

Maths Workshop

Tuesday 28th January 2019

What is a mathematician?

Please discuss at your table.

Aims of today

- To understand the expectations set out in the Curriculum.
- To get an insight into how Maths is taught at St Mary's.
- To take away some ideas to support your children at home.

What is a mathematician?

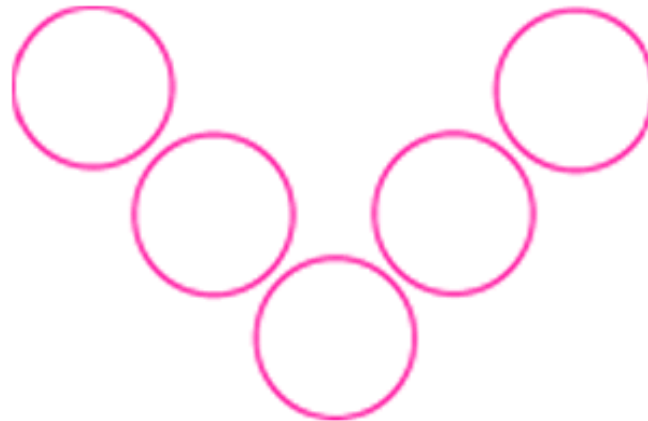
- Makes mistakes and uses them to learn new things
- Are organised and systematic
- Describe, explain and discuss their work
- Keep going when it is difficult
- Look for patterns and connections
- Have imaginative ideas
- Ask questions

Warm up

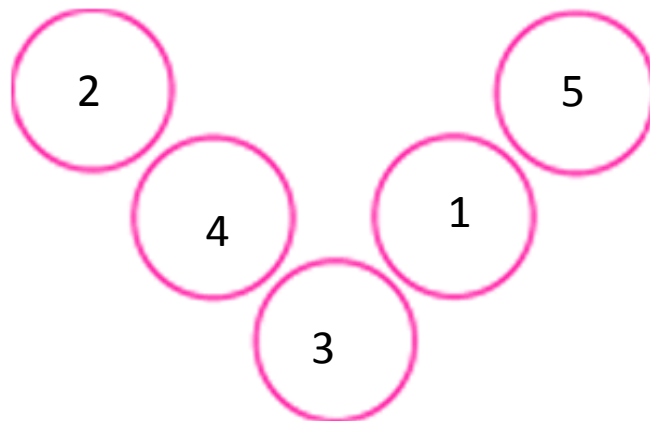
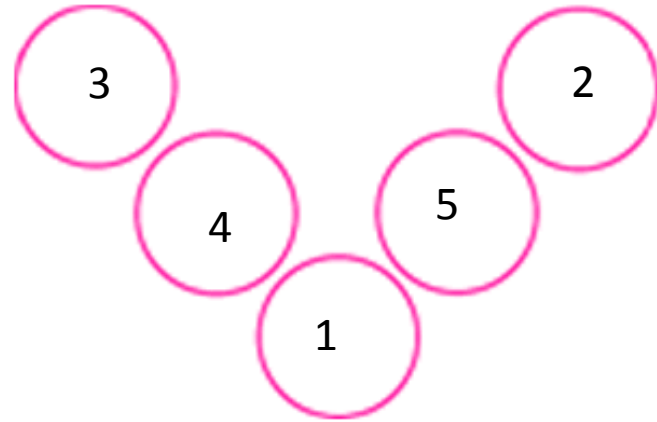
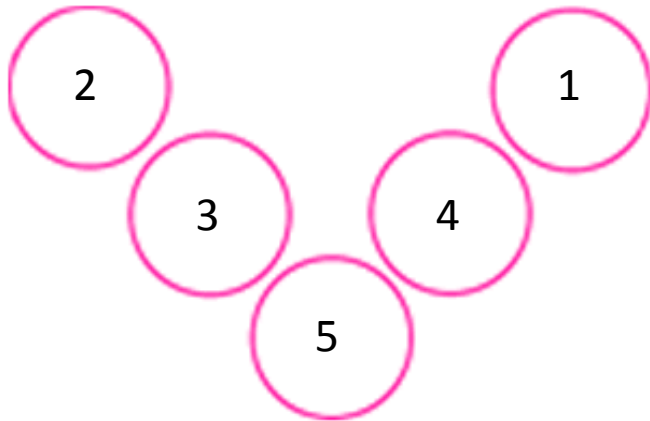
Polly uses a £2 coin to buy a can of drink which costs 85p. She is given four coins in change. Find all the possible combinations she could have been given.

Magic V investigation

Place each of the numbers 1 to 5 in the V shape below so that the two arms of the V have the same total.



Magic V Investigation



At the end of Key Stage 1 all children are nationally assessed against the National Curriculum objectives.

A copy of these objectives are on your table for you to take away and read.

These will inform you of the standard required to achieve ARE (age related expectations).

