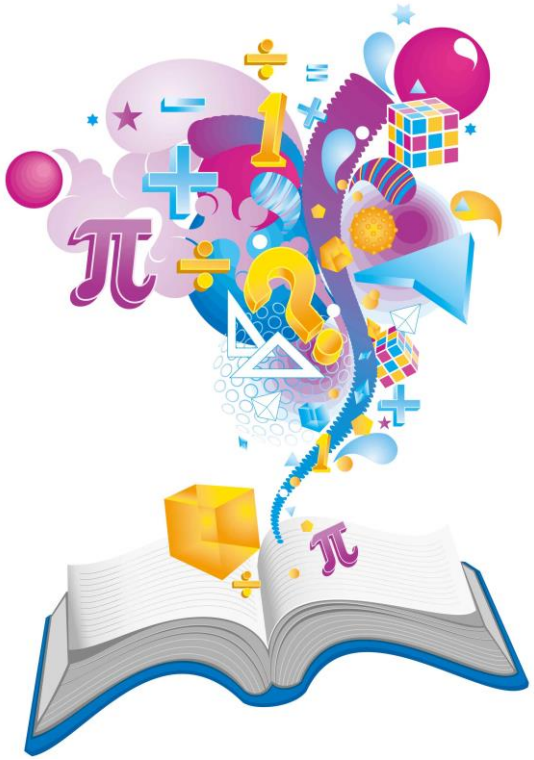
Maths Parent Workshop



KS1

Aims for today

- To show you how we teach your child a variety of strategies to solve calculations and word problems.
- To give you the opportunity to use some of the equipment your child uses every day.
- To give you ideas and ways to help your child at home.
- To provide you with the chance to ask questions and chat with other parents and the teachers.

Year 2 - Working at the expected standard

Working at the expected standard.

· Can partition two-digit numbers into tens and units (e.g. 23 = 20 + 3)

· Add 2 two-digit numbers within 100 (e.g. 48 + 35) and can demonstrate their method

· Use estimation to check that their answer is reasonable (knowing that e.g. 48 + 35 will be less than 100)

· Subtract mentally a two-digit number from another two-digit number when there is no regrouping required (e.g. 74-33).

Working at the expected standard

- Recognise the inverse relationships between addition and subtraction and use this to check calculations and out missing number problems (e.g. ___ - 14 =28)
- Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables to solve simple problems)
- Identify 1/3, ¼, ½, 2/4, ¾
- Use different coins to make the same amount (pupils can work out how many £2 coins are needed to exchange for a £20 note)

Working at the expected standard

- Read scales in divisions of ones, twos, fives and tens where all the numbers on a scale is given (e.g. reading the temperature on a thermometer or measuring capacities using a measuring jug)
- Read the time on the clock to the nearest 15 minutes
- Describe the properties of 2-D and 3-D shapes

Working at greater depth

- Reason about addition (e.g. the sum of 3 odd numbers will always be odd)
- Solve more complex missing number problems (e.g.14 + ___ -3 =17)
- Determine remainders given known facts (16÷5 will have a remainder of 1)
- Two step word problems
- Time-5 minute intervals
- Read scales where not all numbers on the scale are give

Year 1 - Addition

- Teach a range of vocabulary linked to addition - add, plus, more, greater than, count on
- Start by adding objects, drawing pictures to support understanding, then finally counting forward on a number line
- Check understanding of the concepts that adding can be done in any order and that it is easier to put the largest number first

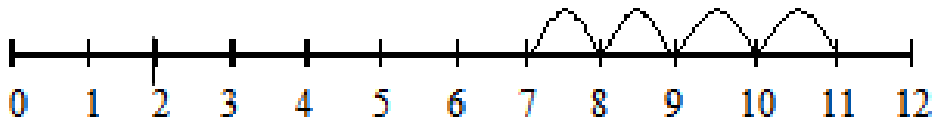
+ = signs and missing numbers

3 + 4 = □	□ = 3 + 4
3 + □ = 7	7 = □ + 4
□ + 4 = 7	7 = 3 + □
□ + ∇ = 7	7 = □ + ∇

Promoting covering up of operations and numbers.

