

# Children First Learning Partnership

Supporting my child in Maths

Monday 30<sup>th</sup> September



New National Curriculum focuses on:

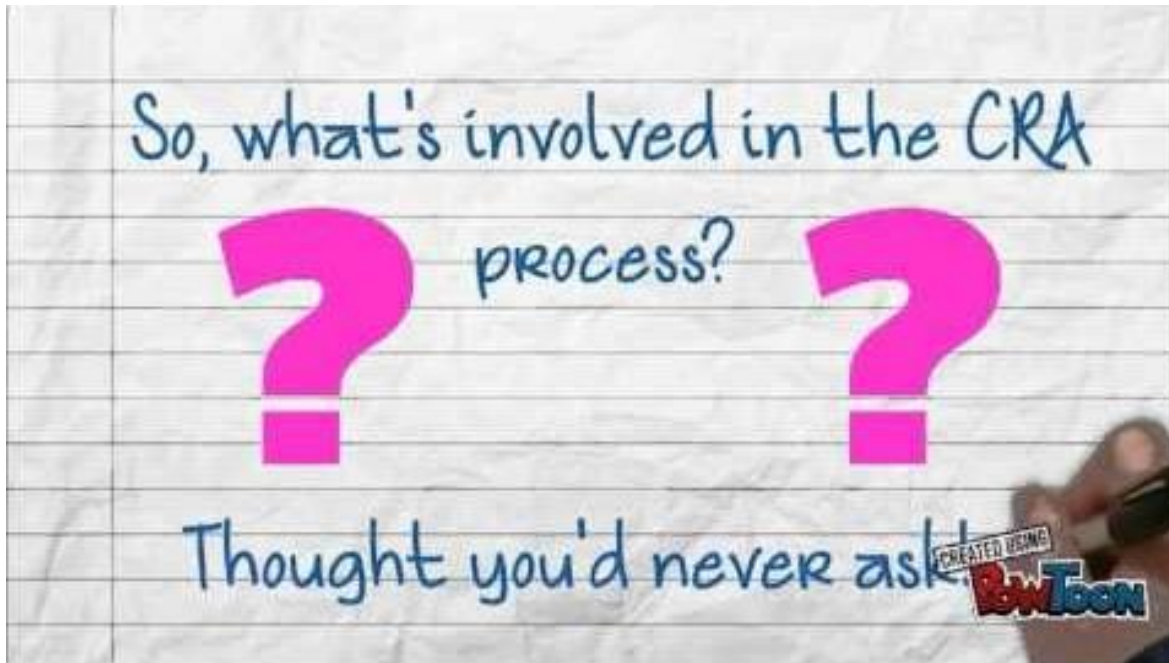
- Fluency: Accuracy  
Efficiency  
Flexibility
- Reasoning
- Problem Solving

‘It is better to have 5 ways of answering one question than one way of answering 5 questions!’  
– Singapore Maths

"Tell me and I forget.  
Teach me and I remember  
Involve me and I learn."

-Benjamin Franklin

# What is it?

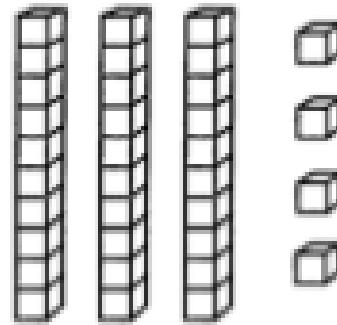
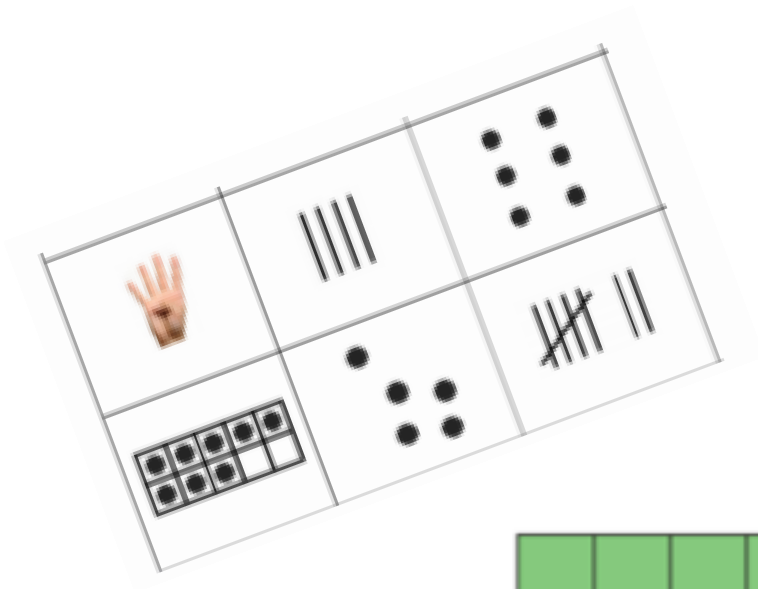