If you have any questions regarding these objectives, please speak to your class teacher at an agreed time.

The Maths Curriculum

Children should:

- 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.
- **Solve problems** by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.
- **Reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations and developing an argument, justification or proof using mathematical language.

- **Teach** : Learn the song and the rules for identifying odd and even numbers.

54, 7, 23, 68, 114, 19, 266,	
odd	even

- **Fluency:**

- **Apply** : If there is an odd number of children in a class. Will every child have a partner for the Dance Festival?
- **Mastery**: Captain Conjecture says an odd number plus an odd number equals an even number. Is this sometimes, always or never true? Explain your reasoning.
- **Mastery with greater depth**: Captain Conjecture says an odd number plus an odd number plus an odd number equals an even number. Is this sometimes, always or never true? Explain your reasoning.

Number Sense!

Children need to understand the fourness of 4.

They need to understand our number system, starting with counting numbers, building an understanding of how our numbers work and fit together. This includes exploring place value and comparing and ordering numbers.



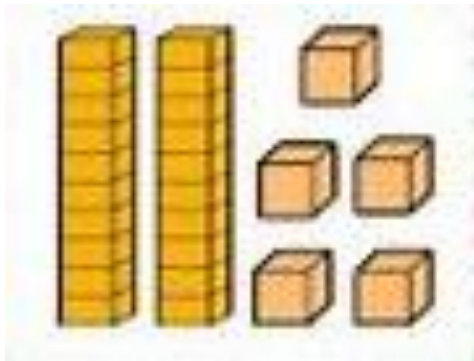
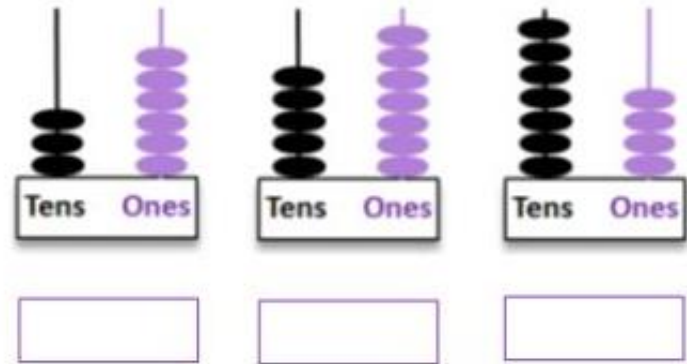
Place value is at the heart of the number system. All digits have a value and a secure understanding of this will enable children to use and understand different calculation methods.

How many?



Numbers are represented in different ways and children need to be able to recognise this.

Write down the numbers on the tens/units abacus



Write in the missing numbers.

- a) $\boxed{71}$ \longrightarrow $\boxed{\quad}$ unit and $\boxed{\quad}$ tens
- b) $\boxed{\quad}$ \longrightarrow $\boxed{9}$ units and $\boxed{2}$ tens

Rapid recall of number facts

- It is important that children recognise number bonds; different pairs of numbers with the same total.
- $6 + 4 = 10$
 $16 + 4 = 20$
- $60 + 40 = 100$
- Doubling and halving
- Double 8 = 16 Half 16 = 8



- 2, 3, 5 and 10 times tables and related division facts

$$7 \times 5 = 35 \quad 5 \times 7 = 35$$

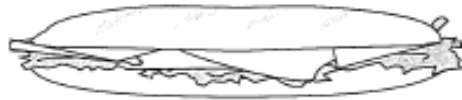
$$35 \div 5 = 7 \quad 35 \div 7 = 5$$

This question can be solved rapidly if you can recall and apply your number pair knowledge.

Lee buys **two** of these things to eat.

He spends **£1** altogether.

Tick (✓) the **two** things he buys.



70p



40p



50p



30p

Partitioning for addition

1. $33 + 41 = 74$

$30 + 40 = 70$

$3 + 1 = 4$

$70 + 4 = 74$ ⑥

$33 + 41 = 74$ ⑥

Now your turn:

$$64 + 25 =$$

Partitioning for subtraction

(partition 2nd number only)

Focus: Partitioning to Subtract

1. $48 - 23 =$

$\begin{array}{r} 48 \\ - 23 \\ \hline \end{array}$

$48 - 20 = 28$

$28 - 3 = 25$

28/119

2

5

Now your turn:

