

How to Help your Child with Maths



A Quick Guide to the New Curriculum Year 2

Year 2

What topics are they taught?

Please see the target tracker statement sheets for individual objectives!

Topics taught in Year 2:

- **Number and place value**
- **Calculations (addition and subtraction)**
- **Calculations (multiplication and division)**
- **Measurement**
- **Fractions**
- **Geometry (shape)**
- **Statistics**
- **Geometry (position and direction)**



To help your child develop a good understanding of number we ask you to use every opportunity to explore mathematical ideas in everyday life.

For example:

- Play fun board games with your children like dominoes, snakes and ladders, snap, pairs or connect 4.
- Practise counting in different groups of number while walking up the stairs.

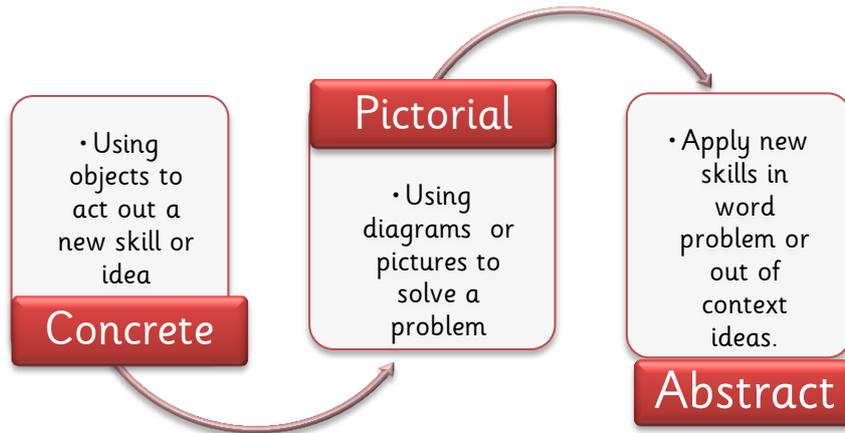
On the way to school, see how many different shapes you can spot. Which did you see most of?

- Find out which number facts your child is learning at school (number bonds to 10, times tables, doubles). Try to practise for a few minutes each day using a range of vocabulary.
- Sing number rhymes together - there are lots of commercial tapes and CD's available.
- Give your child the opportunity to count a range of interesting objects (coins, pasta shapes, buttons etc.). Encourage them to touch and move each object as they count.
- Look for numerals in the environment. You can spot numerals at home, in the street or when out shopping.
- Cut out numerals from newspapers, magazines or birthday cards. Then help your child to put the numbers in order.
- Keep a Maths folder or book including any activities, games or practice that you do together at home!



LEARNING

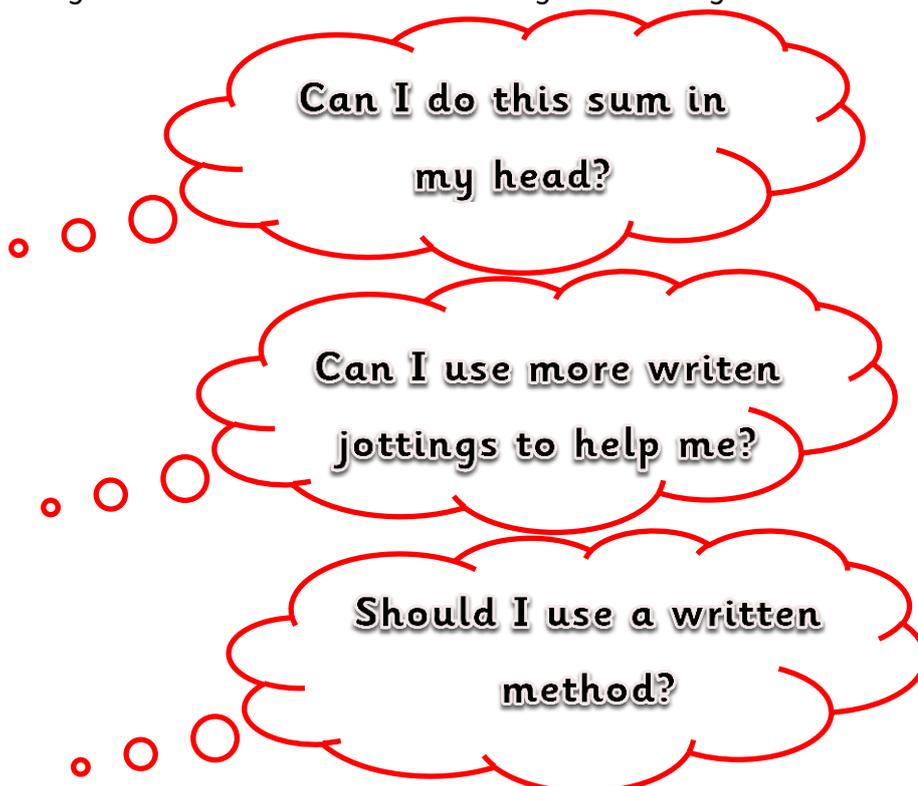
At Highworth, we use three steps (or representations) necessary for pupils to develop understanding of each mathematical concept.