# Concrete - getting hands on!

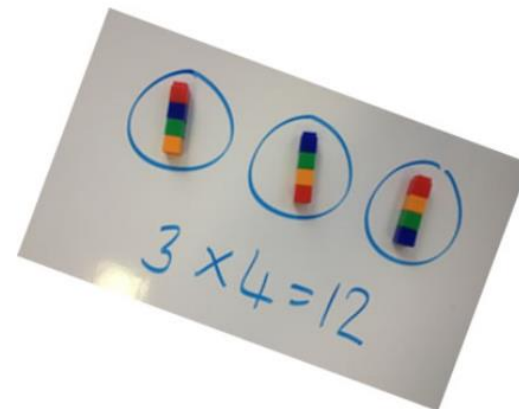
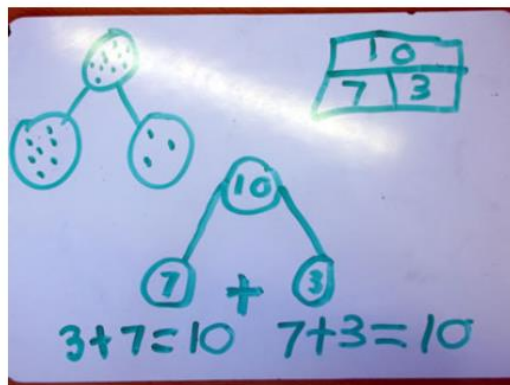
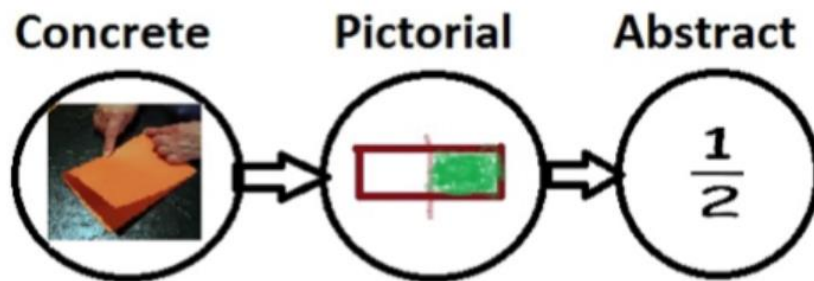


# Pictorial Representation



5	
3	2

Bringing 'concrete, pictorial, abstract' together:



Some examples of how CPA could work:

# Resources

## Resources to help build concepts



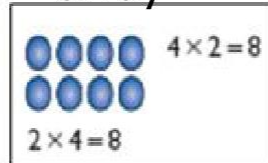
Numicon



number line



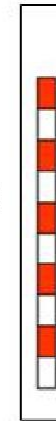
array



geoboard



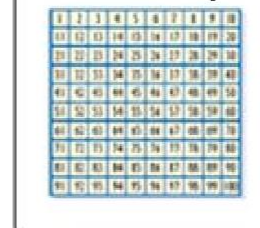
counting stick or metre rule



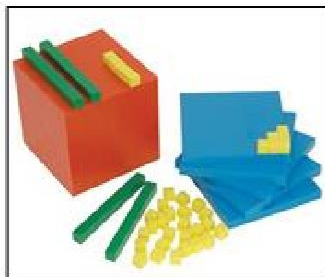
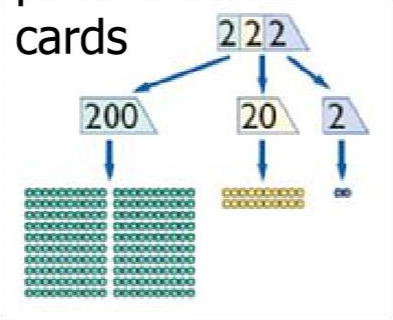
empty number line



