

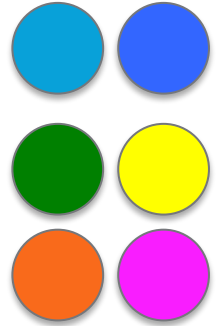


English Martyrs Primary School

Mathematics workshop

26th May 2021

Key Stage 1 - Year 1 and 2



hundreds	tens	ones	tenths	hundredths
			.	
			.	
			.	

**WHICH IS THE ODD ONE OUT
AND WHY?**

5 10 12




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



**DISCUSS 3 POSITIVE AND NEGATIVE
EXPERIENCES YOU HAD WHEN YOU
WERE A CHILD.**

If children hear 'I can't do maths' from
parents, teachers, friends they begin
to
believe it isn't important.



FIXED VS GROWTH MINDSET

We believe that everyone can get better at Maths when they put in the effort and work at it.

Do not praise children for being clever when they succeed at something, but instead you should praise them for working hard.

Children learn to associate achievement with effort (which is something they can influence themselves – by working hard), not ‘cleverness’ (a trait perceived as absolute and that they cannot change).

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 English Martyrs we aim for our children:

- to be an active participant in their own learning
- 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



OBJECTIVES

Explain and demonstrate how Mathematics is taught in Year 1 and 2 at English Martyrs School

Understand what is meant by 'Mastery' in Mathematics

Identify how fluency impacts upon achieving mastery.

To look at some of the strategies used in school

Increase confidence and understanding in supporting your child at home.



KS1 STATUTORY CURRICULUM

The curriculum is designed so that pupils explore mathematical ideas **in depth**.

- Number – number and place value
- Number – addition and subtraction
- Number – Multiplication and division
- Number – fractions
- Measurement
- Geometry: properties of shape
- Geometry – position and direction
- Statistics (Year 2 only)

- **Mastery** curriculum
- Reading and spelling of mathematical vocabulary

KEY STRATEGIES IN YEAR 1

- Counting forwards and backwards within 100
- Adding 1 ($7 + 1$ and $1 + 7$)
- Doubles of numbers ($4 + 4$)
- Adding 2 ($5 + 2$ and $2 + 5$)
- Adding 10 to a number ($5 + 10$ and $10 + 5$)
- Adding 0 to a number ($3 + 0$ and $0 + 3$)
- Number bonds to 10 and 20
- The ones without a family: $5 + 3$, $3 + 5$, $6 + 3$, $3 + 6$
- Knowing these facts by the end of Year 1 will mean children will know 87 of the 121 addition facts on the grid.

KEY STRATEGIES IN YEAR 2

- read scales in divisions of ones, twos, fives and tens
- partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus
- add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. $48 + 35$; $72 - 17$)
- recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If $7 + 3 = 10$, then $17 + 3 = 20$; if $7 - 3 = 4$, then $17 - 3 = 14$; leading to if $14 + 3 = 17$, then $3 + 14 = 17$, $17 - 14 = 3$ and $17 - 3 = 14$)
- recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary
- use different coins to make the same amount
- read the time on a clock to the nearest 15 minutes

What does Maths lessons look like in KS1?

5 lessons per week

Typical lesson is made up of 4 parts:

1. Introduction – mental/oral starter e.g.

Arithmetic activities/questions, mathematical vocabulary.


2. Main Teacher Input – modelling the task, varied questions

3. Independent Task

4. Plenary – any misconceptions, reasoning or problem solving

COUNTING IS A CRUCIAL SKILL!

Why?

- **Helps pupils to make sense of the number system at all stages; whole numbers, decimals and fractions.**
 - **Helps them to calculate.**
- 

