

# Helping your child with Maths at home

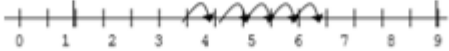



YEAR 1




# Expectations in Year 1

- I can count to and across 100 forwards beginning with 0 or 1, or from any given number.
- I can count backwards from 100, from any given number.
- I can count, read and write numbers to 100 in numerals.
- I can count in multiples of 2s, 5s and 10s.
- I can, when given a number, identify one more and one less.
- I can identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.
- I can read and write numbers from 1 to 20 in numerals and words
- I can recognise odd and even numbers.





<p>Year 1</p>	<p>Adding one and two digit numbers within 20, e.g.</p> <p><math>6 + 5 = 11</math></p>  <p><math>16 + 3 = 19</math></p> <p>There are 16 people standing at a bus stop. 3 More people join the queue. How many people are there altogether?</p>  <p><math>7 + \underline{\quad} = 12</math></p>	<p>Children begin to use a number line marked in ones to count up.</p> <p>The children then extend this to drawing their own 'blank number line', starting at the chosen number.</p> <p>Children should memorise and reason with number bonds to 10 and 20 in several forms (e.g. <math>9+7=16</math>; <math>16-7=9</math>; <math>7=16-9</math>).</p> <p>They should realise the effect of adding or subtracting zero.</p>	<p>Different range of number lines marked 1's, 2's, 5's, 10's.</p> <p>ITP 'Counting on and back'</p> <p><u>Beadstrings</u></p> <p>counting stick</p> <p>multi-link cubes</p> <p>Number trios</p> <p>100 square</p>  <p>straw bundles (base 10)</p> <p>blank number lines</p> <p>Numicon</p>  <p>10 Frames or mats</p>
---------------	--	--	---

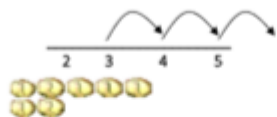


		<p>Begin to solve missing number problems.</p> <p>Partition: bridge through ten, e.g. calculate <math>8+7</math> by adding 2 then adding 5.</p>	<p><math>8 + 7 = 15</math></p> 
--	--	---	--

# Subtraction

<p>Year 1</p>	<p>Subtract one and two digit numbers to 20, including zero.</p> <p>Method: Counting up and back on a number line (marked in ones)</p> <p><b>Take away</b> Record steps back, below the number line: There are 8 biscuits on a plate. Take 3 of the biscuits to eat. How many biscuits are left on the plate?</p>  <p><b>Find the difference</b> Record steps up, above the number line: A teddy bear cost £5 and a doll cost £2. How much more does the bear cost?</p>	<p>Children need to experience subtraction as both difference and take away. The method depends on the context of the problem.</p> <p>Ultimately, we are aiming for children to use taking away where differences are larger, and counting up where differences are small. <b>These two strategies underpin mental subtraction.</b></p> <p>Use images / models / pictures and practical objects in context to support.</p>	<p>ITP 'difference'</p> <p>Bead string and bar (inc double bars) </p> <p>Numicon</p> <p>Counters, comparing objects</p> <p>ITP 'Number Facts'</p> <p>Number lines intervals in ones</p> <p>Number lines intervals of 10</p> <p>Blank number lines (starting at numbers other than 0)</p>
---------------	--	--	---

## Subtraction continued



### **Take away (larger numbers)**

Record steps back, below the number line: 16 birds are in a tree. 3 flew away. How many birds are left in the tree?

### **Finding the difference (larger numbers)**

Record steps up, above the number line: My sister has 11 tennis balls, and I have 13. How many more balls do I have?

Children should be encouraged to draw their own number line.

Children at this stage will also develop knowledge and use of number bonds within 20 to perform calculations.

Children build on understanding of subtraction alongside its inverse (addition), in building mental strategies and understanding of number bonds within 20.

Number trio



# Addition and Subtraction

There are lots of visual representations of addition and subtraction for children to understand how the numbers are used.