hundred square

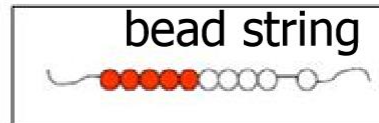


place value

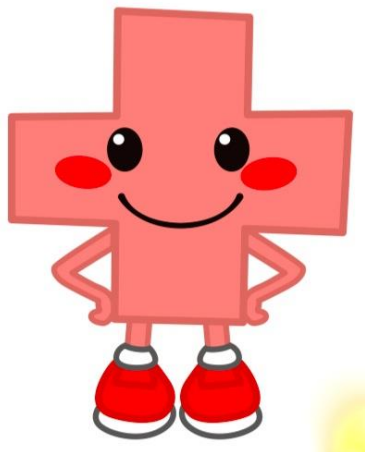


Dienes blocks  
base-ten blocks

bead string



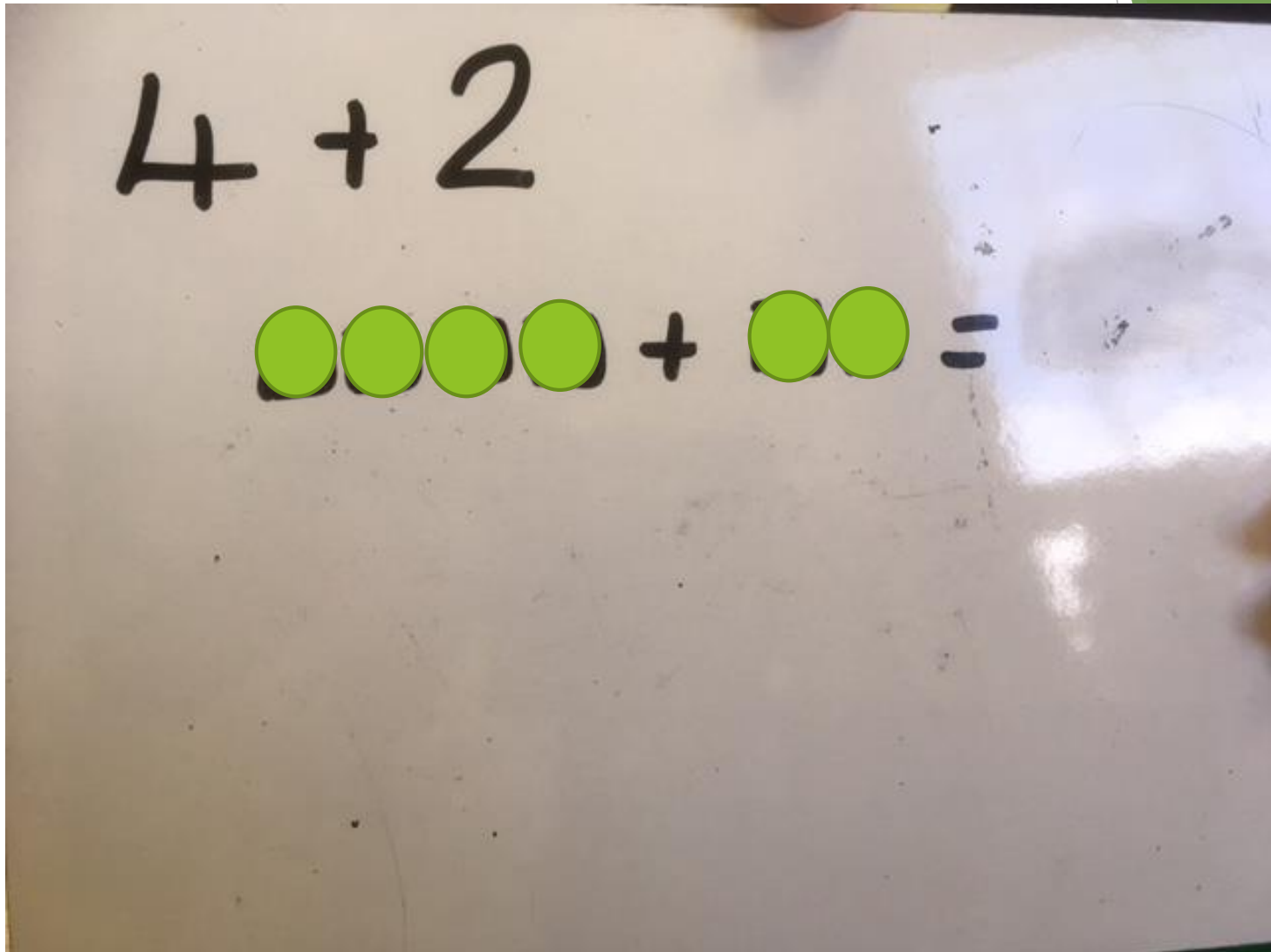


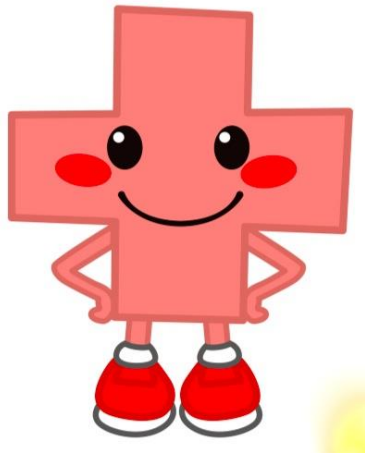


# Addition - KSI

$$4 + 2 =$$

Pictorial Representation for this...