CALCULATION

Talk to your child about how you work things out. Ask your child to explain their thinking. The work your child is doing at school may look very different to the kind of 'sums' you remember. This is because children are encouraged to work mentally, where possible, using personal jottings to help support their thinking. Even when children are taught more formal written methods (from Year 3 onwards), they are only encouraged to use these methods for calculations they cannot solve in their heads.

As part of a child's learning in calculation, they need to be taught how to select the best method according to the numbers. The hierarchy of thinking should be:

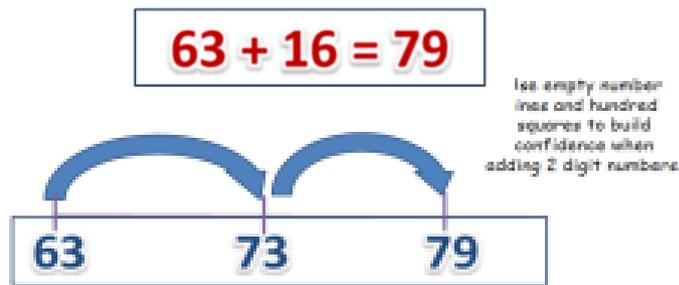


Addition +

Year 2

In Year 1, your child was taught to add using a number line. In Year 2, children move on to add larger 2 digit numbers - first with practical objects then with a number line. They add first on a on a marked number line, then on an empty number line. They should count on, aiming to develop mental addition skills. Children should solve addition problems within a context.

For example: Children move to more formal recording using partitioning method, setting out as follows:



$$\begin{array}{r} 25 + 47 \\ \swarrow \downarrow \searrow \downarrow \swarrow \\ 20 + 5 \quad 40 + 7 \\ 20 + 40 = 60 \\ 5 + 7 = 12 \end{array}$$

Key Skills for Addition at Year 2:

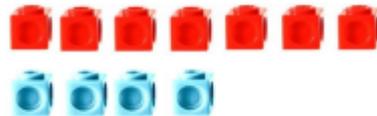
- Locate any 2-digit number on a numbered line and use this to compare numbers; record comparisons $<$ and $>$, e.g. $56 > 39$.
- Identify any number on the 1-100 number square; understand 2-digit numbers are multiples of ten and some ones, e.g. 54 is 50 and 4 more.
- Add two single digit numbers ($8 + 7$) by counting up; add two 2-digit numbers which total less than 100 by counting on in tens and units, e.g. $54 + 37$ as $54 + 30 + 7$.
- Know secure number pairs for all the numbers up to and including 20.
 - Count in steps of 2, 5, and 10 from 0.
- Know different unit patterns when not crossing a ten, e.g. $4 + 3 = 7$, $14 + 3 = 17$, $24 + 3 = 27$.
 - Begin to recognise unit patterns when crossing a ten, e.g. $5 + 6 = 11$.
- Know pairs with a total of 20 and multiples of 10 to 100.
- Count on in ones and tens from any given 2-digit number.
- Add two or three single-digit numbers.
- Add a single-digit number to any 2-digit number using number facts, including bridging multiples of 10. Add 10 and small multiples of 10 to any given 2-digit number.
- Add any pair of 2-digit numbers.
- Know that adding can be done in any order.
- Solve problems with addition (using concrete objects, pictorial representations) involving numbers, quantities and measures, applying written and mental methods.

Key vocabulary:
add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on, number line, sum, tens, units, partition, addition, column, tens boundary

Subtraction

Year 2

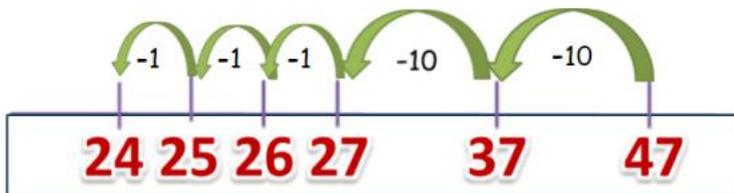
In Year 1, your child was taught to subtract using a number line. In Year 2, children move on to subtract larger 2 digit numbers. They subtract first on a marked number line, then on an empty number line. They should count back, aiming to develop mental subtraction skills. Children should solve subtraction problems within a context.