- We can use **counters** that shows us the patterns to allow us to work out number bonds.
- We can use the **part-part whole** model which allows us to look at the whole number and the two parts that add or subtract from the whole.
- We can use **cubes** to help us show the calculation and find the missing number.
- We can use a **tens frame** that helps us see how the tens and ones change when we add and subtract.
- When recording we use a number sentence. E.g  $6 + 4 = 10$  and  $10 - 7 = 3$  are both number sentences.

Use the diagram to help you work out the missing numbers.

$5 + 0 = 5$   
 $1 + \square = 5$   
 $2 + \square = 5$   
 $3 + \square = 5$   
 $4 + \square = 5$   
 $4 + \square = 5$

Chloe is using cubes to help her work out the missing number in this part whole model. She makes a tower of 10, and a tower of 4, and then counts the difference. Help her find the missing number.

$4 + \square = 10$

Can you notice a pattern to find the final missing number?


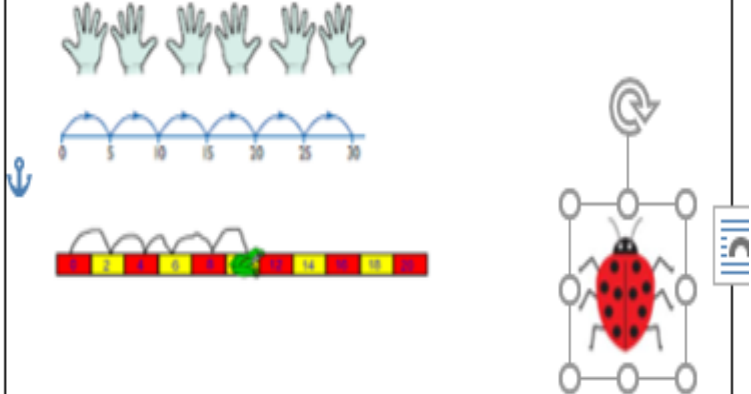
$3 + \square = 10$

$7 + 2 = 9$


$3 + 2 + 5 = 10$

$6 + 4 = 10$

# Multiplication

<p>Year 1</p>	<p>Solve one step problems involving multiplication by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher e.g. Each child has two legs. How many legs do four children have? How would you say this?</p>  $2 + 2 + 2 + 2$	<p>Through grouping small quantities of objects, children begin to understand multiplication and doubling.</p> <p>They make connections between arrays, number patterns and counting in 2s, 5s and 10s.</p>	<p>Practical objects related to topic / classroom environment number lines (marked intervals)</p>  <p>Number tracks eg if the frog hop in twos, how far will he have travelled after 5 hops?</p> <p>Cuisenaire Numicon Bead strings and bar Doubling images, e.g.</p>
---------------	---	---	--

## Division

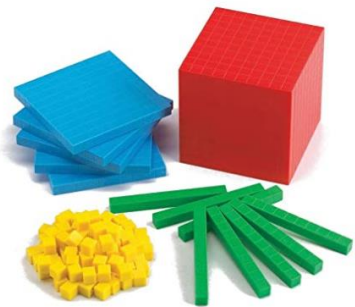
<p>Year 1</p>	<p>Solve one step problems involving division by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher, e.g.</p> <p>Sharing: 6 Easter eggs are shared between 2 children. How many e  each?</p> <p>Grouping: e.g. 6 socks, how many pairs of socks can you make?</p>	<p>Children will experience division as both sharing and grouping.</p> <p>Count repeated groups of the same size; Share objects into equal groups and count how many in each group. eg: trays with small</p>	<p>Arrays Here are 20 counters. Arrange them in equal rows. Is there a different way to arrange them in equal rows?</p> <p>ITP 'Grouping'</p> <p>ITP 'Multiplication'</p> <p>Number tracks: e.g. If the frog hops in 2s, how many hops will there be before he lands on 10?</p> <p>Number line  </p> <p>Bead strings and bar</p>
---------------	---	--	--



## Place Value

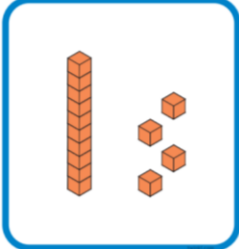
Place value is taught using the terminology **tens** and **ones**.