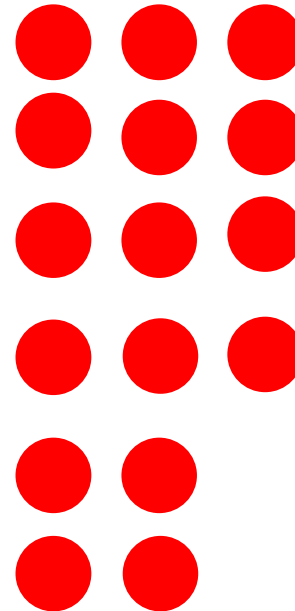
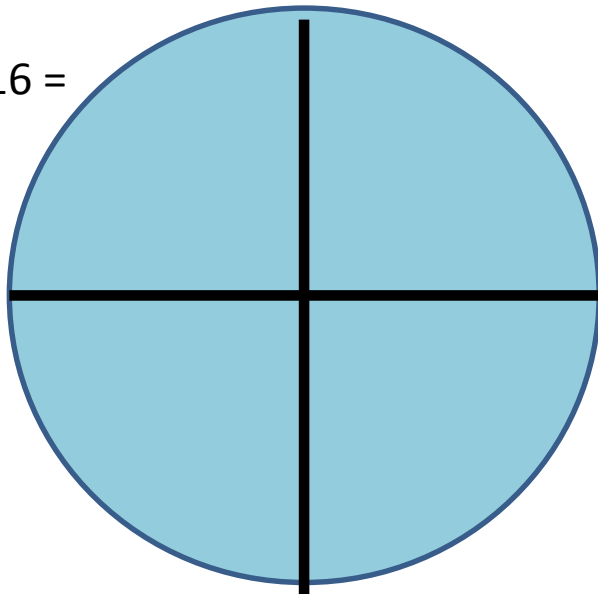
$$87 - 34 =$$

When children are secure with their place value we introduce alternative methods to solve addition and subtraction calculations. These include the number line method and column method.

Fractions

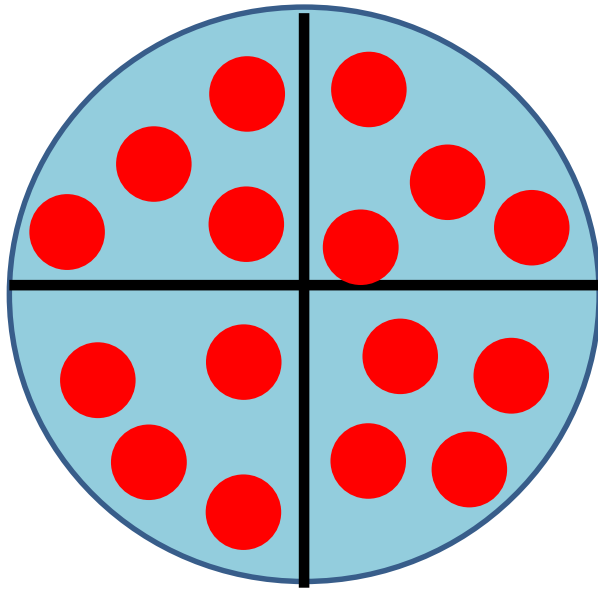
- By the end of year 2 children need to know a whole, halves, quarters and three quarters of shape, objects and quantities.
- They also need to know that $\frac{1}{2}$ is equivalent to $\frac{2}{4}$

$\frac{3}{4}$ of 16 =
4



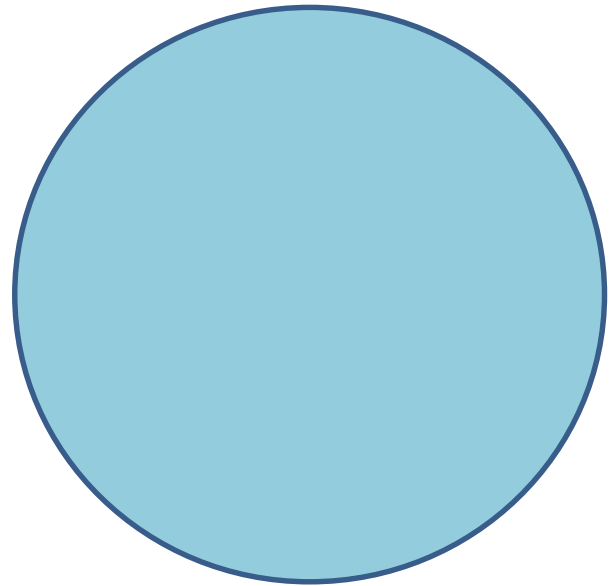
Fractions

$$\frac{3}{4} \text{ of } 16 = 12$$



Now have a go!

$$\frac{2}{3} \text{ of } 12 =$$



What you can do

- It is not about the answer it is about the steps: The why? The how? The what if? The when?
- Counting – looking out for numbers and shapes on a walk
- Discussing odd/even and smaller/larger
- Estimating
- Singing number bonds
- Coin recognition
- Weight and measure Eg: heavier/lighter, reading simple scales
- Position and direction – sun rising, rotating game
- Time: knowing birthdays, seasons, days of the week
- Clock vocabulary
- Pattern recognition

We're sure you have got lots of ideas of your own.

Useful information

- Please make sure you pick up a hand-out before you leave
- Thank you for coming
- Q and A