Scoil Mharcais Sinsár

Saint Mark's SNS

Maths Guide

For Home



How Our School Uses the CPA Approach in Teaching Maths

What is the CPA Approach?

A step-by-step way of teaching maths that helps pupils build a deep and lasting understanding by moving from hands-on experience, to visual representations, to symbols and calculations.

C Concrete

Use real objects to explore and model the maths.

P Pictorial

Use pictures and diagrams to represent the maths.

A Abstract

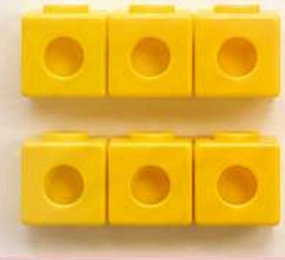
Use numbers and symbols to solve problems efficiently.

$2 \times 3 = 6$

Example: Multiplication (2 × 3)

C Concrete

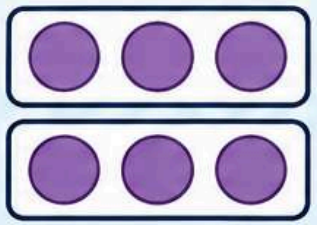
Start with real objects.



Make 2 equal groups of 3 cubes.

P Pictorial

Move to a visual representation.



Draw 2 equal groups of 3.

This shows 2×3.

A Abstract

Use numbers and symbols.

$2 \times 3 = 6$

So, 2 groups of 3 is 6.

The Impact at Our School

- Builds a strong understanding of key ideas.
- Helps pupils make connections between different representations.
- Gives pupils the confidence to solve problems fluently.

Maths Language for Word Problems

Saint Mark's SNS | A quick reference for homework

Words and phrases that may appear in maths homework:

ADDITION +	SUBTRACTION -	MULTIPLICATION x	DIVISION ÷
add	subtract	multiply	divide
plus	minus	times	share equally
sum	take away	product	split equally
total	difference	groups of	shared between
altogether	how many left?	lots of	groups of
combined	how many fewer?	each group has	how many in each?
in all	decrease by	double	how many groups?
increase by	reduce by	triple	quotient
more than	how many more?	repeated addition	remainder
how many altogether?	find the change	equal groups	equal shares

Tip: Read the whole question carefully. A word alone does not always tell you which operation to use.

How we add, and talk about addition

Addition without renaming

	T	U	
	8	2	
+	1	5	
	9	7	

I am adding eighty two plus fifteen.
I will start with the units. Two plus five is seven. *I will write the seven under the units.*
Then I will add the tens. Eight tens plus one ten is nine tens. *I will write nine under the tens.*
So eighty two plus fifteen is ninety seven.

After practice and repetition, the text in italics may be omitted for the sake of efficiency.

Addition with renaming

	T	U	
	4	5	
+	3_1	6	
	7	1	

I am adding forty five plus thirty six.
I will start with the units. Five plus six is eleven. I cannot write eleven under the units, so I will put down one unit, and carry the one ten.
Then I will add the tens. Four tens plus three tens is seven tens, plus one more ten is eight tens. *I will write eight under the tens.*
So forty five plus thirty six is seventy one.
After practice and repetition, the text in italics may be omitted for the sake of efficiency.

How we subtract, and talk about subtraction

Subtraction without renaming

	T	U
	7	8
-	1	6
	6	2

I am subtracting sixteen from seventy eighty. [Check if the number on the bottom is lesser in value]
I will start with the units. Eight take away six leaves two. *I will write two under the units.*
Then I will subtract the tens. Seven tens take away one ten leaves six tens.. *I will write six under the tens.*
So seventy eight subtract sixteen is sixty two.

After practice and repetition, the text in italics may be omitted for the sake of efficiency.

Subtraction with renaming

	T	U
	$^{2}\not{3}$	$^{1}5$
-	1	8
	1	7

I am subtracting eighteen from thirty five. [Check if the number on the bottom is lesser in value]
I will start with the units. I cannot subtract eight from five. I exchange a ten to make ten units. I cross out three, and that leaves two tens. When I bring that ten over into the units, I have fifteen. Fifteen take away eight is seven. *I will write seven under the units.*
Then I will subtract the tens. Two tens take away one ten leaves one ten. *I will write one under the tens.*
So thirty five take away eighteen is seventeen.
After practice and repetition, the text in italics may be omitted for the sake of efficiency.

How we multiply, and talk about multiplication

‘Short’ Multiplication

	T	U
	1	4
x	2	5
	7	0

I am multiplying fourteen by five.
I will start with the units. Four multiplied by five is twenty. I cannot write twenty under the units, so I will put down zero and carry over two tens.
Then I will multiply the tens. One ten multiplied by five is five tens. I will add on the two tens. That gives me seven tens.
So fourteen multiplied by five is seventy.

After practice and repetition, the text in italics may be omitted for the sake of efficiency.

Long Multiplication

		T	U
		4_1	3
	x	1	6
	2	5	8
+	4	3	0
	6	8	8

I am multiplying forty three by sixteen. *I will multiply thirty three by six, and then by ten, and add the two together.*

Three multiplied by six is eighteen. *I cannot write eighteen under the units, so* I will put down eight and carry over the ten.
Four tens multiplied by six is twenty four tens. Add the ten I carried over, and that gives twenty five tens. So six multiplied by forty three is two hundred and fifty eight.

Next, I will multiply forty three by ten. I will put down a zero because I am multiplying by tens.
Three multiplied by one is three. Four multiplied by one is four.
So forty three multiplied by ten is three hundred and thirty.

Now I must add up. *Eight plus zero is eight. Five plus three is eight. Two plus four is six.*

So overall, forty three multiplied by sixteen is six hundred and eighty eight.