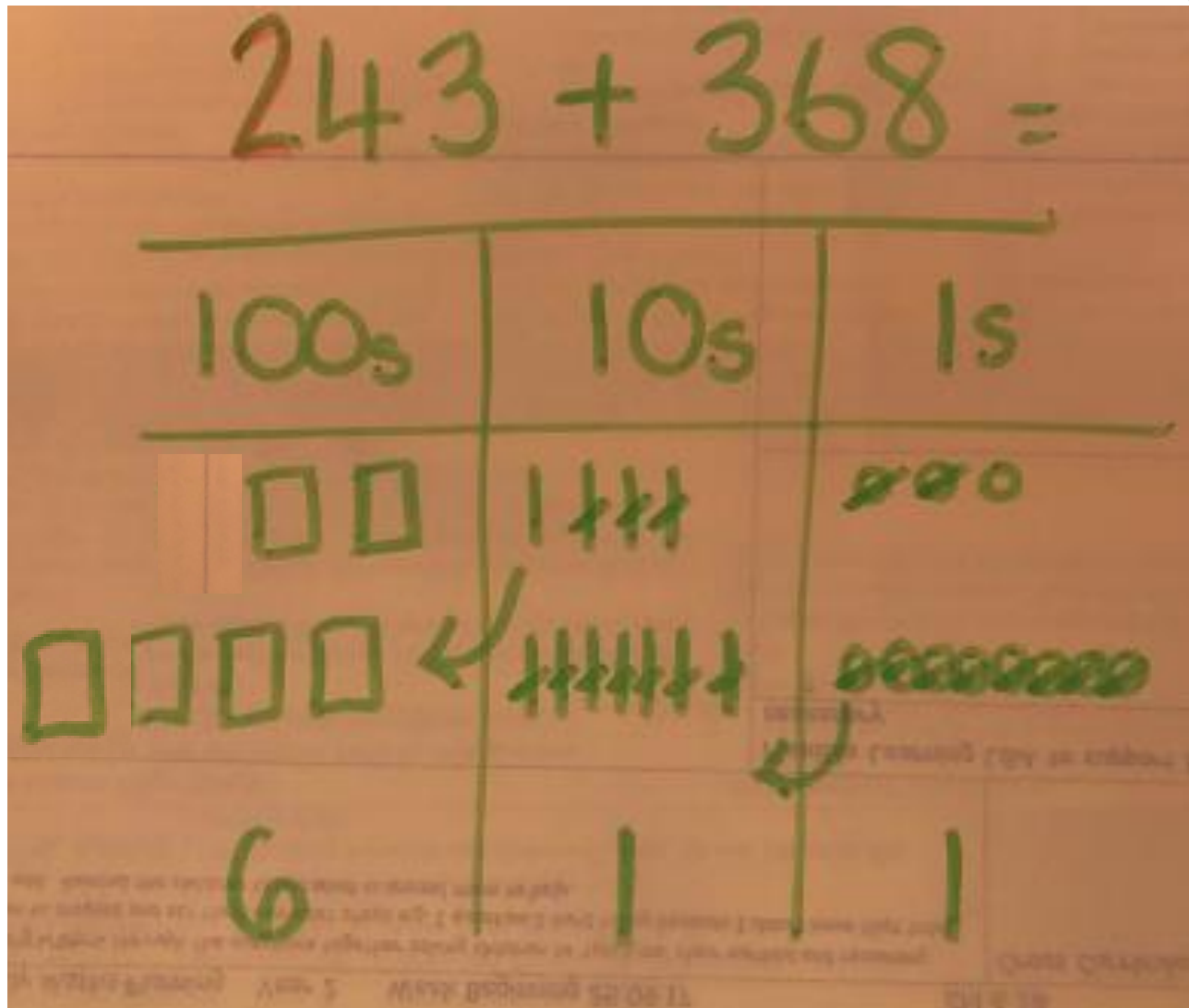




# Addition - KS2

$$243 + 368 =$$

Pictorial Representation for this...

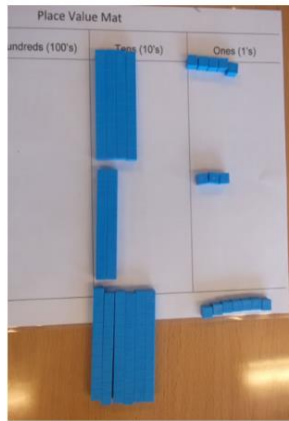


# Addition - build up!

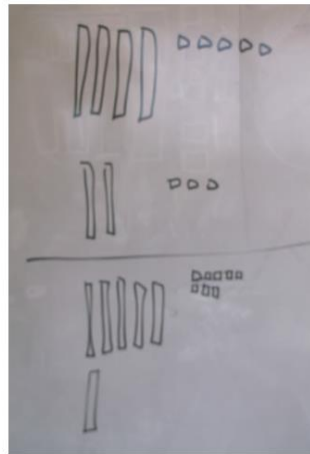
Some examples of how CPA could work:

