

Help your child with Numeracy and
Mathematics

First Level



"Making Maths Count"

Dear Parents,

We hope you find this information helpful. It is designed to provide you with ideas for supporting numeracy and mathematics at home through practical and fun activities. It also contains illustrated examples of written methods of calculations. By working together we can enhance confidence and fluency in numeracy and raise your child's attainment in mathematics.

Maths is fun!

When supporting numeracy at home

- Use opportunities to learn in the real world
- Embrace mistakes and talk about how your child solved the problem
- Praise effort
- Play games and solve puzzles together

Number

Counting, Ordering, Reading and Writing

Your child will experience a range of activities in learning numbers up to 1000 by Primary 4.

1. Counting aloud forwards and backwards (starting at any number)
2. Add or subtract single digits for example $6 + 9$, $10 - 8$
3. Count on and back in 2's, 5's, 10's and 100's
4. Discuss odd and even numbers
5. Say the number before, after and between numbers
6. Recognise numbers in numerals and words
7. Order written numbers either 2 or 3 digits
8. Understand that 38 is $30 + 8$
9. Add or subtract single digit to/from any 2 digit number for example $46 + 3$ or $72 - 5$
10. Practise times tables
11. Double and half numbers to 20

Place Value - the value of where a digit is in a number

Thousands	Hundreds	Tens	Units
8	9	4	2

8, 942

Eight thousand, nine hundred and forty two

Examples of Activities

- Look for numbers on packages, clocks, buses, car registrations, buildings and coins
- Sing number songs e.g. 10 Green Bottles
- Read Stories with number content e.g. 10 in the Bed
- Count lots of different things e.g. toys, sweets, stairs
- Play games with numbers e.g. snap, snakes & ladders, dominoes, make pairs

Addition

Your child will be adding numbers using a variety of concrete materials (e.g. pencils, cubes, toys), mentally and in written format.

Discussion Points:

- When we add 0 the number stays the same
- Understand that $22 + 14 = 36$ is the same as $14 + 22 = 36$
- Numbers before and after e.g. 34 is before 35, 82 is after 81
- The number after is the same as adding on one e.g. the number after 65 is 66, $65 + 1 = 66$

Key Words for addition:

add, altogether, and, equals, makes, more, sum, total

Adding without 'carrying'

Example 1

$$\begin{array}{r} 43 \\ + 5 \\ \hline \end{array}$$

1. Begin at the units column.
Add together the 3 units and the 5 units.
Write 8 in the units column.

$$\begin{array}{r} \text{T U} \\ 43 \\ + 5 \\ \hline 8 \end{array}$$

2. Go to the tens column.
4 tens add on 0 tens equals 4 tens.
Write 4 in the tens column.

$$\begin{array}{r} \text{T U} \\ 43 \\ + 5 \\ \hline 48 \end{array}$$

The answer is 48

Children will develop skills in adding mentally and should be able to discuss their thinking.

$$21 + 37$$

Possible Strategies : add the tens first and then the units and then add them together. **OR** add the units

first, then the tens.

Example 2

1. Begin at the units column.

Add together the 4 units and the 3 units.

Write 7 in the units column.

$$\begin{array}{r} \text{T} \text{ U} \\ 3 \ 4 \\ + 2 \ 3 \\ \hline \quad 7 \end{array}$$

2. Go to the tens column.

3 tens add 2 tens equals 5 tens.

Write 5 in the tens column.

The answer is 57.

$$\begin{array}{r} \text{T} \ \text{U} \\ 3 \ 4 \\ + 2 \ 3 \\ \hline 5 \ 7 \end{array}$$

Adding with 'carrying'

'Carrying' is used in addition when the digits in the column add to more than 9 and the full number cannot be written in the column.

Example 1

$$\begin{array}{r} 46 \\ + 8 \\ \hline \hline \end{array}$$

1. Begin at the units column. Add together the 6 units and the 8 units which equals 14 units. Write 4 in the units column and carry ten units. This is shown by a small **1** 'carried' next to the 8

$$\begin{array}{r} \text{T U} \\ 4 \ 6 \\ + \ 1 \ 8 \\ \hline \underline{\quad} 4 \end{array}$$

2. Go to the tens column.

4 tens add on 0 tens equals 4 tens. Add the carried ten to the 4. There are 5 tens altogether. Write 5 in the tens column. The answer is 54.

$$\begin{array}{r} \text{T U} \\ 4 \ 6 \\ + \ 1 \ 8 \\ \hline \underline{5 \ 4} \end{array}$$

