

# **How to help your child with Maths**



## **A Quick Guide to the New Curriculum Year 5**

# Year 5

## What topics are they taught?

\*Please see the target tracker statement sheets for individual objectives!\*

### Topics taught in Year 5:

- **Number, place value, approximation/estimating**
- **Calculations (addition and subtraction)**
- **Calculations (multiplication and division)**
- **Measurement**
- **Fractions, decimals and percentages**
- **Geometry (shape)**
- **Geometry (position and direction)**
- **Statistics**



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

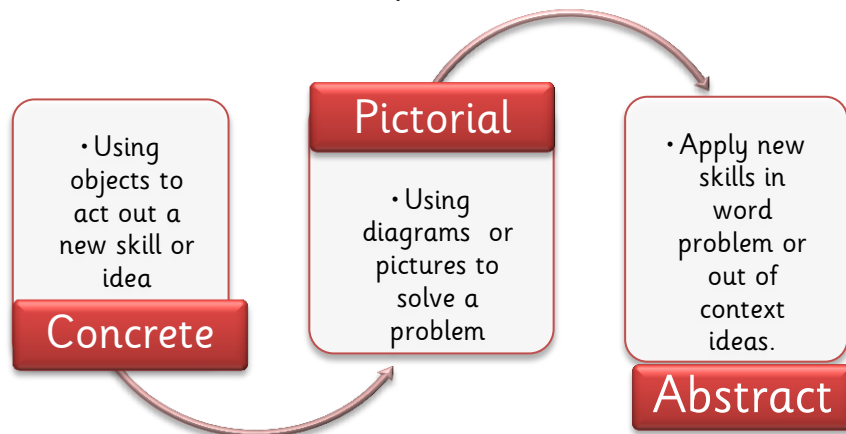
### For example:

- Play fun board games with your children like dominoes, snakes and ladders, snap, connect 4, uno, battleships, Cranium, Guess Who?
- Practice all the multiplication tables or play multiplication songs (up to 12 multiplication table).
- If you are following recipe, ask...If this recipe is for 4 people, how much ingredients do we need for 8?
- Encourage your child to handle money. Ask questions...If there is 10% off, how much is the new price? Compare money off deals e.g. buy one get one half price and ask...How much cheaper is the deal?
- Encourage children to have savings and to manage their own money.
  - When planning DIY ask...How many tins of paint will we need? How long/wide do the new curtains need to be?
  - Other ideas...If the film starts at 7.45pm and is 120 minutes long, when will it finish?
- Explore bus time tables...What bus do you need to get to arrive at school on time?
- Keep a Maths folder or book including any activities, games or practice that you do together at home!



## LEARNING

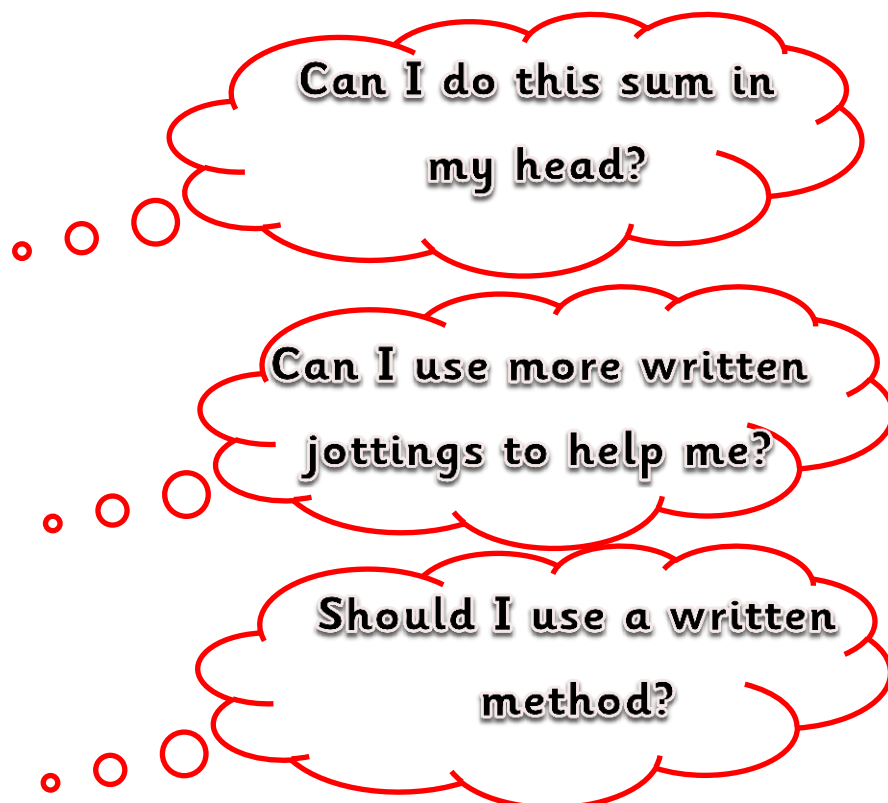
At Highworth, we use three steps (or representations) necessary for pupils to develop understanding of each mathematical concept.



