At Key Stage 1, children begin to add two digit numbers by using informal mental methods and jottings. For example;

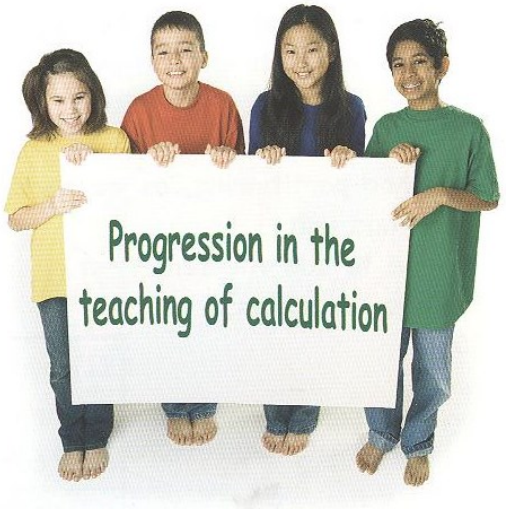
23 + 32 → 3 + 2 → 20 + 30 → 50 + 5 → 55

We call this method partitioning, as we partition each number into tens and units.
Children often like to add the tens first.
We start with easy examples:

20 + 30 = 50
then
20 + 32 = (20 + 30) + 2
50 + 2 = 52
or
23 + 30 = (20 + 30) + 3
50 + 3 = 53
and finally
25 + 37 = (20 + 30) + (5 + 7)
50 + 12 = 62

The aim is that eventually children will be able to add two 2 digit numbers mentally. All sums are presented horizon-

St Peter-in-Thanet C.E. Junior School

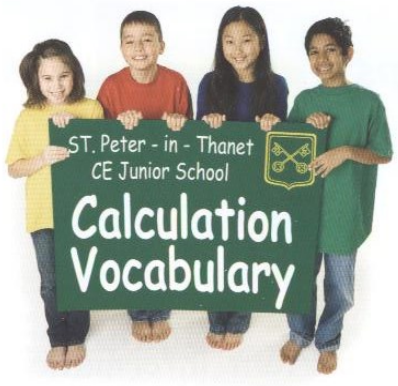


This leaflet has been written to help you to support your child in mathematics.

2+2=4

The answers are still the same but the way we teach children to calculate may be different from the way you were taught.

By teaching in stages, we ensure that children really understand what they are doing rather than just follow a set of instructions.



- Addition: add, total, plus, and, more than, increase, sum.

- Subtraction: take away, minus, subtract, less, take, decrease, find the difference, deduct.

× Multiplication: times, lots of, product, multiply.

÷ Division: share, group, divide, quotient.

Tips for Helping with Problem Solving

- Read the question twice
- Find the important information in the question
- Decide which number operation to use (+, - , etc.)
- Choose an appropriate method
- Find an answer
- Check your answer and working carefully
- Ensure you have written answers clearly with the correct units, where necessary

Grange road, St Peter's, Broadstairs, Kent CT10 3EP
Tel: 01843 861430 fax 01843 579102
Email: headteacher@st-peters-broadstairs.kent.sch.uk
www.st-peters-broadstairs.kent.sch.uk/

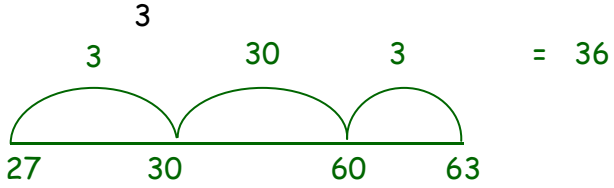
When children learn to subtract larger numbers, we start with informal methods.

For example in year 3

63 - 27 =

is done by counting up from the smallest number using a blank number line

e.g. How far is it from 27 to 63?



= 36

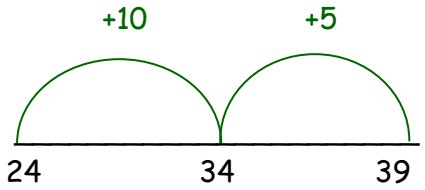
so 63 - 27 = 36

We begin to teach more formal methods by end of year 3

Step 1. 67 - 23 = 60 + 7
- 20 + 3
40 + 4 = 44

In year 3, children continue to develop informal methods for addition.

Step 1. 24 + 15 =



Step 2. 47 + 76 =
(40 + 70) + (7 + 6) =
(110) + (13) = 123

Step 3
47
+76
13
110
123

When children really understand this method and are getting accurate answers, we show them the more compact method. This is generally by Year 5.

Contracted method, one 'carry' ⟶ leading to more than one 'carry'.

47	368	⟶	368
+ 26	+ 423		+ 293
73	791		661
1	1		11

This leads onto the 'chunking' method:

Step 1. 98 ÷ 3

98
- 30 (10 x 3)
68
- 30 (10 x 3)
38
- 30 (10 x 3) Answer 32 r2
8
- 6 (2 x 3)
2

Step 2. 98 ÷ 3

98
90 (30 x 3) Answer 32 r2
8
- 6 (2 x 3)
2

This leads very easily into long division.

Step 1. 492 ÷ 16

492
- 160 (10 x 16)
332
- 160 (10 x 16)
172
- 160 (10 x 16) **Answer 30 r 12**
12

Step 2. 492 ÷ 16

492
- 480 (30 x 16) **Answer 30 r 12**
12

Children in higher sets may be shown the traditional method, however pupils find this method much easier to understand than the traditional method of long division.

In year 3, some children will begin to use informal methods to multiply two digit numbers, for example:

23 x 3 = (20 x 3) + (3 x 3)
60 + 9 = 69

This method is developed in year 4 to a more formal layout. This is referred to as the 'grid' method.

Step 1. 24 x 3

x	20	4
3	60	12

= 72

Step 2. 236 x 4

x	200	30	6
4	800	120	24

= 944

This is developed in year 4 :

Step 2. 63 - 27 =

50 13
~~60~~ + ~~3~~
\- 20 + 7
30 + 6 = 36

Step 3 563 – 247 =

50 13
500 + ~~60~~ + ~~3~~
200 + 40 + 7
300 + 10 + 6 = 316

and finally we move to the more compact method, when we feel children are ready for this. For some children the final compact method will be very difficult and they will continue to use informal methods into year 6.

The compact method taught at this school is known as 'decomposition'

Examples:

5 13
~~5~~63
\- 248
315

In year 5, pupils learn to multiply two digits by two digits, this is set out in the same way.
23 x 14 =

x	20	3		
10	200	30	=	230
4	80	12	=	92
				322

Later, pupils may be taught a more traditional method if the teacher feels they are ready for it.
For example;

Expanded version:

```
  56
X 27
  42
 350
 120
1000
1512
```

Compact version:

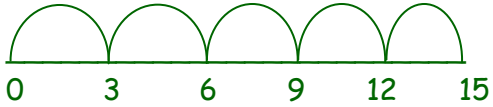
```
  23
x 14
 230   (23 x 10)
  92
 322
```

However, most are encouraged to continue using the grid method, as analysis of exam results show this to be a more reliable method for the majority of children.

Division is approached in a similar way to the other calculations, using an empty number line first:

For example;

15 ÷ 3 = 5



Moving onto partitioning:

84 ÷ 7 = 70 + 14 ÷ 7
↓ ↓
10 + 2 = 12