Example 2

1. Begin at the units column. Add together the 7 units and the 9 units, which equals 16 units

$$\begin{array}{r} 57 \\ + 29 \\ \hline \end{array}$$

Write 6 in the units column and carry ten units. This is shown by a small 1 'carried' next to the 9.

$$\begin{array}{r} \text{T U} \\ 57 \\ + 2\overset{1}{9} \\ \hline \underline{6} \end{array}$$

2. Go to the tens column. tens add on 2 tens equals 7 tens. Add the carried ten to the 7. There are 8 tens altogether. Write 8 in the tens column. The answer is 86

$$\begin{array}{r} \text{T U}^5 \\ 57 \\ + 2\overset{1}{9} \\ \hline \underline{86} \end{array}$$

Subtraction

Your child will be subtracting numbers mentally and using a variety of concrete materials e.g. pencils, cubes, pasta etc.

Discussion Points:

- When we subtract 0 the number stays the same e.g.
 $14 - 0 = 14$
- Understand that you must take the small number away from the big number
e.g. $75 - 7 = 68$
- Talk about numbers before and after
e.g. 321 is before 322, 705 is after 704
- The number before is the same as taking one away
e.g. the number before 65 is 64, $65 - 1 = 64$

Key words for Subtraction:

difference between, how many left over. leave, less than, minus, smaller than, subtract, take away

—

1. Begin at the units column. 7 units take away 3 units. Write 4 in the units column

$$\begin{array}{r} \text{T} \quad \text{U} \\ 4 \quad 7 \\ - 2 \quad 3 \\ \hline 4 \end{array}$$

2. Go to the tens column
4 tens take away 2 tens, equals 2 tens.
Write 2 in the tens column.

$$\begin{array}{r} \text{T} \quad \text{U} \\ 4 \quad 7 \\ - 2 \quad 3 \\ \hline 2 \quad 4 \end{array}$$

The answer is 24.

Example 2

Exchanging

1. Begin at the units column. 5 units take away 7 units, I cannot do.
I need to **EXCHANGE**.
Go to the tens column.
Cross out 6 tens and make it 5 tens.
Put the 1 representing 10 units in front of the 5 unit Now I have 15 units
I can take 7 units away.
Put 8 in the units column.

$$\begin{array}{r} \text{T} \quad \text{U} \\ \overset{5}{6} \quad 15 \\ \hline - 4 \quad 7 \\ \hline 8 \end{array}$$

2. Next, move to the tens column.
 5 tens take away 4 tens leaves 1 ten.
 Put the 1 in the tens column.
 The answer is 18.

$$\begin{array}{r}
 \text{T} \quad \text{U} \\
 5 \quad 6 \quad 15 \\
 - \quad 4 \quad 7 \\
 \hline
 1 \quad 8
 \end{array}$$

Example 3

1. Exchanging with zeros in the units column. Begin at the units column.
 0 units take away 2 units. I can't because I don't have enough.
 I need to **EXCHANGE**.
 Go to the tens column. Exchange one of the 4 tens for 10 units by scoring out the 4 and writing a small 3 in the tens column beside the 4.

$$\begin{array}{r}
 \text{T} \quad \text{U} \\
 3 \quad 4 \quad 10 \\
 - \quad 2 \quad 2 \\
 \hline
 8
 \end{array}$$

Put the 1 representing 10 units in front of the zero. Now I have 10 units.
 10 take away 2 equals 8.
 Write 8 in the units column.

2. Next go to the tens column.

3 tens take away 2 tens is

1 ten. Write 1 in the tens

Column.

The answer is 18.

$$\begin{array}{r} \text{T} \quad \text{U} \\ 3 \quad 4 \quad 1 \quad 0 \\ - \quad 2 \quad 2 \\ \hline 1 \quad 8 \\ \hline \end{array}$$

Example 4

1. Begin at the units column.

1 unit take away 4 units. I can't do because I don't have enough.

I need to **EXCHANGE**.

Go to the tens column. Exchange

one of the 2 tens for 10 units by scoring out the 2 and writing a small 1 in the tens column beside the 2.

Put the 1 representing 10 units in front of the 1.

Now I have 11 units. $11 - 7 = 4$

Write 7 in the units column.

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{U} \\ 4 \quad 1 \quad 2 \quad 1 \quad 1 \\ - \quad 1 \quad 7 \quad 4 \\ \hline \quad \quad \quad 7 \\ \hline \end{array}$$

2. Move to the tens column. 1 unit take away 7 units. I can't do because I don't have enough. Go to the hundreds column exchange one of the 4 hundreds for ten 10s by scoring out the 4 and writing a small 1 beside the tens column.