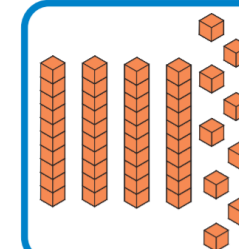
For example the number 14 has 1 ten and 4 ones whereas the number 49 has 4 tens and 9 ones. This is to help children understand how numbers are made up to support them with fluency when solving calculations.

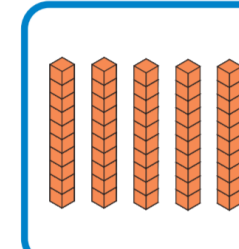


100	10	1
200	20	2
300	30	3
400	40	4
500	50	5
600	60	6
700	70	7
800	80	8
900	90	9
853		

9	9 ones	
---	--------	--

14	1 ten 4 ones	
----	-----------------	---

49	4 tens 9 ones	
----	------------------	---

50	5 tens 0 ones	
----	------------------	---

## Number Formation

Please practise writing numbers with your child, ensuring that they are formed correctly and the correct way round. Make this fun! Do it with paints, paintbrushes and water, in the sky, in sand, with colourful lefts, on the ipad, make some gloop and write the numbers in there, or simply use a good old fashioned paper and pencil.

Write a line of each number every day if possible.

## Play number games

Play games like snakes and ladders, bingo, top trumps, snap, jigsaw puzzles, anything that might involve logic and counting. Sneak some counting games into their Christmas stocking!



Around to my left to find my hero, back to the top, I've made a zero.



A downward stroke, my that's fun. Now I've made the number one.



Half a heart says "I love you." Add a line. Now I've made the number two.



Around the tree, around the tree, now I've made the number three.



Down and across and down once more, now I've made the number four.



Draw the hat, the back and the belly. It's a five. Watch out, it might come alive!



Bend down low to pick up sticks. Now I've made the number six.



Across the sky and down from heaven. Now I've made the number seven.



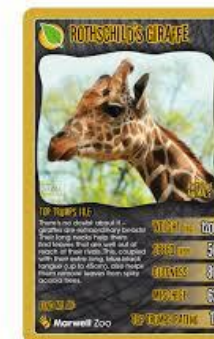
Make an "S" and close the gate. Now you've made the number eight.



Make an oval and a line. Now I've made the number nine.



A downward stroke, that's my one. Add a zero, that's my number ten done!



## Count everything!

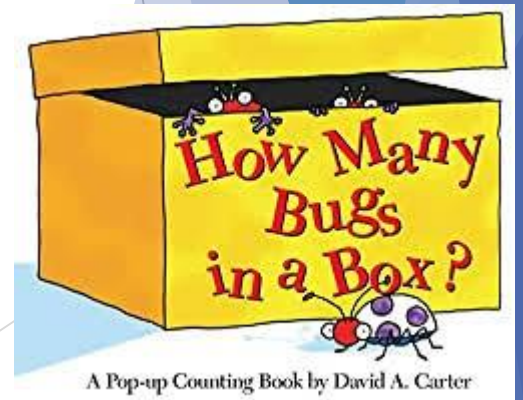
- Count toys, steps on the stairs, kitchen utensils, and items of clothing as they come out of the dryer.
- Help your child count by pointing to and moving the objects as you say each number out loud.
- Count forwards and backwards from different starting places.
- Use household items to practise adding, subtracting, multiplying and dividing.

## Sing counting songs and read counting books.

Every culture has counting songs, such as "One, Two, Buckle My Shoe" and "Ten Green Bottles", which make learning to count - both forwards and backwards - fun for children. Counting books also capture children's imagination, by using pictures of interesting things to count and to add.

The Big Number song

<https://www.youtube.com/watch?v=eOdJWfQHF8Y>



## Discover the many ways in which numbers are used inside and outside your home.

- Take your child on a "number hunt" in your home or village.
- Point out how numbers are used on the television set, the microwave, and the telephone, in shops.
- Spot numbers in books and newspapers.
- Encourage your child to tell you whenever he or she discovers a new way in which numbers are used.