COUNTING IS CRUCIAL



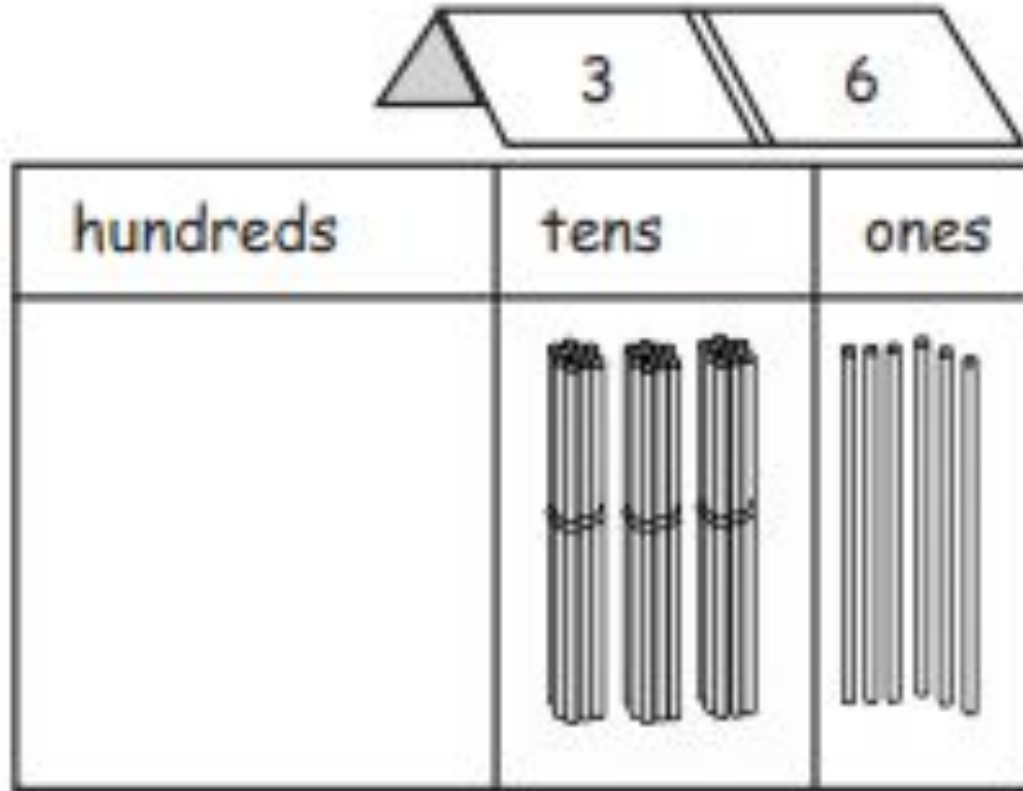
Counting on and back in different steps is one of the most important things you can do with your child. ***This is the basis for times tables***

Reason about the counting and you elevate it to a new level.

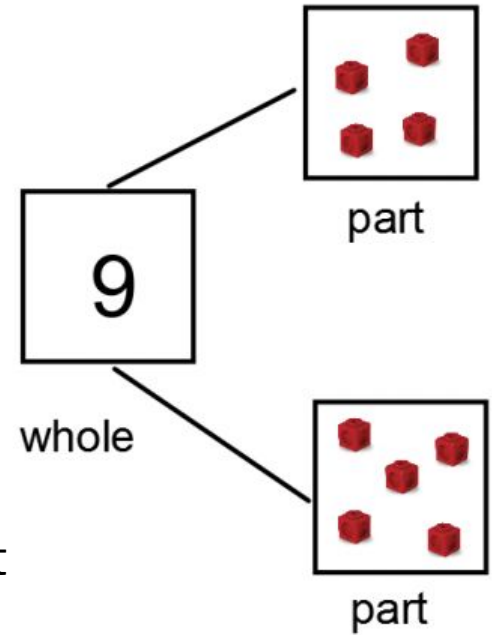
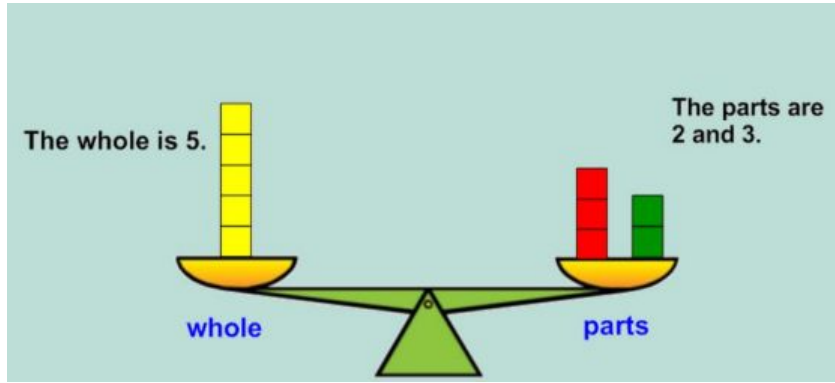
BEAD STRING



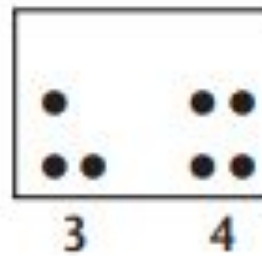
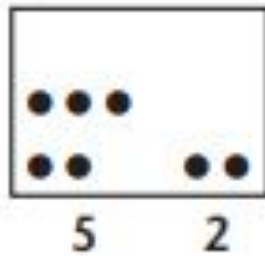
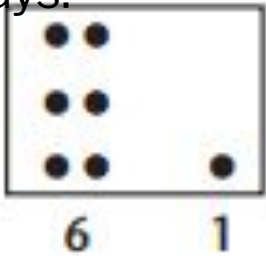
TENS AND ONES PLACE VALUE CHART