$45 + 23$

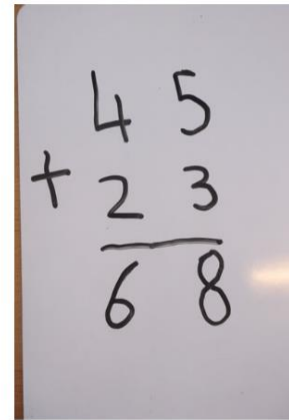
CONCRETE



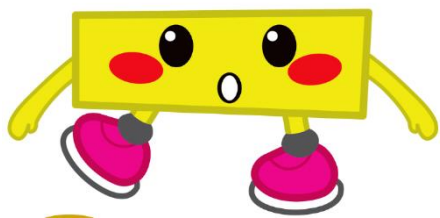
PICTORIAL



ABSTRACT



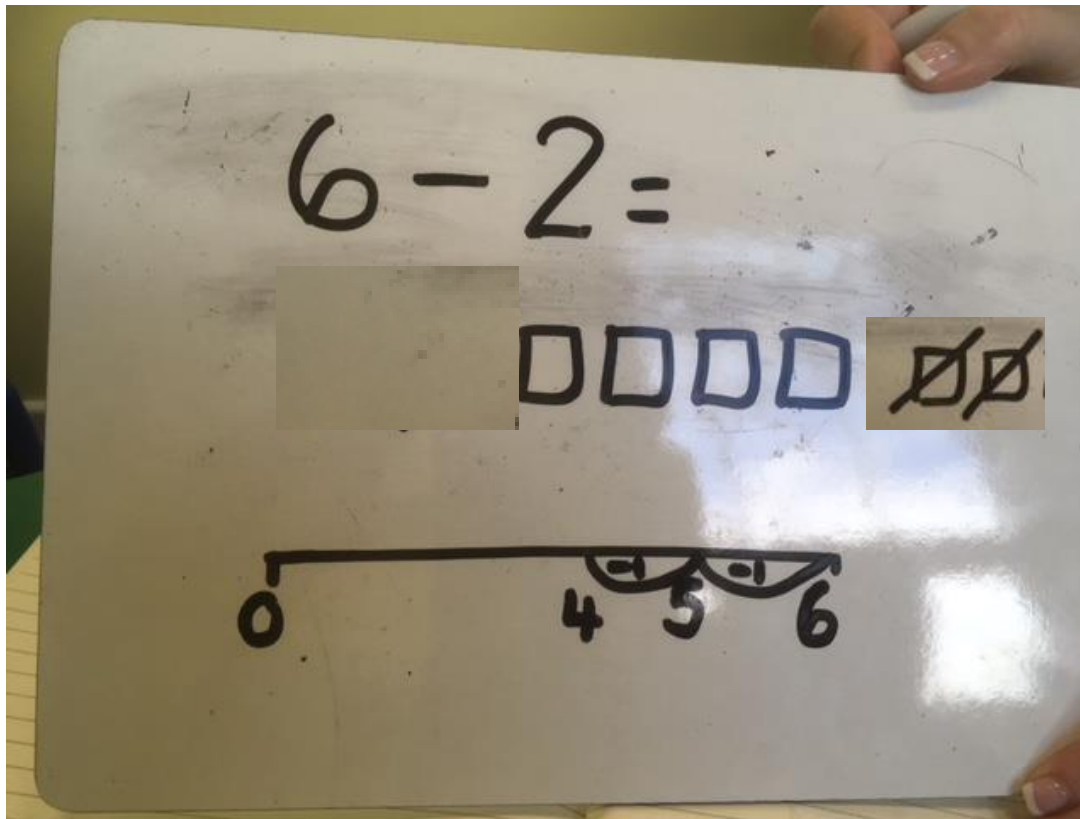


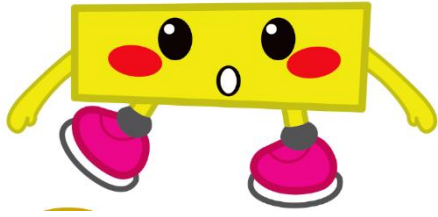


# Subtraction - KS1

$$6 - 2 =$$

Pictorial Representation for this...

