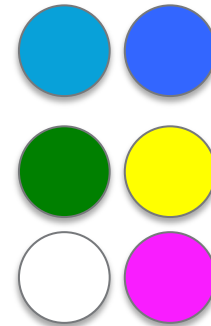
IN WHAT NUMBER PARKING SPOT IS THE RED CAR PARKED?
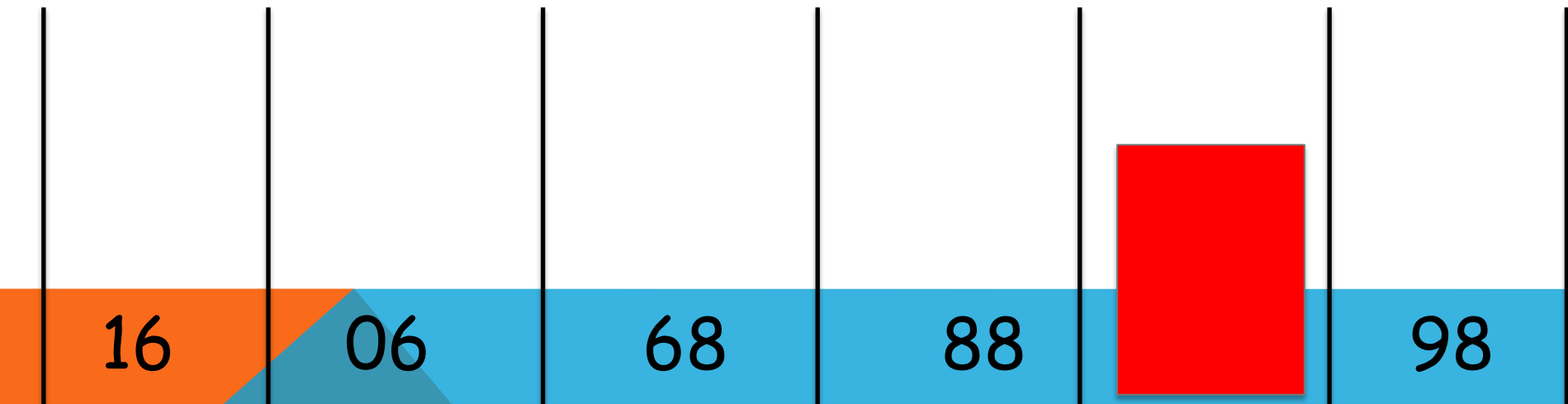
| 16 | 06 | 68 | 88 | | 98 |

We want our children to become thinkers and collaborators.

IN WHAT NUMBER PARKING SPOT IS THE RED CAR PARKED?
ANSWER: 87

(The number line is upside-down)
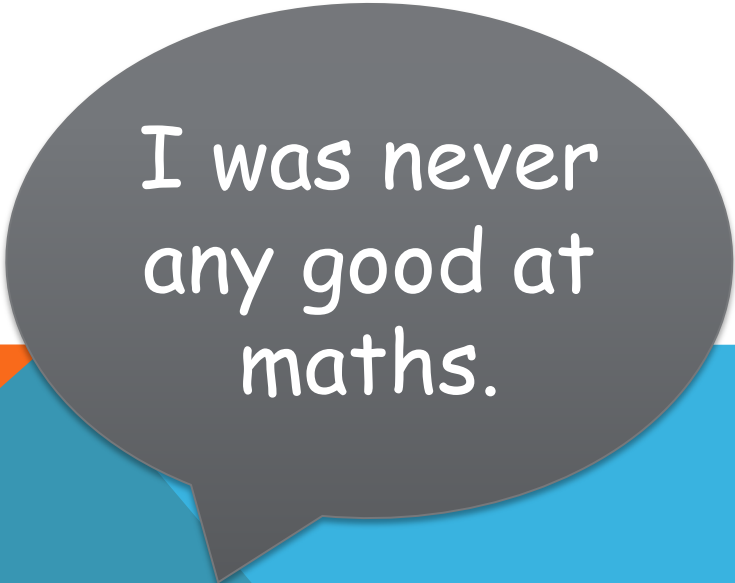
| 16 | 06 | 68 | 88 | | 98 |

We want our children to become thinkers and collaborators.

