Safe, Secure and Successful

Maths

Written Calculations Policy

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Written Calculations Policy

At Blakesley Hall School we want all of our children to enjoy and succeed in Maths. We teach children to calculate mentally wherever possible and this is supported by written methods which are appropriate to the level of understanding of the pupils.

At Blakesley Hall School we use a scheme from Years 1 – 6 called Maths No Problem! It is there to support pupils, teachers and parents so that all children are taught the correct method for their age and ability. Big Maths is a mental maths scheme used to develop children's mental maths progressively.

Advice for parents

As well as teachers, we know that parents have an important role in our pupils' learning. All parents should be helping children with Maths at home.

- Please take some time to look at the methods your child is being taught in school, and practise these together. If you are unsure of your child's level, then please ask their teacher.
- When children are doing their Maths homework, please check that they are using the correct methods appropriate for their level of learning. Please be aware that the strategies are progressive and should be taught/practised in order.
- If you have any questions about any of the methods, please come in and speak to your child's teacher. **We need to work together to help our children to improve.**

We hope that you find this information helpful.

Blakesley Hall Primary School

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Maths

Year 2

Addition

National Curriculum expectations are that by the end of Year 2, children will be able to recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. Children will continue to use apparatus and jottings to support them to solve adding two numbers between zero and one hundred. They will understand that addition can be done in any order.
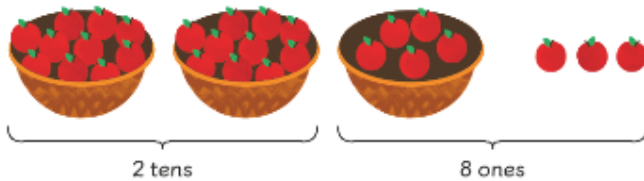
Addition by counting on

Add 25 and 3.

Method 1   Count on from 25.

21	22	23	24	25	26	27	28	29	30

25 + 3 = 28
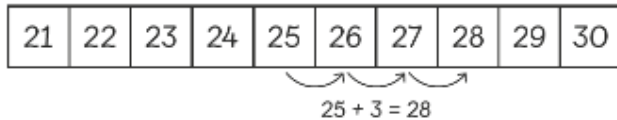
Method 2   Add ones.

2 tens   8 ones

Children will use Diennes apparatus and jottings to support the introduction of formal written methods alongside practising mental methods too.

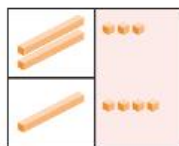Introduction to formal written methods

Let's Learn

Add 23 and 14.   Use [grid] to help you add.

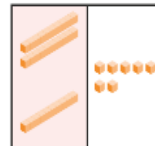Step 1   Add the ones.
3 ones + 4 ones = 7 ones

tens	ones
2	3
+ 1	4
	7

3 + 4

Step 2   Add the tens.
2 tens + 1 ten = 3 tens

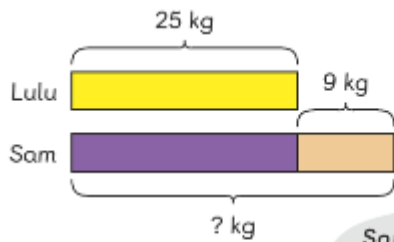| tens	ones
2	3
+ 1	4
3	7

23 + 14 = 37

20 + 10 = 30

2 Lulu weighs 25 kg. Sam weighs 9 kg more than Lulu.

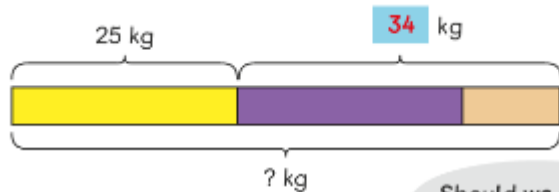(a) What is Sam's mass?

(b) What is their total mass?

(a)

Lulu — 25 kg

Sam — 9 kg

? kg

$25 + 9 = 34$

Sam's mass is 34 kg.

Sam weighs more than Lulu. We add to find Sam's mass.

(b)

25 kg | 34 kg

? kg

$34 + 25 = 59$

Lulu and Sam's total mass is 59 kg.

Should we add or subtract to find their total mass?

As children progress, they will apply their skills to solve mathematical problem such as the one shown above.

Children will continue to learn how to solve missing numbers too, by using the inverse to help them.
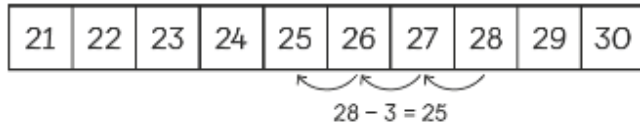
Subtraction

Children will learn about the relationship between addition and subtraction and that subtraction cannot be done in any order. They will also learn how to solve missing numbers too.

Subtraction by counting back

Subtract 3 from 28.

Method 1   Count back from 28.

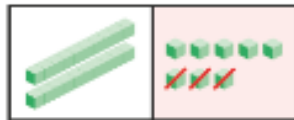| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |

$28 - 3 = 25$

Method 2   Subtract ones.