## 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 +

## Compact Column

## Compact Column Including decimals

### Key Skills for Addition at Year 5:

- 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,  
hundreds  
boundary,  
increase, vertical,  
'carry', expanded,  
compact,  
thousands,  
hundreds, digits,  
inverse, decimal  
places, decimal  
point, tenths,  
hundredths,  
thousandths.

# Subtraction—

## Year 5

In Year 4, your child was taught to subtract with up to 4-digit numbers.

They use formal column subtraction, 'taking' or 'stealing' where appropriate. In Year 5, children are taught to subtract with at least 4-digit numbers including money measures and decimals.

Th	H	T	U
	6	1	
2	7	5	4
-	1	5	6
<hr/>			
1	1	9	2

Compact Column

Compact Column  
with decimals

0	9	1	3	1
1	0	5	.	4
-	3	9	.	0
<hr/>				
6	6	.	3	2

Empty decimal places can be filled with zero to show the place value in each column.

### Key Skills for Subtraction at Year 5:

- Count backwards through zero, using negative numbers.
- Add or subtract 0.1 or 0.01 to/from any decimal number with confidence, e.g.  $5.83 + 0.01$  or  $4.83 - 0.1$ .
- Children need to utilise and consider a range of subtraction strategies, jottings and written methods before choosing how to calculate.
- Subtract larger numbers using column subtraction or by counting up.
- Begin to subtract decimal numbers using counting up:  $6.2 - 3.5$ .
- Decide which mental methods to use and explain why.

### 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, take and make, exchange, digit, value, hundreds, inverse, tenths, hundredths, decimal point, decimal

# Multiplication x

## Year 5

In Year 4, your child was taught use the grid method to multiply 2 and 3 digits by a single digit (using all multiplication tables up to  $12 \times 12$ .) In Year 5, children are taught to multiply up to 4 digits by 1 or 2 digits using the grid method. They may also be introduced to expanded column multiplication methods.

### The Grid Method

×	10	8	
10	100	80	1 8 0
3	30	24	+ 5 4
			<u>2 3 4</u>

### Expanded Column Method

$$\begin{array}{r}
 96 \\
 \underline{32 \times} \\
 192 \quad \leftarrow \text{this is } 96 \times 2 \\
 2880 \quad \leftarrow \text{this is } 96 \times 30 \\
 \hline
 3072 \quad \leftarrow \text{this is } 96 \times 32
 \end{array}$$

### 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..., partition, grid method, multiple, product, tens, units, value, inverse, square, factor, integer, decimal, short/long multiplication, 'carry'

## Key Skills for Multiplication at Year 5:

- Know and recite all times tables including division facts.
- Multiply 2- and 3-digit numbers by numbers  $\leq 12$  using grid method; multiply 2-digit by 2-digit numbers using grid method.
- Identify multiples and factors, using knowledge of multiplication tables up to  $12 \times 12$ .
- Scale up or down by a factor of 2, 5 or 10.
- Multiply integers and decimals by 10, 100, 1000.
- Recognise and use squared, cubes and their notations.



# ÷ Division

## Year 5

In Year 4, your child was taught to divide using known multiplication facts; consolidating their knowledge of the link between multiplication and division or using short division without remainders. In Year 5, children are taught to divide up to 4 digits by a single digit, including answers with remainders.

### Short Division

$$\begin{array}{r} 1061 \text{ r } 4 \\ 5 \overline{) 5309} \end{array}$$

\*We teach pupils to write a 'useful list' first at the side that will help them decide what chunks to use. This is usually the times tables that we are dividing by. For this example we would write the 5 times tables\*

### Key Skills for Division at Year 5:

- Recall multiplication and division facts for all numbers up to  $12 \times 12$  (as in Y4).
- Multiply and divide numbers mentally, drawing upon known facts.
- Identify multiples and factors, including finding all factor pairs of a number, and common factors of two number.
- Solve problems involving multiplication and division where larger numbers are decomposed into their factors.
- Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.
- Use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.
- Work out whether a number up to 100 is prime, and recall prime numbers to 19
- Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
- Use multiplication and division as inverses. Interpret non-integer answers to division by expressing results in different ways according to the context, including with remainders, as fractions, as decimals or by rounding (e.g.  $98 \div 4 = 24 \text{ r } 2 = 24\frac{1}{2} = 24.5 \approx 25$ ).

### 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, inverse, short division, 'carry', remainder, multiple, divisible by, factor quotient, prime number, prime factors, composite number (non-prime)

# 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/schools/ks2bitesize/maths/>

<http://www.topmarks.co.uk/Interactive.aspx?cat=20>

<http://www.woodlands-junior.kent.sch.uk/maths/>

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

<http://www.crickweb.co.uk/ks2numeracy.html>

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

<http://www.mathplayground.com/>

<http://www.maths-games.org/times-tables-games.html>

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

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