Number lines (numbered)

7 + 4



Recording by - drawing jumps on prepared lines

constructing own lines

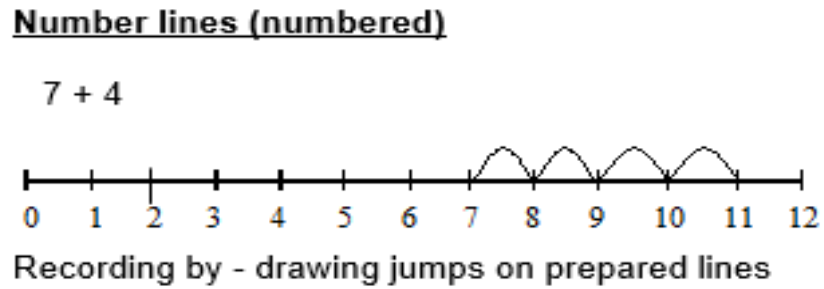
(Teacher model number lines with missing numbers)

(Teachers model jottings appropriate for larger numbers)

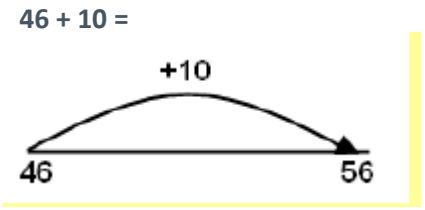
Year 2 - Addition

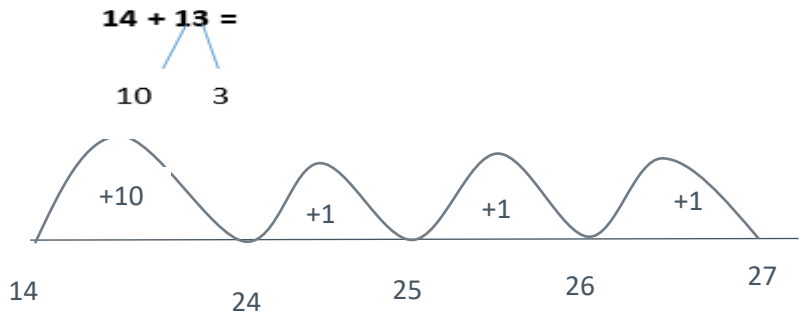
Number line

Children may begin using a prepared numberline but will move on to drawing their own lines. Children add U + U and TU + U and three single digit numbers.



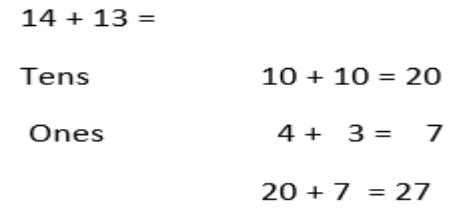
Adding ten and 2 digit numbers on a numberline. Before the numberline is introduced, we look at the numbers visually using place value cards and deines.





Partition

The next formal method. Children partition the numbers into tens and ones and then recombine.



Addition Mastery/Reasoning

- Fill in the circles with either <, > or =

6 + 4	○	6 + 5
6 + 4	○	3 + 6
11 – 4	○	12 – 5
11 – 4	○	12 – 4

- Complete the missing numbers.

  5 + 3 = 6 + _____

64 + 12 = _____

4 ones + 2 ones = _____

6 tens + 1 ten = _____

_____ tens + _____ ones = _____

10 less	Number	10 more
		
2	12	22
		
	37	

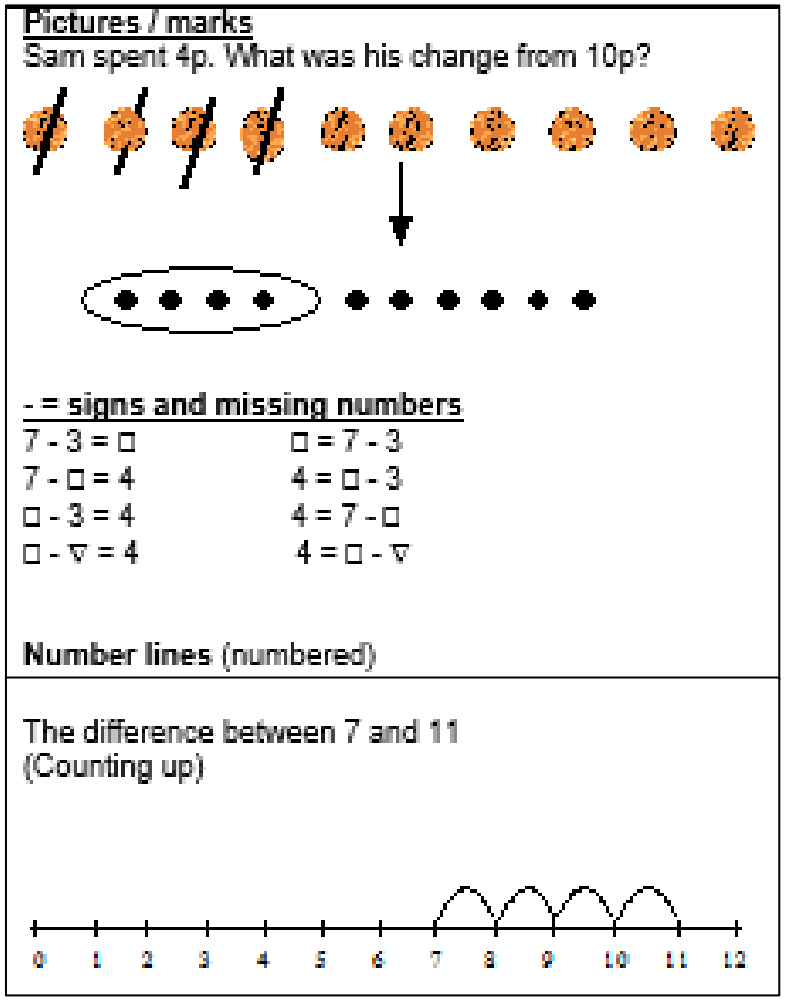
Katie has 12 marbles.

Jim has 13 marbles more than Katie.

How many marbles do they have altogether?

Year 1 – Subtraction

- Teach a range of vocabulary linked to subtraction – take away, minus, fewer, less than
- Start by subtracting objects, drawing pictures to support understanding
- Learn how to find the difference between 2 numbers by counting up
- Check understanding of the concepts that subtraction cannot be done in any order and that the answer is always smaller than the number they started with



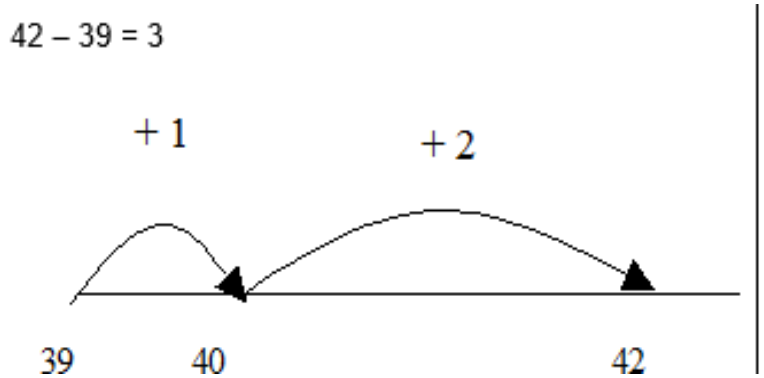
Year 2 - Subtraction

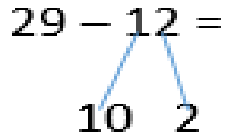
Number line

To begin with, we use the same method of counting back as the children were taught in year 1. Similar to addition but we start at the opposite end of the number line.

Counting on to find a small difference

This term the children will look at a quicker and more efficient way to subtract (by counting up). Examples of small differences are 23-21, 18 – 14, 35 – 31. The gap between these numbers are small enough to count up rather than partition and count back several times.





Partitioning Method (slight difference to adding)

Mainly to help with mental strategies. Children partition the second number only. Then they take away the tens and then the units.

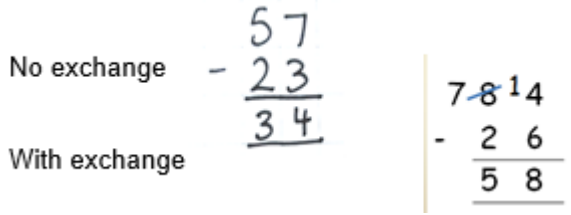
29 – 10 – 2 =

29 – 10 = 19

19 – 2 = 17

Column Method

Some children may move onto this method by the end of the year.



Subtraction Mastery/Reasoning

These four calculations have the same answer.

$7 - 3 - 2$ $\quad$ $2 - 3 - 7$

$3 - 2 - 7$ $\quad$ $7 - 2 - 3$

Jasmine has 33 stickers.

Ollie has 54 stickers.

How many more stickers does Ollie have?

What method did you use to solve the problem?

SALE

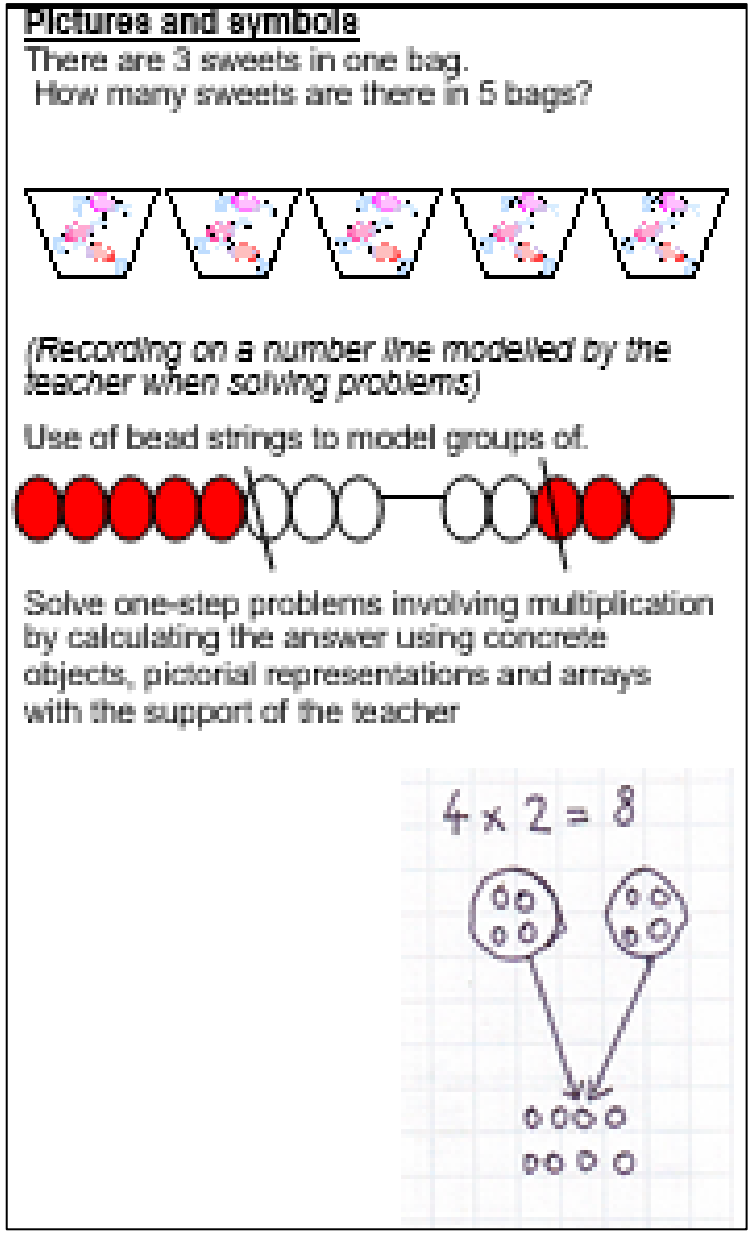
15p 22p 35p 68p

The cost of each piece of fruit is reduced by 10p.

What are the new prices?

Year 1 - Multiplication

- Teach a range of vocabulary linked to multiplication – times, repeated addition, lots of
- Start by multiplying using objects, drawing pictures to support understanding and finally arrays
- Check understanding of the concepts that multiplication can be done in any order and the difference between adding two numbers and multiplying two numbers



Year 1 -Multiplication

- Times tables - need to learn the 2, 5 and 10 times tables
- Doubles up to double 10 by heart

Arrays and repeated addition

Also through the use of pictures and hands on activities

Grouping and sharing

Introduce mathematical vocabulary of multiply and divide.

Doubles up to 10

Children to learn number bonds

Informal jottings only - no formal written methods at Year 1

Counting in 2s, 5s and 10s

Solve one-step problems involving multiplication by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

Year 2 - Multiplication

For all these methods we encourage children to count in the number that is being multiplied (eg, 2s, 3s, 5s, or 10s). Key vocab – lots of, groups of, multiply, times.

Repeated Addition

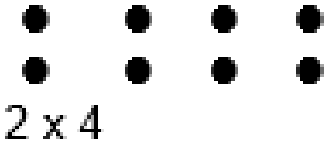
Children will write multiplication calculations for given repeated addition calculations and vice versa.

Repeated addition - 2 + 2 + 2 + 2 = 8

Multiplication 4 x 2 = 8

Arrays

A useful way to also explore that order in multiplication does not matter.



Grouping/Pictures and Symbols

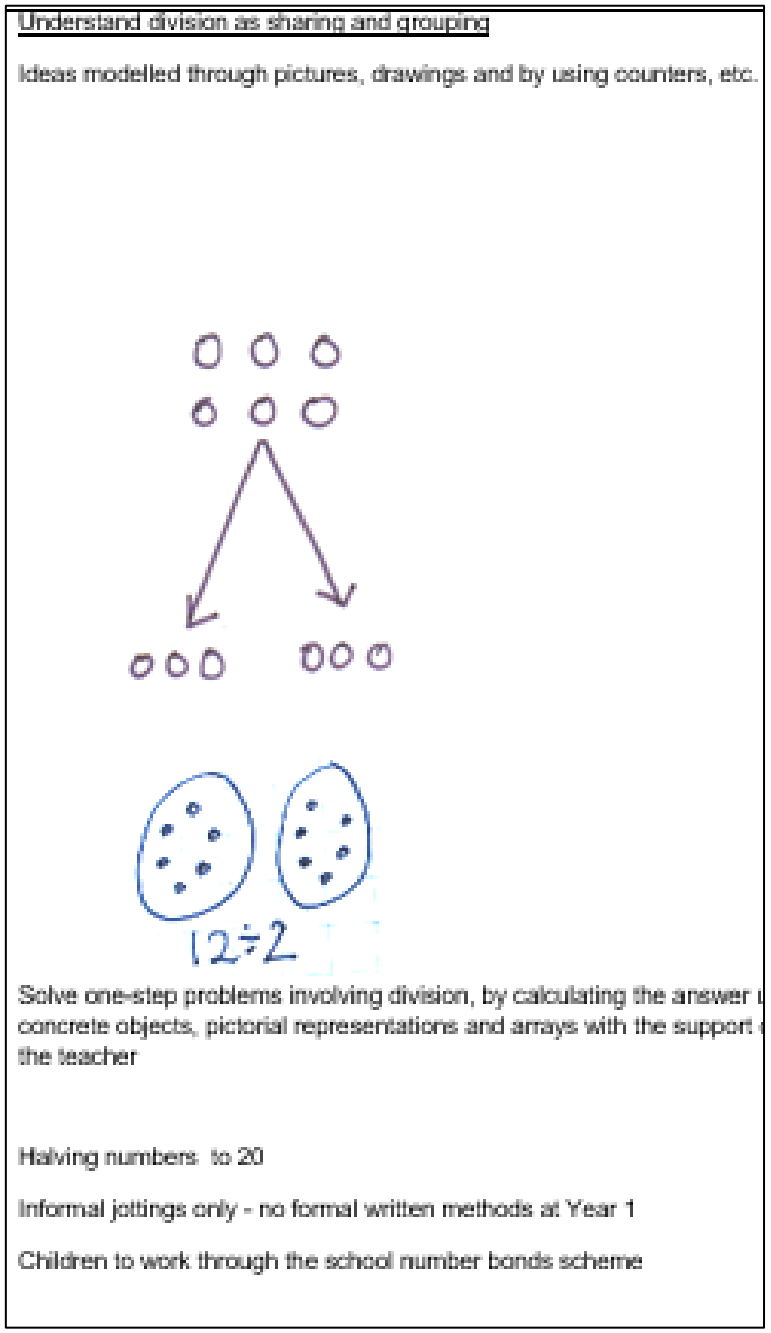
Pictures and symbols

There are 3 sweets in one bag.

How many sweets are there in 5 bags?

Year 1 - Division

- Teach a range of vocabulary linked to division - divide, share, group
- Start by sharing and grouping objects, drawing pictures to support understanding
- Link to halving
- Check understanding of the concepts that division cannot be done in any order and that all groups have to be equal



Understand division as sharing and grouping

Ideas modelled through pictures, drawings and by using counters, etc.

Solve one-step problems involving division, by calculating the answer u
concrete objects, pictorial representations and arrays with the support
the teacher

Halving numbers to 20

Informal jottings only - no formal written methods at Year 1

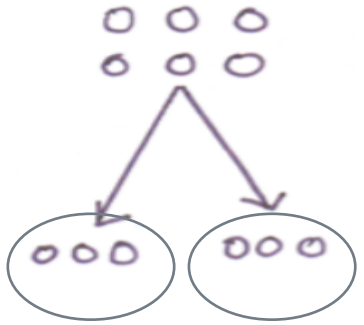
Children to work through the school number bonds scheme

Year 2 - Division

Understand division as sharing and grouping. They learn this first through visuals and we tend to relate division to share of sweets or objects to help with the concept.

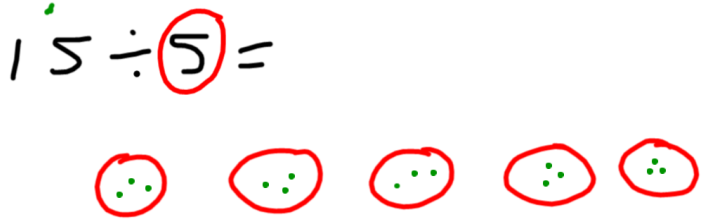
Ideas modelled through pictures, drawings and by using counters, etc.

$6 \div 2 = 3$



Grouping

Children are then taught to draw their own groups and share out the dots (number) equally into each group. It is important children understand that each group must equal.



Multiplication and Division Mastery/Reasoning

Match the equal groups together.

Three 5s

Two 10s

Two 3s

There are three dolls in each basket.

There are four baskets.

How many dolls are there altogether?

Draw an image and write a calculation to represent the problem.

True or False?

$5 + 5 = 2 + 2 + 2 + 2 + 2$

Draw an image or use cubes to help you explain your answer.

Missing numbers

$10 = 5 \times \square$

What number could be written in the box?

Making links

I have 30p in my pocket in 5p coins. How many coins do I have?

On sports day, Tom runs 10 metres, 7 times.

Which of the calculations do not describe the word problem?

$10 + 7$

7×10

$7 + 7 + 7 + 7 + 7 + 7 + 7$

$10 + 10 + 10 + 10 + 10 + 10 + 10$

Things to remember

At home, you can aid your child by using the following:

- Practising number bonds
- Practising addition and subtractions facts
- Practising multiplication facts for the 2, 3, 5 and 10 times tables
- Talking about maths in real life situations – language is a key part of your child's understanding