2 tens   5 ones

Apparatus and jottings will be used to support the understanding of formal written methods too.

Method 3   Use ▦ to subtract.

Step 1   Subtract the ones.
          8 ones − 3 ones = 5 ones

tens	ones
2	8
−	3
	5

Step 2   Subtract the tens.

tens	ones
2	8
−	3
2	5

$28 - 3 = 25$

As children develop their skills they will begin to solve mathematical problems such as the one shown

The blue ribbon is 31 cm long.
The blue ribbon is 12 cm longer than the red ribbon.
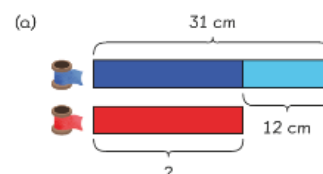Can we draw models to find out how long the red ribbon is?

Let's Learn

1   🎀 is 31 cm long.

🎀 is 12 cm longer than 🎀.

(a) How long is the red ribbon?
(b) What is the total length of the two pieces of ribbon?

(a)   31 cm

12 cm

?

$31 - 12 = 19$
The red ribbon is 19 cm long.

Multiplication

Children will use their knowledge of counting in 2s, 3s, 5s and 10s to solve multiplication problems. They begin by recognising multiplication as repeated addition and progress to using the symbols. Apparatus and jottings (arrays) are used to help the children to solve problems.

Repeated addition as Multiplication

How many cupcakes are there altogether?

Let's Learn

$4 \times 3 = 12$ is read as 4 times 3 equals 12.

There are 4 groups. Each group has 3 cupcakes.

$3 + 3 + 3 + 3 = 12$
4 threes = 12
4 groups of 3 = 12
$4 \times 3 = 12$

There are 12 cupcakes altogether.

Beginning to use mathematical symbols to solve multiplication number sentences

1. Complete the multiplication equation.

$4 \times 5 = 20$

There are 20 marbles.

The National Curriculum requires that children should be able to solve one-step problems involving multiplication by the end of Year 2 using pictures to help them, similar to the examples below:

1. Each bag holds 5 apples.
   How many apples are there in 3 bags?

2. Amira has 7 pies.
   She cuts each pie into 10 slices.
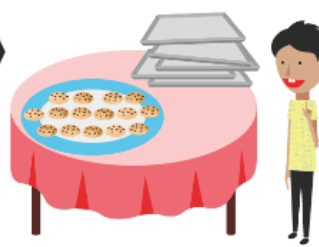   How many slices of pie are there in all?

Division

Children will learn about the relationship between division and multiplication and that division cannot be done in any order. They will solve division problems using pictures, jottings or apparatus to support them.

Children begin to recognise the relationship between multiplication and division and to recall times table to support them.

Dividing by 5

Lesson 4

In Focus

Ravi puts 5 cookies on each tray.
How many trays of cookies are there?

Use ⬤ to stand for cookies and ▱ to stand for the trays.

Let's Learn

There are 15 cookies.

$3 \times 5 = 15$
$15 \div 5 = 3$

Put 5 cookies on each tray.

$15 \div 5 = 3$

There are 3 trays of cookies.

What if Ravi puts the 15 cookies equally on 5 trays?

As children's understanding develops they will be able to apply their skills to solve mathematical problems:

2 Hannah has 50 paper clips.
She gives some children 10 paper clips each.
How many children does Hannah give the paper clips to?
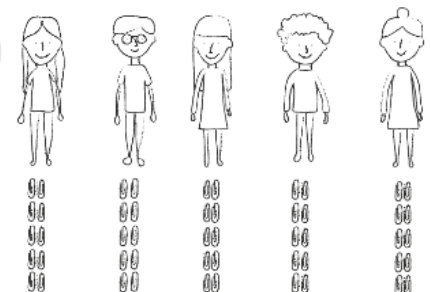
Method 1   Use ⬤ to stand for 🖇.

Use 🥤 for each bag.

$5 \times 10 = 50$

Method 2   Draw a picture.

You can draw pictures to help you.

Method 3   Use a division equation.

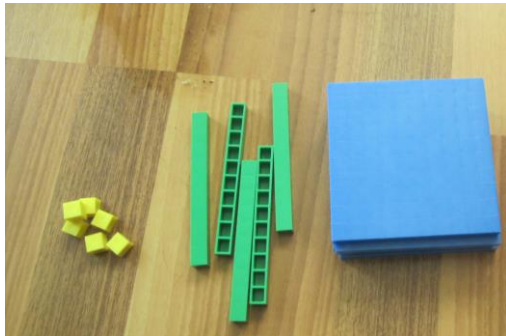$50 \div 10 = 5$

Hannah gives the paper clips to 5 children.

Glossary

Apparatus
Objects used to help the children with their learning of maths.

Diennes
Objects that represent the value of each digit in a number.

 = ones   = tens   = hundreds

Inverse
The opposite function. For example the opposite of addition is subtraction and the opposite of multiplication is division.

Jottings
Pictures that the children draw to help them solve problems. For example 13+12= 25. The jottings would be: