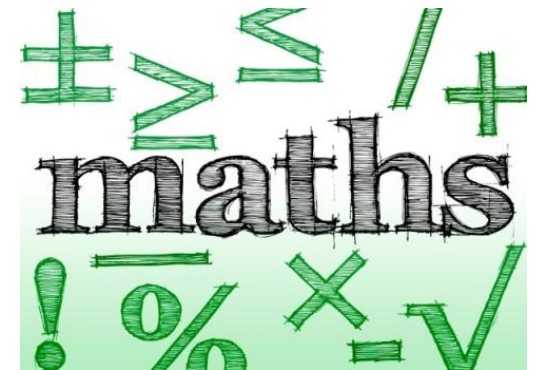


Maths Open Morning

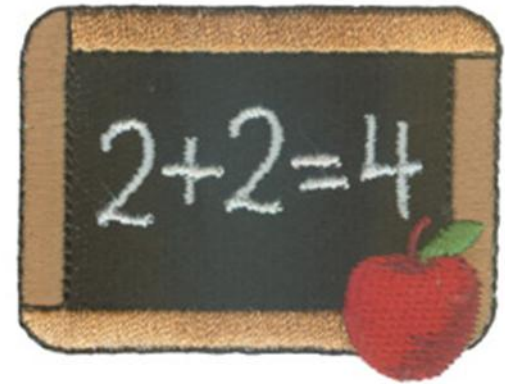
Wednesday 8th October 2014

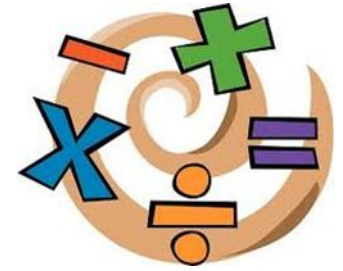
Welcome



Wednesday 8th October

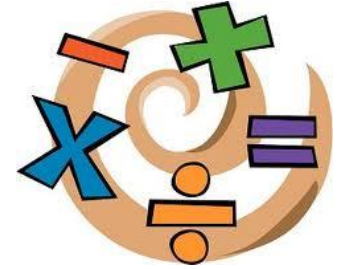
Addition
&
Subtraction





Aims of the morning

- For us to give you an insight into the methods your child will be taught for addition and subtraction.
- For you to see the methods being taught in the classroom (in maths sets).



To support you by:

- Making you familiar with the way maths is taught
- Giving you a feel for what your children experience in school
- Helping you to feel confident to help your child

Classroom Sessions

Addition ($\frac{1}{2}$ hour)

Demonstrate mental methods used

Demonstrate written method with small task

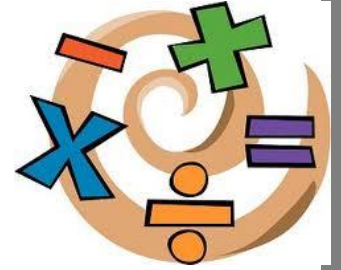
Subtraction ($\frac{1}{2}$ hour)

Demonstrate mental methods used

Demonstrate written method with small task



Maths Setting



Two Age Related

and

One *Advanced* set in each year group

Children will be taught in sets today

Methods you will see demonstrated

Please be aware that you will only see methods being taught that are appropriate for the class at this stage in the year. You will not see every method that we will teach in the year as we may not feel the children are ready for this yet.

E.g. Written multiplication in Y3 (Number line - move onto grid method).

Y5- learnt short multiplication - progress to long multiplication when appropriate.

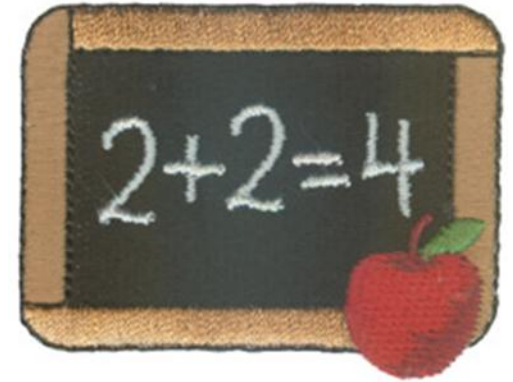
Maths task



Answer



Addition Methods



Partitioning (mental method)

Partitioning is another word for separating the digits.

This is a method for carrying out mental calculations by separating out the tens and units.

Example:

Partition both numbers and recombine. Refine to partitioning the second number only e.g.

$$36 + 53 =$$
$$53 =$$

$$6 + 3 = 9$$

$$50 + 30 = 80$$

$$80 + 9 = 89$$

refined to: 36 +

$$53 + 6 = 59$$

$$59 + 30 = 89$$

Compensation method

Children who are confident with rounding may use the compensation method. This means they add on more than is needed, then adjust to fit the calculation.