After practice and repetition, the text in italics may be omitted for the sake of efficiency.

How we divide, and talk about division

'Short' Division

	2	3	r.2
4	9	$^{1}4$	

I am dividing ninety four by four. I will divide the tens, then the units.
Nine tens divided by four is two, with one ten left over. I will write the two in the tens space, and carry over the one ten. That makes fourteen units.
Fourteen divided by four is three, with two left over. I will write the three in the units space. I have a remainder of two that I cannot divide equally.
So ninety four divided by four is twenty three remainder two.
After practice and repetition, the text in italics may be omitted for the sake of efficiency.

Long Division

			1	4	r.	24
	25	3	7	4		
		2	5	0	10	
		1	2	4		
		1	0	0	4	
			2	4	14	

I am dividing three hundred and seventy four by twenty five.

I will use multiples of twenty five to see how many times I can take twenty five away from three hundred and seventy four.
I will start with ten, and write it down on the right hand side. Ten multiplied by twenty five is two hundred and fifty. I will take two hundred and fifty away from three hundred and seventy four to see how much is left. There is one hundred and twenty four left.

I know that four times twenty five is one hundred. I will write four down on the right hand side.
I will take away one hundred from one hundred and twenty four to see how much is left. There is twenty four left.

Twenty four is less than twenty five, so I cannot take away another twenty five. Twenty four is a remainder.

When I add up how many times I can take away twenty five, I have ten plus four, which is fourteen.

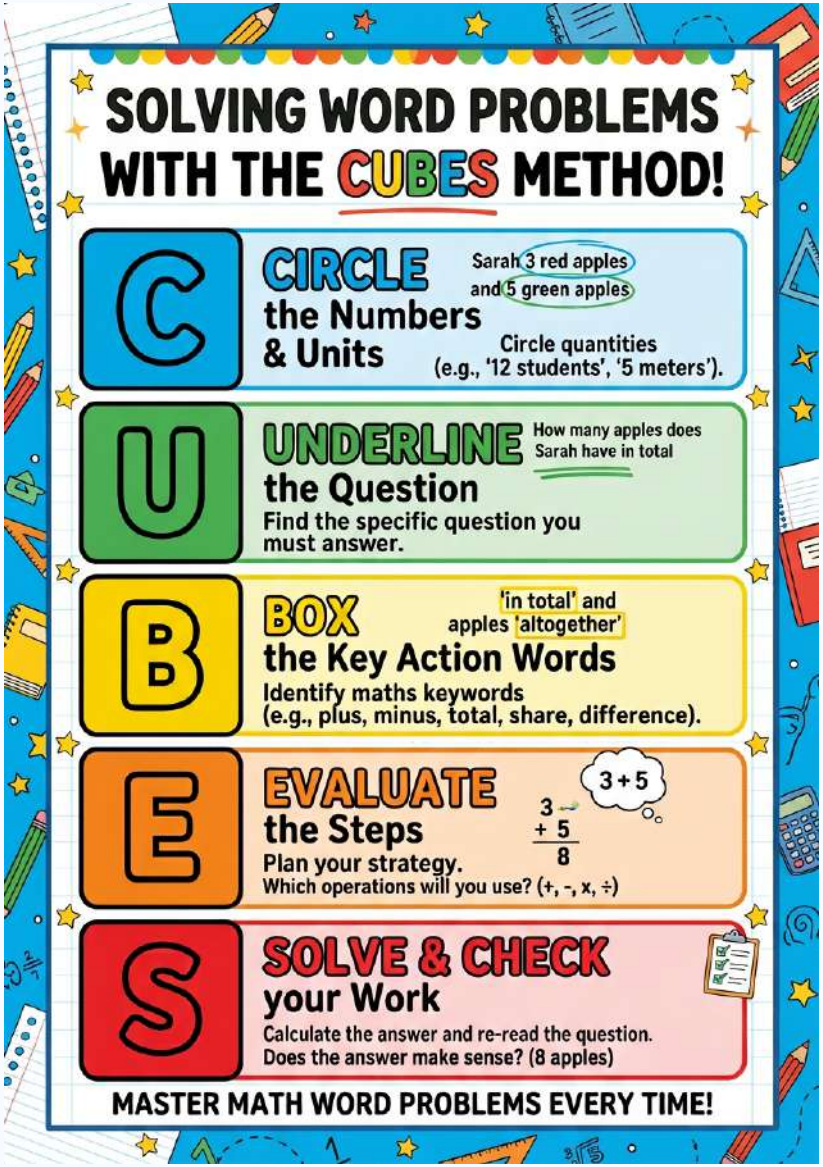
So three hundred and seventy four divided by twenty five is fourteen remainder twenty four.

Children may use any combination of multiples to reach an answer. They may be encouraged to write out the multiples of the divisor prior to starting, to ease the process. Use of doubles and near doubles will facilitate this.

Rough Work- Multiples of 25

25 x 2 = 50
25 x 4 = 100
25 x 8 = 200
25 x 16 = 400

How we solve word problems in our school



One whole-school approach

In our school, we use the CUBES method to help children understand, plan and solve maths word problems. You can use the same steps at home.

Try this multiplication example

There are 6 boxes of pencils. Each box has 24 pencils.
How many pencils are there altogether?

C Circle 6 boxes and 24 pencils.

U Underline: How many pencils are there altogether?

B Box: each box and altogether.

E 6 equal groups of 24: multiply 24 x 6.

S 24 x 6 = 144 pencils. Check: 6 x 20 + 6 x 4 = 144.

Tip: Read the full question, not just the clue words.