7 is 3 more than 4

For example: Using a marked number line to subtract, by counting back in ones, encouraging children to begin with the larger number and count back.

$$47 - 23 = 24$$



Partition the second number and subtract the tens first

Key Skills for Subtraction at Year 2:

- Recognise that addition and subtraction are inverse operations and understand that $10 - 4 = 6$ as well as $6 + 4 = 10$.
- Count back in ones or tens to take away, e.g. $27 - 3 =$ or $54 - 20 =$.
- Begin to count up or count back to find a difference between two numbers with a small gap ($42 - 38$).
- Recall and use subtraction facts to 20 fluently.
- Derive and use related fact to 100.
- Subtract using concrete objects, pictorial representations, 100 squares, Dienes, Numicon and also mentally. Be able to subtract a 2-digit number and ones, a 2-digit number and tens, and two 2-digit numbers.
- Use inverse to check calculations.

Key vocabulary:
equal to, take, take-away, less, minus, subtract, leaves, distance between, how many more, how many fewer/less than, most, least count back, how many left, how much less is..., difference, count on, strategy, partition, tens units

Multiplication x

Year 2

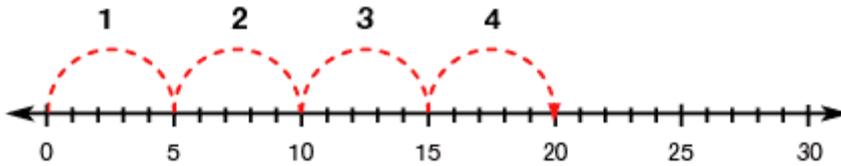
In Year 1, your child was taught to multiply with concrete objects; grouping them into 'sets of objects' or 'groups of objects.' The focus was on counting in groups of 2, 5, and 10. In Year 2, they are taught to multiply using repeated addition. Children should solve multiplication problems within a context.



$$8 + 8 + 8 = 24$$

Spiders have 8 legs. How many legs do 3 spiders have altogether?

Also, starting from zero, make equal jumps on a number line to work out multiplication facts and write multiplication number sentence. For example: $5 \times 4 = 20$.



Key Skills for Multiplication at Year 2:

- Count in steps of 2, 3 and 5 from zero and in 10s from any number.
- Know the 2X, 5X and 10X tables and begin to say how many 10s are in 40 or how many 5s are in 30; recognise odd and even answers.
- Write and calculate number statements using x and = signs
- Show that multiplication can be done in any order.
- Solve a range of problems involving multiplication, using concrete objects, arrays, repeated addition, Numicon, mental methods and multiplication facts.
- Learn doubles to double 20 and see this as multiplying by 2.

Key vocabulary:
groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated addition, column, row, sets of, equal groups, times as big as, once, twice, three times...

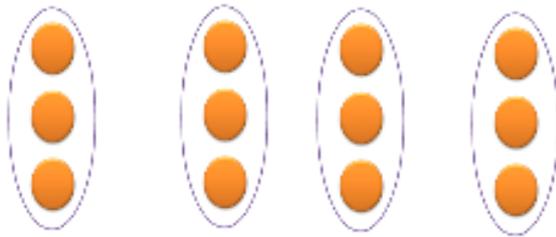
Year 2

Division ÷

In Year 1, your child was taught to divide with concrete objects. In Year 2, children learn to group and share objects and numbers using the ÷ and = signs. They may use a number line for this. Children will also solve division problems within a context.

$$12 \div 4 = 3$$

$$12 \div 3 = 4$$



$12 \div 3$ as 'How many groups of 3 are in 12?'

This helps to see the link between division and grouping

Key Skills for Division at Year 2:

- Count in steps of 2, 3, and 5 from 0 and to see the link with division.
- Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the \times , \div and $=$ signs.
- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.
- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Key vocabulary:
share, share equally, one each, two each..., group, equal groups of, lots of, array, divide, divided by, divided into, division, grouping, number line, left, left over

Website links

The following web addresses are ones which we use in school as part of our teaching, plus additional ones which your child may find enjoyable. Most of the games are straightforward and your child will be able to play/consolidate their maths skills independently.

Useful online maths vocabulary dictionary:

<http://www.amathsdictionaryforkids.com/dictionary.html>

The following websites have links to numerous maths topics:

<http://www.bbc.co.uk/bitesize/ks1/maths/>

<http://www.ictgames.com/resources.html>

<http://www.topmarks.co.uk/Interactive.aspx?cat=8>

<http://www.bbc.co.uk/education/dynamo/den/dynamake/make.shtml>

<http://www.crickweb.co.uk/ks1numeracy.html>

<http://primarygamesarena.com/Key-Stage-1>

<http://nrich.maths.org/primary-lower>

http://www.bbc.co.uk/schools/websites/4_11/site/numeracy.shtml

<http://uk.ixl.com/math/years>

Look at our school website to see what websites we use in school.

<http://www.highworth.bucks.sch.uk/NEW/default.htm>

