



Collis Primary School

Numeracy Booklet for Parents Foundation Stage and Key Stage 1

Our aim at Collis is for all children to enjoy maths and find it fun! We bring numbers to life and make them meaningful to the children, by using the physical environment, before teaching the more formal methods and vocabulary.

The maths work your child is doing at school may look very different to the kind of 'sums' you remember. This is because the children are encouraged to work mentally, where possible, using personal jottings to help support their thinking. We encourage the children to explain their thinking when solving maths problems.

With this in mind, we have produced a booklet to provide an understanding of how we teach maths at Collis, the methods we use to teach number, as well as offering a range of ideas for you to use at home to support your child.

Problem solving is a large part of the maths curriculum. We encourage the children to think of different ways to solve problems and to explain their thinking.

Here are some questions that can help to extend children's thinking:

- How did you work that out so quickly? Be prepared for younger children to answer this with "I just knew it!" and be ready to suggest some methods, e.g. "I would have done it like this"
- What do you mean by
- I think there's a pattern here. Can you see it?
- Can you think of a different strategy for this problem?

The Foundation Stage

In the Foundation Stage children are beginning to build mathematical concepts, skills and knowledge. When children first come to school they are curious about their world and are motivated, enthusiastic and engaged by the mathematical experiences they are offered and by those they initiate for themselves.

Home-school maths links are an important part of the children's experiences. Opportunities to link maths to practical experiences and play to their everyday lives help children to see maths in the real world. Children's mathematical experience at school is a combination of child-initiated activity and adult directed tasks.

Discussing maths, describing shapes and talking about solution to problems all contribute to the development of speaking and listening skills. There has always been a strong emphasis on oral work in Nursery and Reception with children talking about their experiences with each other and with adults. In this way they are able to clarify their thinking and practise using mathematical language.

Knowing and Using Number Facts

At school children learn through practical play experiences:

- The children may count aloud in ones, fives and tens, using fingers and hands to illustrate each step.
- They count in twos to count items such as pairs of socks on a washing line or the number of children lining up in twos.
- When the children count in ones, they know the number before and after a given number and begin to relate this to a number that is one more or one less.
- They know number pairs, for example making five fingers by showing two on one hand and three on the other.

Calculating

The children are introduced addition and subtraction - see addition and subtraction pages for more information.

Counting Ideas

- Practise chanting the number names. Encourage your child to join in with you. When they are confident, try starting from different numbers—4, 5, 6.....
- 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.
- Count things you cannot touch or see (more difficult!!). Try lights on the ceiling, window panes, jumps, claps or oranges in a bag.
- Play games that involve counting (e.g. snakes and ladders, dice games, games that involve counting objects).
- Look for numerals in the environment. You can spot the 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..
- Make mistakes when chanting, counting or ordering numbers. Can your child spot what you have done wrong?
- Choose a number of the week e.g. Practise counting to 5 and on from 5. Count out groups of 5 objects (5 dolls, 5 bricks, 5 pens). See how many places you can spot the numeral 5.
- Halving and doubling numbers.
- Ordering random numbers.
- Counting in 2s, 5s and 10s.
- Learning number bonds to ten using your fingers. You show your child 7 fingers and they respond with 3 fingers.

The 4 Operations in Key Stage 1

ADDITION

Children are taught to understand addition as combining two sets and counting on.

$2 + 3 =$

At a party, I eat 2 cakes and my friend eats 3.

How many cakes did we eat altogether?



Children could draw a picture to help them work out the answer.

$7 + 4 =$

7 people are on the bus. 4 more get on at the next stop. How many people are on the bus now?



Children could use dots or tally marks to represent objects (quicker than drawing a picture)

$47 + 25 =$

My sunflower is 47 cm tall. It grows another 25 cm. How tall is it now?

$$\begin{array}{r} +20 \\ +5 \\ \hline \end{array}$$

$$47 \qquad 67 \qquad 72$$


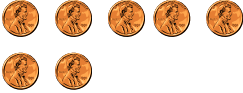


Or

$$\begin{array}{r} +20 \\ +3 +2 \\ \hline 47 \qquad 67 \qquad 70 \qquad 72 \end{array}$$

Drawing an empty number line helps children to record the steps they have taken in a calculation (start on 47, +20, then +5). This is much more efficient than counting on in ones.