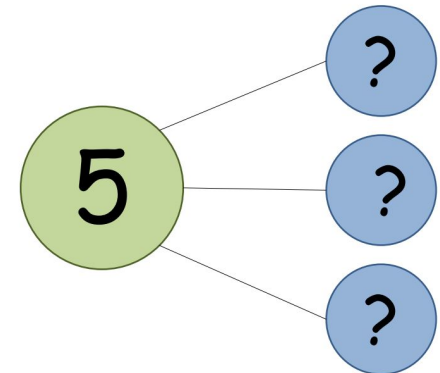
PART-WHOLE MODEL



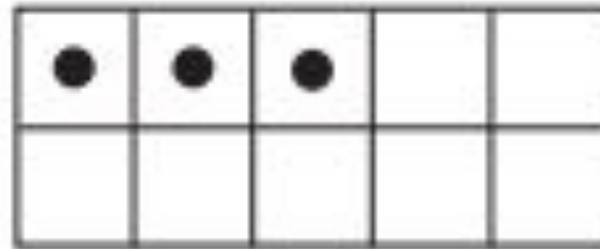
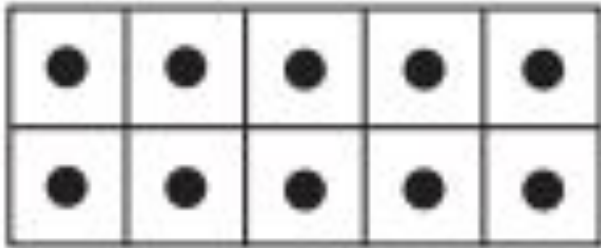
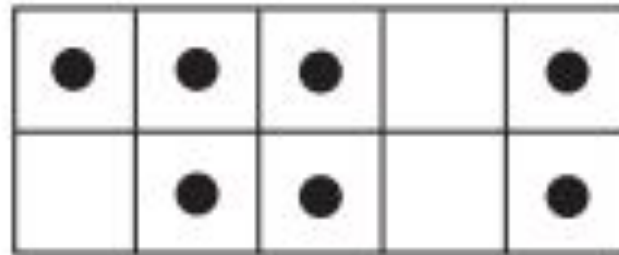
The same number can be thought of in parts in different ways:



A number can also be thought of in more than two parts:



TENS FRAME



HUNDRED 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
11
21
31
41
51
61
71
81
91

3
13
23
33
43
53
63
73
83
93

7
17
27
37
47
57
67
77
87
97

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.




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

Conceptual understanding means that children are confident with the mathematics involved and don't just follow a process.

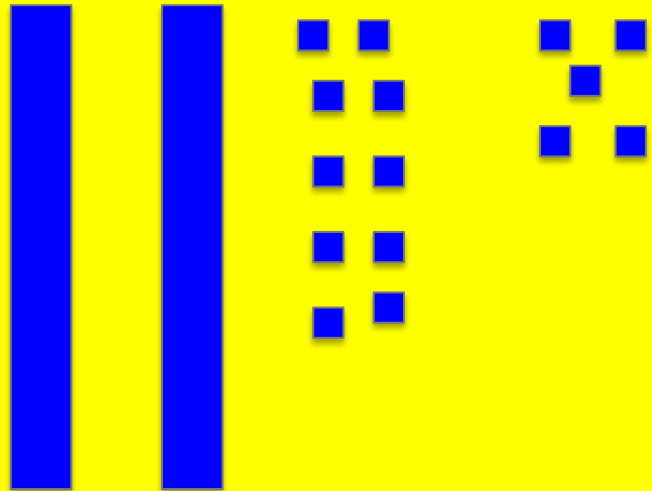
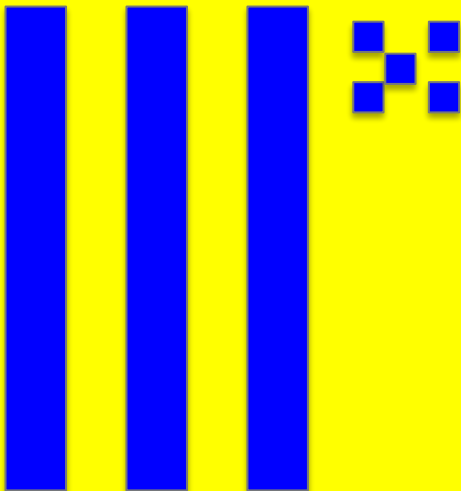
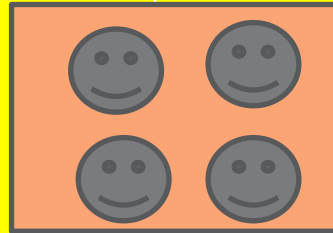
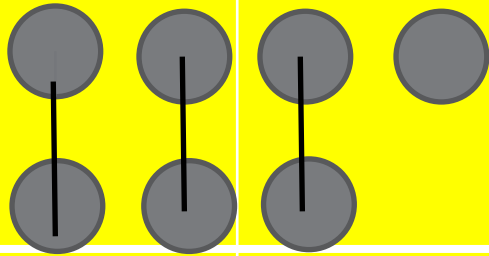