E.g. $358 + 19 = ?$

Round the 19 up to the nearest 10 first:

$$358 + 20 = 378$$

Then adjust by taking away the extra 1:

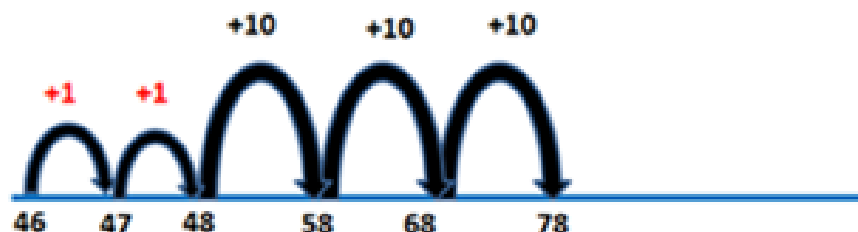
$$378 - 1 = 377$$

This method usually is taught in upper KS2



The empty number line

$$46 + 32 = 78$$



Method:

Write the first number at the left hand end of the line.

Partition the number you are adding into tens and units ($30 + 2$)

Add the units to the bigger number, drawing the jumps as you do so.

Add the tens, again drawing the jumps.

Expanded Addition

Expanded Method of Column Addition

The expanded method is sometimes used when children are first taught standard written methods. This is taught to develop their understanding about the value of digits.

$$76 + 47 = 70 + 40 \text{ and } 6 + 7.$$

NB: Often children will move straight onto the contracted method of column addition if they have a secure understanding of place value.

	H	T	U
		7	6
+		4	7
		<hr/>	
		1	3
	1	1	0
	<hr/>		
	1	2	3



Contracted Column Addition

Contracted method of column addition

Once children are secure with place value, the expanded method can be contracted to:

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{U} \\ 7 \quad 6 \\ + \quad 4 \quad 7 \\ \hline 1 \quad 2 \quad 3 \\ \hline 1 \quad 1 \end{array}$$

If the 2 numbers added together are larger than ten e.g. $7 + 6 = 13$ the unit is placed in units column and the ten is carried over to the bottom of the tens column.

Column addition with decimals

Once children are secure with this method they will learn to apply it to larger numbers, including numbers with 1 and 2 decimal places.

$$124.9 + 117.25 = 242.15$$

	H	T	U	Te	H ^{ths}
	1	2	4	.	9
+	1	1	7	.	2 5
<hr/>					
	3	4	2	.	1 5
<hr/>					
	1	1	1		

NB: It is vital that the columns are lined up correctly and the decimal point stays in the same place.



Tea / coffee time



Dreamstime.com





Subtraction

Partitioning (mental method)

$$42 - 15 =$$

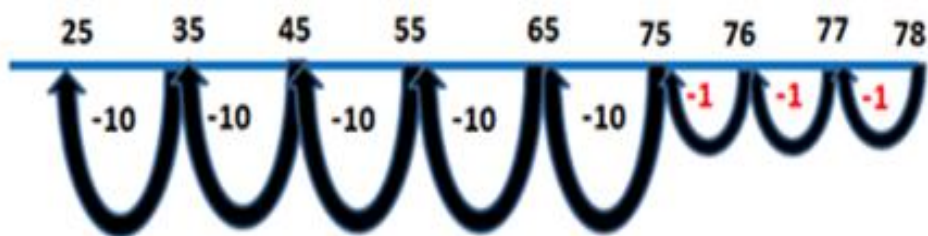
$$42 - 5 = 37 \text{ (partition the second number - } 15 = 10 + 5)$$

$$37 - 10 = 27$$

Number Line

In the early stages of KS2, children will use a number line to support them with subtraction. They will start at the end of the number line and jump backwards.

$$78 - 53 = 25$$



The larger number is written at the end of the number line and the smaller number is taken away by counting back. (jumps under the line)

Again, this calculation method requires children to be able to *partition* 2 digit numbers.

$$78 - 53 = ?$$

$$78 - 3 \text{ (units)} = 75$$

$$75 - 50 \text{ (5 tens)} = 25$$

Column subtraction

For children who are very secure with using a number line, they will move onto more formal written methods for subtraction.

	H	T	U
	5	6	3
-	2	4	1
	<hr/>		
	3	2	2
	<hr/>		

Compact method

- 1) Subtract the units first ($3-1= 2$). Write the answer in the units column.
- 2) Next subtract the tens ($6-4= 2$). Write the answer in the tens column.
- 3) Lastly subtract the hundreds ($5-2= 3$). Write the answer in the hundreds column.



Decomposition Method

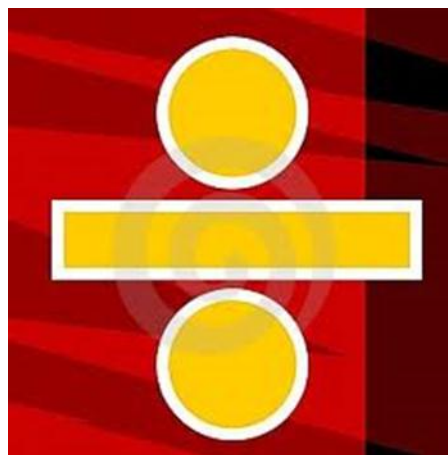
$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{U} \\ 4 \quad 15 \quad 11 \\ \hline \cancel{5} \quad \cancel{6} \quad \cancel{1} \\ - \quad 2 \quad 8 \quad 5 \\ \hline 2 \quad 7 \quad 6 \end{array}$$

Thursday 9th October

Multiplication



Division



HANHAM PRIMARY
FEDERATION
DEVELOPING ENQUIRING MINDS





**KEEP
CALM
AND
LEARN
MATHS**