## Ask your child to help you solve everyday number problems.

- "We need six tomatoes to make our sauce for dinner, and we have only two. How many more do we need to buy?"
- "You have two pillows in your room and your sister has two pillows in her room. How many pillowcases do I need to wash?"
- "Two guests are coming to eat dinner with us. How many plates will we need? Maybe they could have their own toy tea party and count out the correct number of plates, cups etc..."



## Money!

A great way to help your child understand more about maths is for them to have the opportunity to apply it in a real life context. Give your child a small amount of money to spend. Let them take responsibility to counting out coins to the value of 10, or 20p so that they can buy something in a shop, car boot sale or charity shop. Encourage them to save for something they would like and regularly count their coins to see how much they have and how much more they need.



## Shapes!

At home, or when you are out, look at the surface of shapes. Ask your child - what shape is this plate, this mirror, the bath mat, the tea towel, the window, the door, the red traffic light, and so on. Choose a shape for the week, e.g. a square. How many of these shapes can your child spot during the week, at home and when you are out?

The Shape song

<https://www.youtube.com/watch?v=WTeqUejf3D0>



## Tips & ideas

Talk about time. For example, get them to work out what time you need to leave the house to get to school on time.

Cooking. Measure ingredients and set the timer together. Get them to work out how much more food will you need if extra people are coming for dinner.

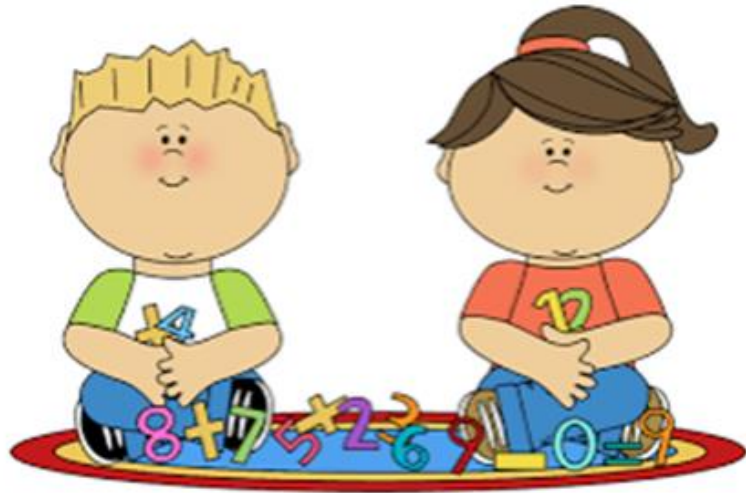
Talk about the shape and size of objects. Look online for interesting facts, like tallest and shortest people, or biggest and smallest buildings etc.

When you are sharing food like pizza or cake, ask your child to help you share it equally between the number of people eating.



*At the shops.* Ask your child to guess how much items will cost together. Give them small amounts of change and ask them what they think they can buy with it. Talk about the items you buy; which are more expensive and which are cheaper? Which are heavier, which are lighter?

*Play shops.* You could make pretend money or use Monopoly money for your play shop, and use items around the house as shop items. By 'buying' things with play money, your child begins to understand that different things cost different amounts of money.



## Maths Vocab Signs

### addition



- add
- more
- plus
- make
- sum
- total
- altogether

How many more to make...?  
How many more is... than...?  
How much more is...?

### subtraction



- subtract
- minus
- leave
- less
- take away
- difference between

How many are left over?  
How much less is... than...?  
How many fewer is...?

### multiplication



- lots of
- times
- multiply
- groups of
- product
- multiplied by
- multiple of
- repeated addition
- array

What is... lots of...?  
What is the product of... and... ?  
What is... times... ?  
What is... group of... ?  
What is... multiplied by... ?

### division



- divide
- divided by
- divided into
- share
- share equally
- equal groups of

What is... divided by...?  
What is... shared by...?  
How many groups of... are in...?

## Number and Place Value

5

count in fives

2

count in twos

10

count in tens

backwards

compare

sequence

least common

block diagram

zero

two-digit number

round

numeral

greater than (>)

represents

nearest ten

continue

'teens' number

forward

forwards

less than (<)

tens digit

number facts

multiple of

place

one-digit number

back

partition

predict

stands for

place value