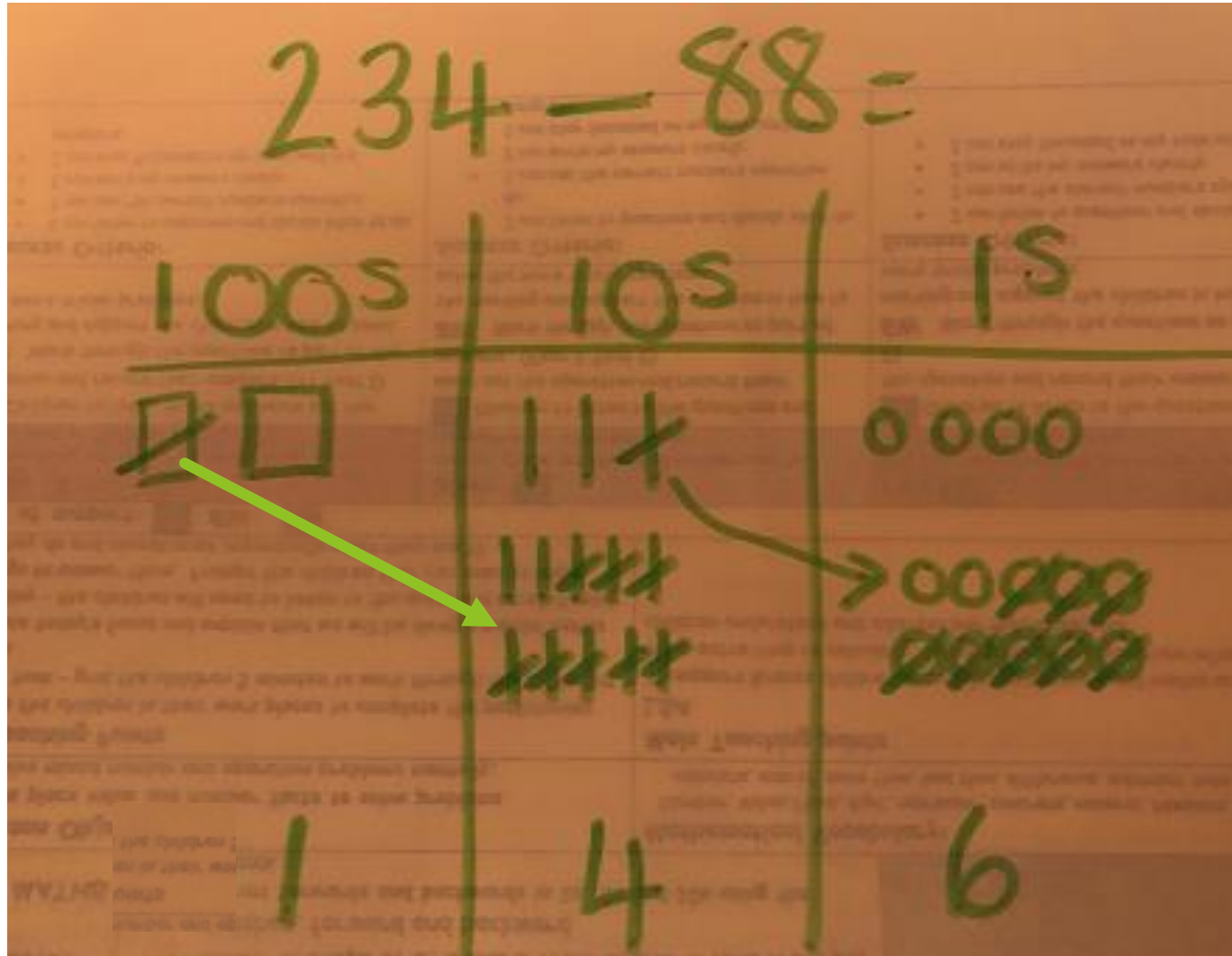




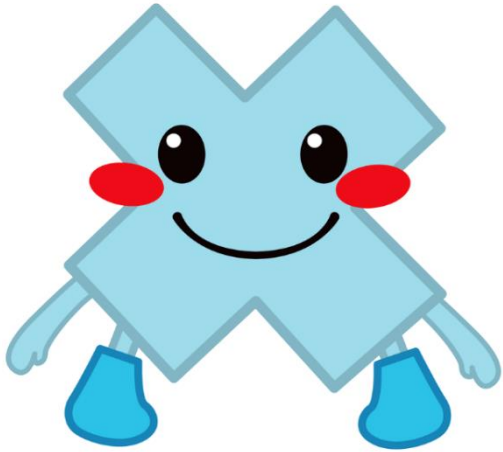
# Subtraction - KS2

$$234 - 88 =$$

Pictorial Representation for this...