On a scale of one to ten, how much do you honestly enjoy mathematics?

Research suggests that as many as 60% of adults would rather clean the toilet than work out a maths problem.

An even larger percentage say:

I was never any good at maths.

- It may come as a surprise that almost half of the working-age population (17 million) of England have numeracy skills equivalent to those expected for an 11 year-old child.

- Adults with poor numeracy skills are twice as likely to be unemployed than those who enjoy some competency in numeracy.

- Those adults with at least basic numeracy skills can expect to earn a quarter more than those who lack the necessary skills to solve basic mathematical problems.

- Between a third and a half of people with poor numeracy skills have a desire to improve them but less than 4% have actually attended any numeracy classes.

NATIONAL CURRICULUM AIMS FOR CHILDREN

To become _fluent_ in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop _conceptual understanding_ and the ability to recall and apply knowledge rapidly and accurately

To reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

can solve problems by _applying_ their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

At we aim for St Anne's our children:

- to be an active participant in their own l
- To be confident and numerate.
- to be *fluent* in their mathematics at the appropriate level.
- to be able to *reason* about their learning using the correct mathematical vocabulary.
- to be able to *apply* their skills and knowledge as they progress, through *sustainable* learning.
- *to develop an appreciation that mathematics is a key skill that equips them for life.*
- To *enjoy* mathematics

AIMS FOR THE WORKSHOP TODAY

To have some fun with maths
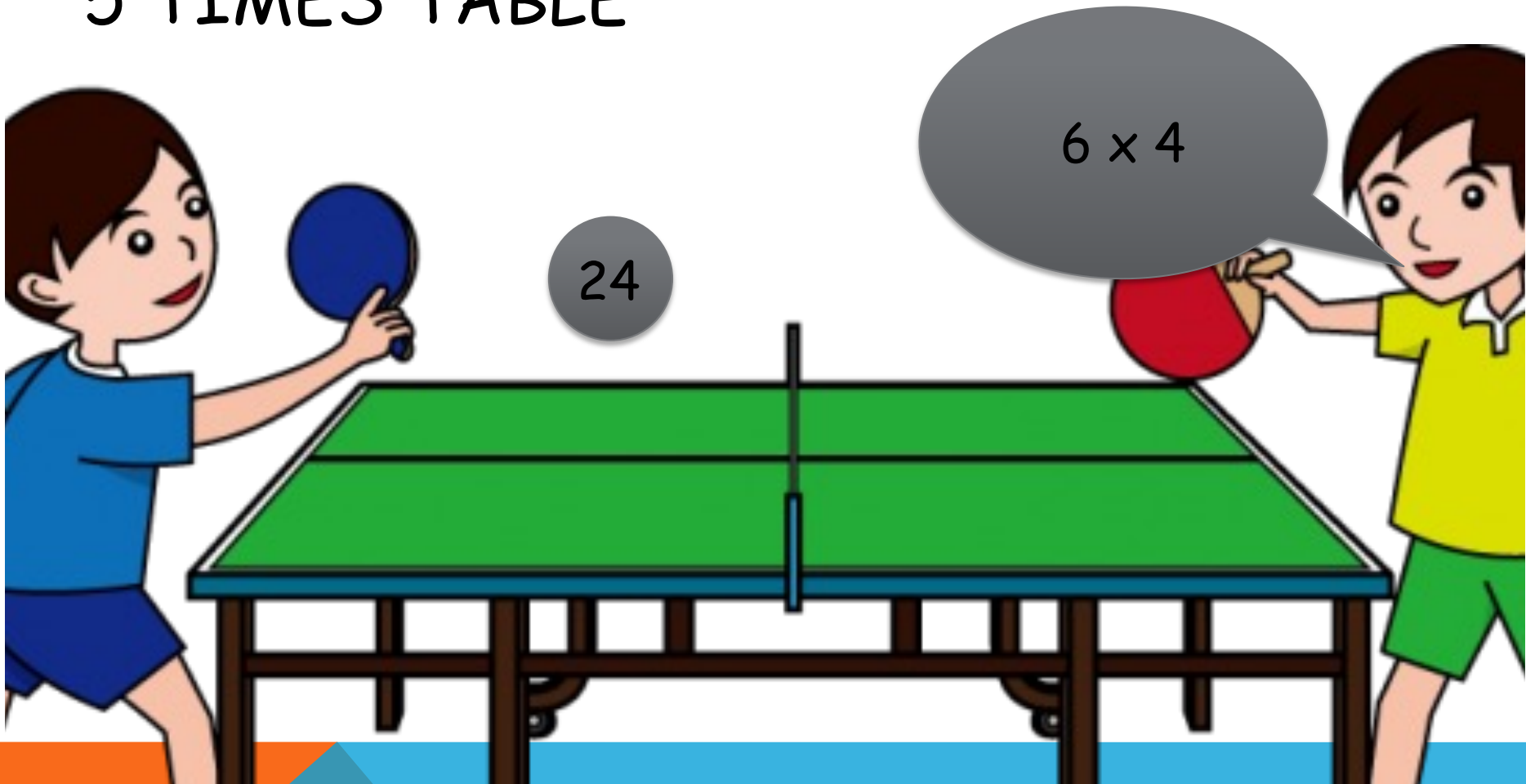
To consider why learning basic skills is so important

To look at some of the strategies used in school

To think about ways you can support your children at home.

To ask any burning questions.

I HAVE TRIED AND TRIED

A few children find it almost impossible to retain times table knowledge so they need other strategies. However, most children can learn 2s, 5s and 10s.

Then try to encourage your child to learn all the square numbers e.g.

2x2, 3x3, 4x4, 5x5 etc. This will give them a good starting point.

Multiplication Grid

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

The red numbers indicate how many tables you know if you know 2s, 5s 10s and square numbers.

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

The red numbers indicate how many tables you know if you know 2s, 5s 10s, square numbers and prime numbers.

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

EXPECTATIONS IN YEARS 5 AND 6

540 ÷ 90   620 ÷ 0.5

18 x 12   470 x 0.5

5/7 of 350   700 x 0.9

8 x 0.7   The Government is introducing a
               times table test for children in 180 ÷
6   Year 4. They will be expected
               to know all tables to 12 x 12
               including related division facts.

It is crucial that children can explain their thinking using the appropriate vocabulary. This not only embeds their own learning but supports the learning of others through hearing quality explanation.

LOOK AT THIS CALCULATION –OH NO, NOT DIVISION!

$$45,505,525 \div 5$$

Times tables and place value are really important for success with division.

The use of visual images and practical resources is also crucial to the conceptual understanding of mathematics and supports children's talk.

BEING ABLE TO DRAW A RESPONSE DEVELOPS REASONING AND SHOWS CONCEPTUAL UNDERSTANDING

Draw something to prove to me that:

7 is an odd number

an odd number divided by 2 will always have a remainder of 1

¾ is equivalent to 6/8

5 is a prime number

2/3 is not equivalent to 3/5

No words or numbers allowed.
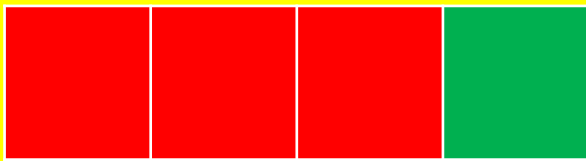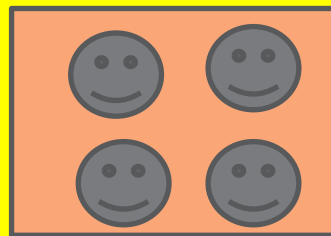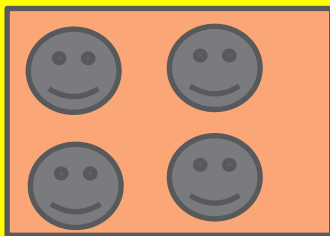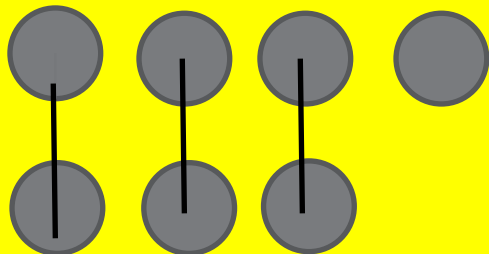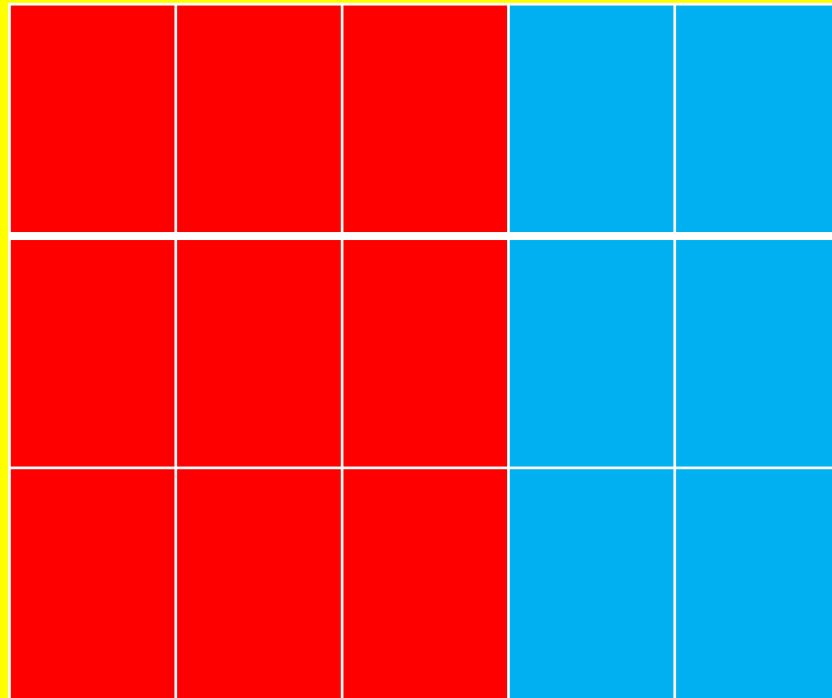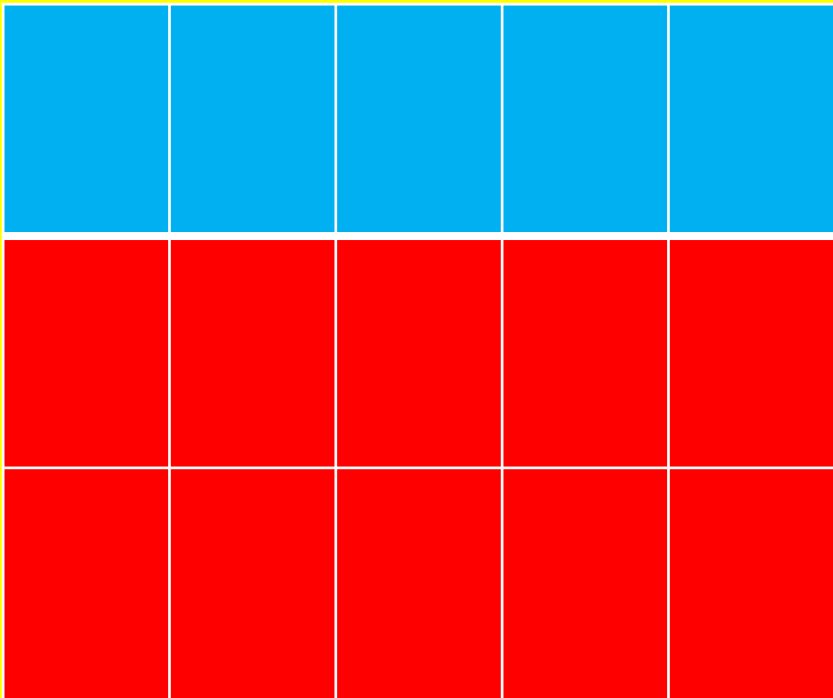
Tom spent 3/5 of his money on a tennis racquet. He had £70 left.