BEING ABLE TO DRAW A RESPONSE DEVELOPS REASONING AND SHOWS CONCEPTUAL UNDERSTANDING

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**
- **$2/4$ is equivalent to $1/2$**
- **$30 + 5 = 20 + 15$**

No words or numbers allowed.



Numicon is one of the many practical resources we use in mathematics at English Martyrs.



Practical resources are used all through the school, from Reception to Year Six.

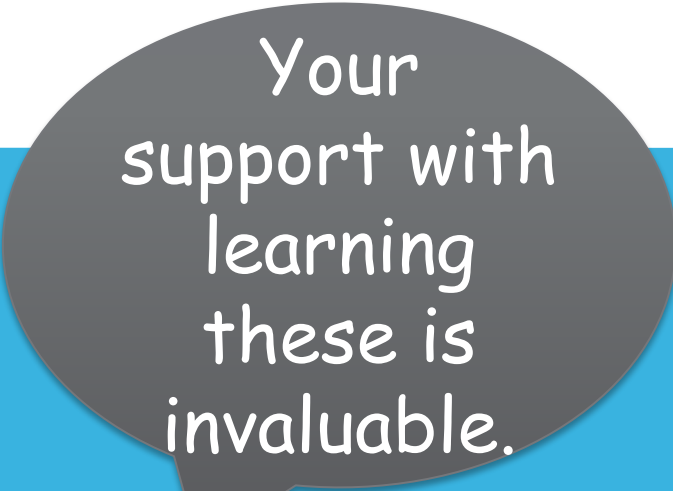
WHAT BASIC SKILLS HAVE WE LOOKED AT TODAY?

Counting and subitising

Knowing and using number bonds to aid calculation

Partitioning numbers to support calculation

Using mathematical vocabulary

A grey speech bubble with a white outline, containing the text "Your support with learning these is invaluable." The bubble is positioned in the bottom right corner of the slide, overlapping a blue and orange geometric background.

Your
support with
learning
these is
invaluable.

HOW CAN I HELP MY CHILD AT HOME? - MATHEMATICS

- ***Create a positive view of mathematics – be a mathematician together***
- ***learning tables***
- ***telling 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**

HOW CAN I HELP MY CHILD AT HOME?

MATHEMATICS

count anything and everything;

skips, jumps, claps, pasta shapes, trees, red cars etc.

count backwards from a number to zero

count in 2s, 5s 10s 20s $\frac{1}{2}$ s etc. whilst walking to school

climbing the stairs, playing on the swing or trampoline etc

play games with dice:

- throw a dice and double the number
- add ten to the number
- throw two dice and add or subtract the numbers
- throw two dice and you can add the numbers together if they are both even or both odd
- play a game using one dice and double the number if odd and halve the number if even.

HOW CAN I HELP MY CHILD AT HOME? - MATHEMATICS

Play games with dominoes:

- add the dots on each side of the domino
- find dominoes with the same number of dots on each side
e.g. double 4 is 8,
- find dominoes with an odd/even number of dots
- find as many dominoes as you can with the same number of dots, (6 and 1 has the same number of dots as 3 and 4) etc.

Put marbles in two containers. Say how many marbles are in the boxes in total and the child works out the possibilities for each box i.e. 8 marbles altogether so could be $7 + 1$, $6 + 2$, $5 + 3$, $4 + 4$ etc.

HOW CAN I HELP MY CHILD AT HOME? - MATHEMATICS

Get to know money;

- recognise coins,
- sort coins,
- find the coin with the highest/lowest value,
- add pairs of coins,
- create a home shop using toys or fruit etc.
- find different coins to give the same value e.g. how many ways can we pay for an item costing 10p? 5p and 5p or 2p + 2p + 2p + 2p + 2p etc.
- Involve children in shopping activities.

Identify shapes in the environment while in the park or walking to school etc.

finding the lightest, longest, widest, heaviest etc.

Most of all have fun with mathematics.

Useful websites:

Topmarks.co.uk

-Hit the Button

-daily 10

-coconut counting