H	T	U
3	4	11
2	1	1
1	7	4
4	7	

eleven 10s take away seven 10s equals four 10s. Write 4 in the tens column.

3. Go to the hundreds column. 3 hundreds take away 1 hundred equals 2 hundred. Write 2 in the hundreds column.

H	T	U
3	4	11
2	1	1
1	7	4
2	4	7

The answer is 247

Multiplication

Children are introduced to multiplication tables at First Level. They should learn and be able to recall table facts quickly and therefore frequent practice is required.

Once children are familiar with the table facts they are introduced to a written form, and learn to complete word problems based on multiplication.

Array

●	●	●
●	●	●
●	●	●
●	●	●

 $4 \times 3 = 12$

Multiplication of a 2 digit number by a 1 digit number (no carrying)

Using their knowledge of single digit multiplication children then multiply 2 digit numbers by 1 digit number

1. First the single digit will multiply the number in the units column.
 $3 \times 2 = 6$ so write the 6 in the units column

$$\begin{array}{r}
 T \ U \\
 1 \ 2 \\
 \hline
 \times 3 \\
 \hline
 6
 \end{array}$$

2. Now the single digit will multiply the number in the tens column. $3 \times 1 = 3$ so write the 3 in the tens column.

$$\begin{array}{r} \text{T} \quad \text{U} \\ 1 \quad 2 \\ \times 3 \\ \hline 3 \quad 6 \end{array}$$

The answer is 36

Multiplication of a 2 digit number by a 1 digit number (with carrying)

1. First the single digit will multiply the number in the units column.

$4 \times 6 = 24$. Write the 4 in the units column and carry the 2 to the tens column by writing a small 2 in the tens column.

$$\begin{array}{r} \text{T} \quad \text{U} \\ 1 \quad 6 \\ \times 4 \\ \hline \quad 24 \\ \hline \quad 4 \end{array}$$

2. Now multiply the tens digit by the single digit. $4 \times 1 = 4$. Add the carried 2 to this answer.

$4 + 2 = 6$. Write this answer in the tens column.

$$\begin{array}{r} \text{T} \quad \text{U} \\ 1 \quad 6 \\ \times 4 \\ \hline 6 \quad 4 \end{array}$$

The answer is 64

Key Words for multiplication

groups of, lots of, multiplication, multiplied by,
multiply, repeated addition three times, four times,
ten times etc.

Division

Children will practise grouping and sharing objects in practical activities. A good understanding and knowledge of times tables will help them to divide mentally.

Example 1 (without remainders)

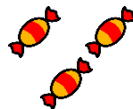
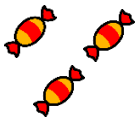
I have 12 sweets and I share them between 4 children. How many sweets do they have each?

Group the 12 sweets in 4 groups

12 sweets divided into 4 groups gives 3 sweets in each group.

12 divided by 4 equals 3

$$12 \div 4 = 3$$



Example 2 (with remainders)

9 toy cars are to be divided between 2 toy boxes. How many cars will be in each box?

9 toy cars divided into 2 groups gives 4 cars in each group with 1 left over.

9 divided by 2 equals 4 with 1 remaining

$$9 \div 2 = 4 \text{ r } 1 \text{ (4 remainder 1)}$$



Example 3 (written method without remainders)

12 apples are shared equally between 3 children. How many apples do they have each?

$$12 \div 3 = \quad \text{ask - 3 times what makes 12?}$$

$$3 \times 4 = 12 \text{ so } 12 \div 3 = 4$$

Your child is applying knowledge of multiplication tables to division calculations.

Example 4 (written method with remainders)

If 46 cups are shared equally between 9 trays, how many would be on each tray?

$$46 \div 9 = \quad \text{ask - is 46 in the 9 time table? No}$$

9 times what is just less than 46?

$$9 \times 5 = 45$$

So $46 \div 9 = 5$ with 1 remainder

Answer - $46 \div 9 = 5 \text{ r } 1$

Children will progress to the written method using the following format.

Read this as 84 divided by 4.

Share 8 tens between 4. How many tens each? Answer is 2, write it above the 8 in the tens column.

$$\begin{array}{r} \text{T U} \\ 21 \\ \hline 4 \overline{) 84} \end{array}$$

Now share the 4 units between 4.

How many units each? Answer is 1, write it above the 4 in the units column.