SUBTRACTION




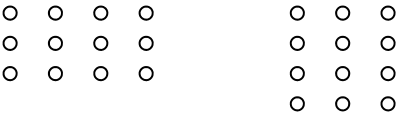
**Children are taught to understand subtraction as taking away
(counting back) and finding the difference between
(counting up)**

<p>$5 - 2 =$</p> <p>I had five balloons. Two burst. How many do I have left?</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;">Take away</div> </div> <p>A teddy bear costs £5 and a doll costs £2. How much more does the bear cost?</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;">Find the difference</div> </div>	<p>Drawing a picture helps children to visualise the problem.</p>																								
<p>$7 - 3 =$</p> <p>Mum baked 7 biscuits. I ate 3. How many were left?</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;">Take away</div> </div> <p>Lisa has 7 felt tip pens and Tim has 3. How many more does Lisa have?</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;">Find the difference</div> </div>	<p>Using dots or tally marks is quicker than drawing a detailed picture.</p>																								
<p>$84 - 27 =$</p> <p>I cut 27 cm off a ribbon measuring 84cm. How much is left?</p> <div style="margin-bottom: 20px;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">57</td> <td style="width: 40%;">64</td> <td style="width: 40%;"></td> <td style="width: 20%; text-align: right;">84</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black;"></td> </tr> <tr> <td style="text-align: center;">- 7</td> <td style="text-align: center;">- 20</td> <td></td> <td></td> </tr> </table> </div> <p>Or</p> <div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">57</td> <td style="width: 20%;">60</td> <td style="width: 20%;">64</td> <td style="width: 20%; text-align: right;">84</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black;"></td> </tr> <tr> <td style="text-align: center;">-3</td> <td style="text-align: center;">-4</td> <td style="text-align: center;">-20</td> <td></td> </tr> </table> </div>	57	64		84					- 7	- 20			57	60	64	84					-3	-4	-20		<p>Children could count back using an empty number line. This is a really good way for them to record the steps they have taken. (start on 84, - 20, then -7).</p>
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MULTIPLICATION

Children are taught to understand multiplication as repeated addition.

We try to learn all our 2, 5 and 10 times tables.

<p>$2 \times 4 =$</p> <p>Each child has two eyes. How many eyes do four children have?</p>  <p>$2 + 2 + 2 + 2$</p>	<p>Pictures can be useful</p>
<p>$5 \times 3 =$</p> <p>There are 5 cakes in a pack. How many cakes in 3 packs?</p>  <p>$5 + 5$</p>  <p>$+ 5$</p>	<p>Dots or tally marks are often drawn in groups. This shows 3 groups of 5.</p>
<p>$4 \times 3 =$</p> <p>A chew costs 4p. How much do 3 chews cost?</p>  <p>or</p>	<p>Drawing an array (3 rows of 4 or 3 columns of 4) gives children an image of the answer. It also helps develop the understanding that 4×3 is the same as 3×4.</p>

DIVISION

Children are taught to understand division as sharing and grouping

$$6 \div 2 =$$

6 Easter eggs are shared between 2 children. How many eggs do they get each?



There are 6 Easter eggs. How many children can have two each?

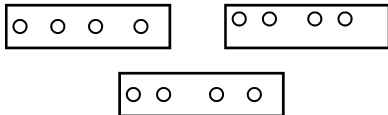


More pictures!

Drawing often gives the children a way into solving the problem.

$$12 \div 4 =$$

4 apples are packed in a basket. How many baskets can you fill with 12 apples?



Dot or tally marks can either be shared out one at a time or split up into groups.

Websites for Maths Games

- www.ictgames.com
- www.bbc.co.uk/education
- www.coxhoe.durham.sch.uk/

(click on curriculum at the top of the page and then Numeracy for the games)

The Best Way to Learn is to make Learning a Life Experience

- Go shopping with your child to buy two or three items. Ask them to work out the total amount spent and how much change you will get.
- Plan an outing during the holidays. Ask your child to think about what time you will need to set off and how much money you will need to take?
- When you are shopping ask the children to find different prices, look at packaging in relation to 3D shapes.
- Let your child help with the cooking at home. Help them measure ingredients accurately using weighing scales.
- Ask your child questions about time—morning, afternoon, days of the week, months of the year etc.
- Ask your child to estimate numbers of objects etc.

Number Games

- Throw two dice. Ask your child to find the total of the numbers (+) and the difference between (-). Can they do this in their heads?
- Use a set of playing cards. Turn over two cards and ask your child to add or subtract them. If they answer correctly, they keep the cards. How many cards can they collect in two minutes?
- Play 'ping pong' to practise number bonds with your child. You say a number. They reply with how much more is needed to make 5, 10 and 20. Encourage your child to answer questions quickly, without counting or using fingers.
- Order random numbers.
- Play 'Snap' with number cards.