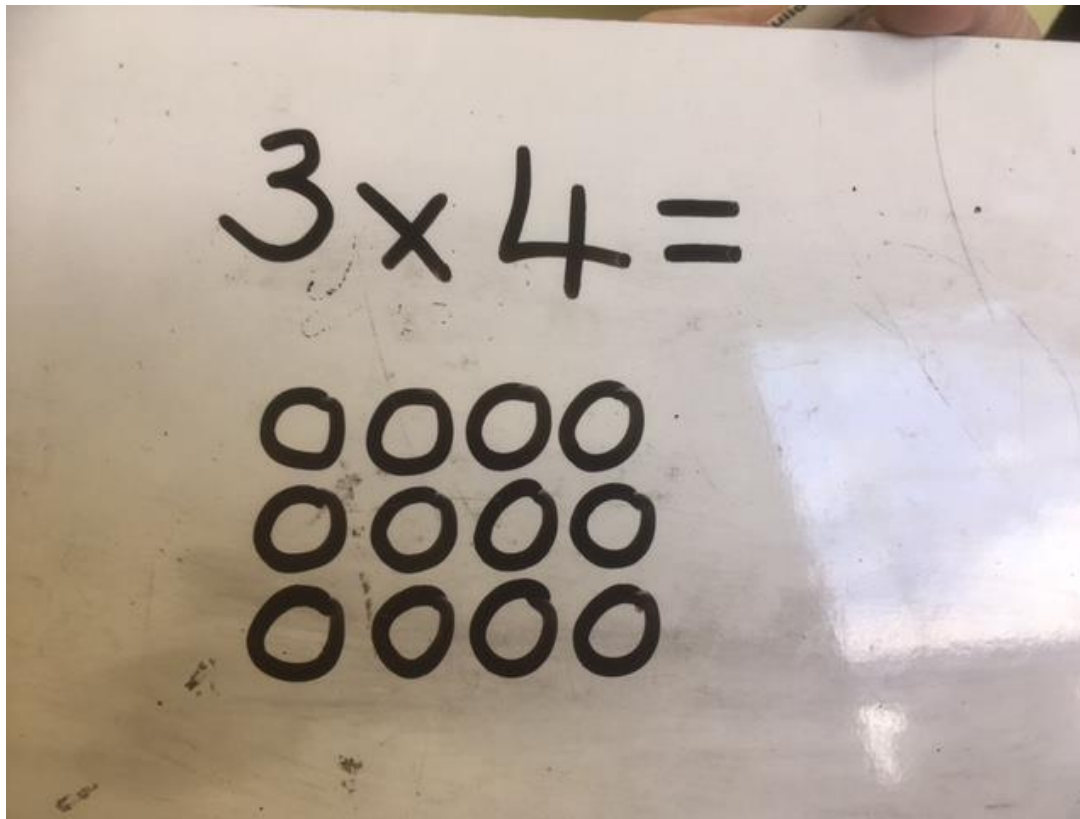
# Multiplication - KS1



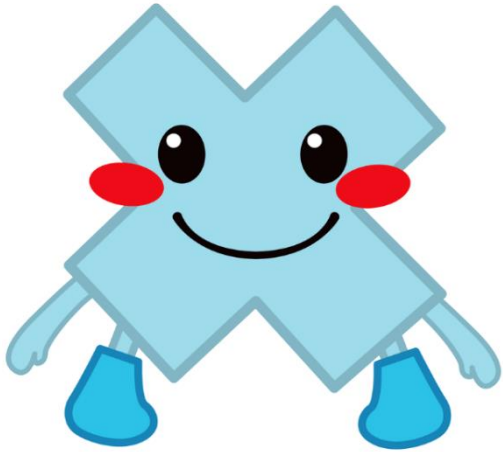
$$3 \times 4 =$$



Pictorial Representation for this...



# Multiplication - KS2



$$6 \times 23 =$$



# TIMES TABLES ROCKSTARS

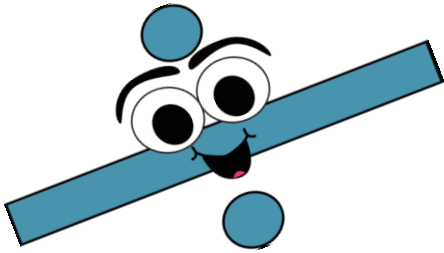


	1x	2x	3x	4x	5x	6x	7x	8x	9x	10x	11x	12x
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	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

## Websites with activities for learning multiplication tables facts:

- BBC Skillswise - <http://www.bbc.co.uk/skillswise/topic/times-tables>
- Top Marks - <http://www.topmarks.co.uk/maths-games/7-11-years/times-tables>

# Year 4 Times Tables Test



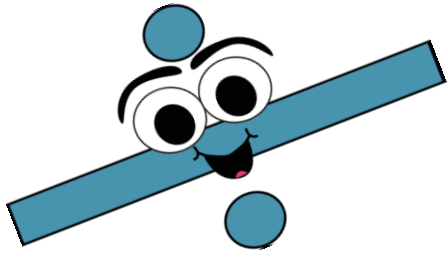
# Division - KS1

6 divided by 3 =



$$6 \div 3 =$$





# Division - KS2

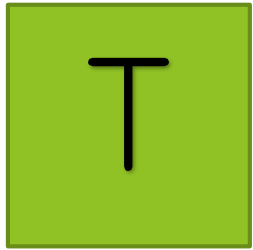
615 divided by 5 =

# Pictorial representation...

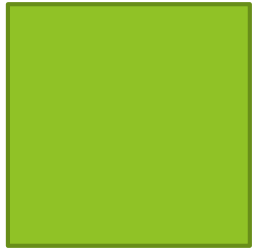
The diagram illustrates the division of 615 by 5 using place value blocks. At the top, the place values are labeled: H (Hundreds), T (Tens), and O (Ones). Below these labels, the numbers 1, 2, and 3 are written, corresponding to the hundreds, tens, and ones places of the dividend 615. A horizontal line is drawn below these numbers. The divisor 5 is written to the left of the dividend 615. The dividend 615 is written with red diagonal lines through the 6, 1, and 5, indicating they are being divided. Below the division line, there are four vertical columns of blocks representing the quotient. The first column contains six squares, representing 600. The second column contains one vertical bar, representing 10. The third column contains three vertical bars, representing 30. The fourth column contains five vertical bars, representing 50. Below the blocks, there are two arrows pointing to the right, indicating the direction of the quotient.

H T O  
1 2 3  
5  $\overline{)615}$   
6 1 5  
600 10 30 50

# Value Symbols to use in pictorial representation



Thousands



Hundreds



Tens

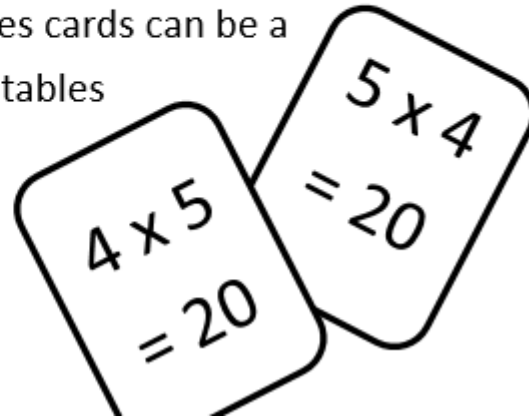


Ones

# Things to try at home...

## Snap

Children can be encouraged to recognise 'twins' or pairs of facts: for example,  $3 \times 4 = 12$  and  $4 \times 3 = 12$ . You can also do this with related division facts too! Playing snap with homemade times tables cards can be a great way to do this - there are lots of 'times tables snap cards' available to download for free online.



## Playing Card Games

Games with playing cards can be a great way to help your child to develop a wide range of maths skills from number recognition to decision making.

Playing games like Snap or Pairs can be a great way to engage younger children, whereas 'Uno' or 'Top Trumps' might appeal to older children. For a list of card games for you to try, take a look at [www.primarygames.com/puzzles/card\\_games.php](http://www.primarygames.com/puzzles/card_games.php)

## Puzzles and problems

Spot the difference, Dot-to-dot, paint-by-numbers, Sudoku and crossword puzzles can also be great ways to develop your child's number awareness and problem solving skills.

## Board Games

Playing board games can be a great way to help your child to become more familiar with numbers and counting.

For example, simple dice games, like Snakes and Ladders, can help children to learn about how to count on from any two-digit number. Whatever age your child is there is a huge range of board games for them to play and enjoy. Have a look at the 'Bright Minds' website for a regularly updated list of popular board games: [www.brightminds.co.uk/board-games/c63](http://www.brightminds.co.uk/board-games/c63).

# Real life maths

## Shopping and saving money

Children love using and handling coins and notes in real life situations and role play games alike. By encouraging children to work out the total cost or calculating the change when buying food at the shops, they can practice their calculation skills and develop an appreciation of how maths helps us in our lives.



Saving money can also be a great way to develop number and calculation skills. By counting coins into money bags, children can practice repeated addition and multiplication skills.

### Activities and games for you to try with coins at home:

- Counting with coins: collect coins with the same value and use them to help practice multiplication tables facts.
- How many coins? "If I have three coins in my hand, what is the largest or smallest amount of money I could have?"
- Pick a playing card from a deck and make the value on the card with coins. The player who makes the total with the fewest coins wins the card.
- Plan a party or special occasion using a budget and decide what to buy and how much money to spend on each item.

### Online money games:

- <http://mathszone.co.uk/using-applying/using-money/>
- <http://www.kidsmathgamesonline.com/money.html>
- <http://www.topmarks.co.uk/maths-games/7-11-years/money>



## Cooking and baking

Cooking and baking at home gives us an opportunity to develop lots of maths skills, including:

- + measuring the mass of ingredients and the volume of liquids
- + calculating with whole numbers, in grams, and decimal numbers, in kg, when combining ingredients together.
- + telling the time and calculating durations of time



Find recipes online, here: <https://www.bbcgoodfood.com/recipes/collection/kids-cooking>

## Telling the time

Using clocks, watches and other digital displays of the time can help children to develop their maths skills and prepare them for later life.

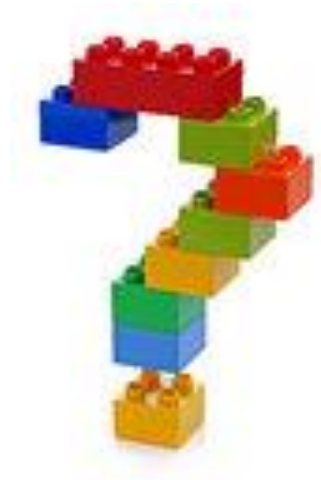
As well as telling the time, using the words *o'clock*, *minutes past*, *minutes to*, *half past*, *quarter to* and *quarter past*; you can also use clock faces to practice counting forwards and backwards in ones or fives, up to 60.

### Telling the time activities for you to try at home:

- + Go on a maths walk around your house or local area looking for different clock faces, including digital clocks.
- + Work out when the TV show, or movie, is going to end. Or, if you have a TV guide, calculate the length or the programme from start to finish.
- + Use a stopwatch during games and sports events to measure, record and compare times in seconds.
- + Calculate with time by asking and answering the question, 'What will the time be in ... minutes?'



Any questions?



# Useful Websites to support your child!

BBC Sign in

**Bitesize**

<https://www.bbc.com/bitesize/subjects/zjxhfg8>



<https://www.topmarks.co.uk/maths-games/hit-the-button>

 multiplication.com

<https://www.multiplication.com/games/all-games>



<http://mathszone.co.uk/>