How much was the tennis racquet?

Children who are used to drawing diagrams or pictures in their mathematics will be more successful with complex problems.

Numicon is one of the many practical resources we use in mathematics at St Anne's.

Practical resources are used all through the school, from reception to Year 6.

CHILDREN NEED TO LEARN MATHEMATICS IN A SENSORY WAY.

"*What I hear, I forget;   What I see, I remember;   What I do, I understand."*

– Old Chinese proverb, sometimes attributed to Confucius

THERE ARE LOTS OF WAYS TO LEARN.

There is no single, exclusively correct learning style in mathematics. We learn things in a variety of ways.

How would you do this calculation?

57 - 29

WHAT WOULD CHILDREN NEED TO BE SUCCESSFUL WITH THIS CALCULATION?

57 – 29

Counting back strategy

Number bonds

Subtracting a single-digit number from a tens number

Subtracting a multiple of ten from any number

Partitioning numbers efficiently

Combining numbers to calculate a total

$$29 = 20 + 7 + 2$$

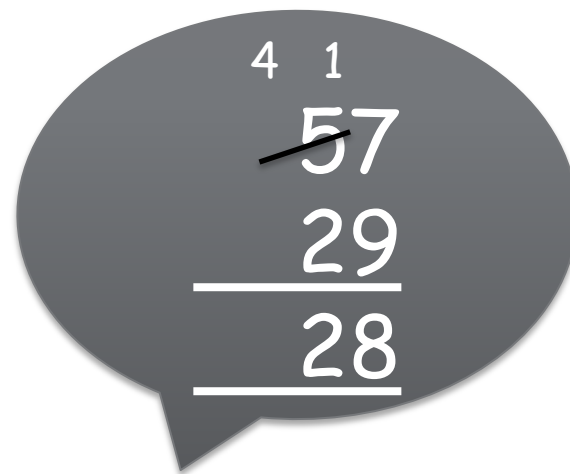-20   -2   -7   57

28   48   50

Counting up strategy

Number bonds to ten

Adding a multiple of ten to any number

Combining numbers to find a total

Understanding the finding the difference model.

29   +1   +20   + 7   57

30   50

40

50 ~~1~~ **1** 7

\- 20   9

      20   8

Children need to know that numbers can be partitioned in different ways to aid calculation.

Partition this number in as many different ways as you can so that one number is always a multiple of ten : 97

57 – 29

- 30 + 1

This is a higher order strategy and not all children will be able to work in this way so they need a secure strategy that works for them.

HOMEWORK

- There is far more emphasis in the new curriculum on basic skills and homework will reflect this.

- Expect your child to be asked to practise and consolidate basic skills on a regular basis.

- Homework activities may be based on achieving accuracy or striving for pace.

HOW CAN I HELP MY CHILD AT HOME? - MATHEMATICS

- *Create a positive view of mathematics – be a mathematician together*
- *learn tables*
- *tell the time*
- Help your child to understand the importance of mathematics in everyday life
- Support your child when learning basic skills such as number bonds, counting in equal steps and tables
- Help them to see the value of learning these skills
- Value homework activities even if you think your child knows it. They must be fluent and able to apply the skills if learning is to be sustainable

Useful websites:

Times table Rockstars

Hit the Button

STOPS

BBC Bitesize

Key words to remember:

Reasoning

Independence

Problem solving

Fluency

Emphasis on basic skills

Mathematical vocabulary