Key Words

divide, divide into, divide with remainders, divide without remainders, each, groups of, how many times, repeated subtraction share, share equally, split

Mental Maths /Number Talk Strategies

Addition

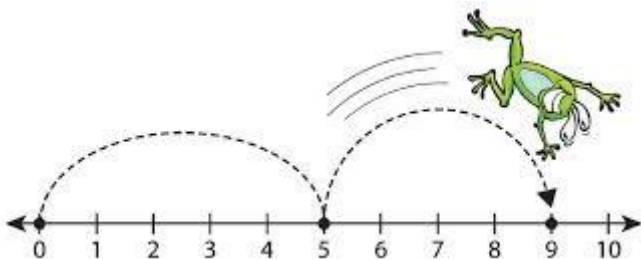
<p><u>Adding Up in Chunks/Counting On</u></p> <p>$37 + 48$</p>	<p><u>Reordering</u></p> <p>$25 + 26 + 75$</p> <p>$100 + 26 = 126$</p>	<p><u>Place Value - Partitioning</u></p> <p>$116 + 127$</p> <p>$100 + 100 = 200$ $10 + 20 = 30$ $6 + 7 = 13$ $200 + 30 + 13 = 243$</p>	<p><u>Making Tens/Bridging through 10</u></p> <p>$49 + 38$</p> <p>$50 + 37 = 87$</p>
<p><u>Compensation</u></p> <p>$67 + 28$</p> <p>+2</p> <p>/</p> <p>$67 + 30 = 97$ $97 - 2 = 95$</p>	<p><u>Doubles/Near Doubles</u></p> <p>$16 + 17$</p> <p>$16 + 16 = 32$ $32 + 1 = 33$</p>	<p><u>Friendly Numbers</u></p> <p>$28 + 47$</p> <p>+2 -2</p> <p>$30 + 45 = 75$</p>	<p><u>Bridging through 60</u></p> <p>How many minutes is it to the next hour?</p>

Subtraction

<p><u>Removal or Counting Back</u></p> <p>$123 - 69$</p> <p>$123 - (20 + 40 + 3 + 6)$</p> <p>$123 - 20 = 103$</p> <p>$103 - 40 = 63$</p> <p>$63 - 3 = 60$</p> <p>$60 - 6 = 54$</p>	<p><u>Reordering</u></p> <p>$25 - 6 - 5$</p> <p>$20 - 6 = 14$</p>	<p><u>Place Value - Partitioning</u></p> <p>$367 - 154$</p> <p>$367 - 100 = 267$ $267 - 50 = 217$ $217 - 4 = 213$</p> <p>$367 - 100 - 50 - 4 = 213$</p>	<p><u>Adding Up/Bridging through 10</u></p> <p>$23 - 16$</p> <p>$16 + 4 = 20$ $20 + 3 = 23$</p>
<p><u>Place Value + Negative Numbers</u></p> <p>$399 - 254$</p> <p>$(300 + 90 + 9) - (200 + 50 + 9)$</p> <p>$300 + 90 + 9$</p> <p>$- 200 + 50 + 4$</p> <p>$100 + 40 + 5$</p> <p>$= 145$</p>	<p><u>Adjusting for Easier Numbers</u></p> <p>$123 - 59$</p> <p>+1</p> <p>$123 - 60 = 63$ $63 + 1 = 64$</p>	<p><u>Keep a Constant Difference</u></p> <p>$151 - 98$</p> <p>$(151 + 2) - (98 + 2)$</p> <p>$153 - 100 = 53$ $151 - 98 = 53$</p>	

Multiplication & Division

<u>Friendly Numbers</u>	<u>Repeated Addition</u>	<u>Partial Products</u>	<u>Doubling and Halving</u>																								
9×15 $10 \times 15 = 150$ $150 - 15 = 135$ Don't forget to 'undo' your change!	6×15 $15+15+15+15+15+15$ $15 + 15 = 30$ $30 + 15 = 45$ $45 + 15 = 60$ $60 + 15 = 75$ $75 + 15 = 90$	6×125 $6 \times (100 + 20 + 5)$ $(6 \times 100) + (6 \times 20) + (6 \times 5)$ $600 + 120 + 30 = 750$	24×8 $\times 2 \quad \div 2$ 48×4 $\times 2 \quad \div 2$ 96×2 $\times 2 \quad \div 2$ 192																								
<u>Breaking Factors into Smaller Factors</u> 12×25 2×6 $2 \times 25 = 50$ $50 \times 6 = 300$	<u>Grid Method</u> 35×7 <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;">x</td> <td style="padding: 5px;">30</td> <td style="padding: 5px;">5</td> </tr> <tr> <td style="padding: 5px;">7</td> <td style="padding: 5px;">210</td> <td style="padding: 5px;">35</td> </tr> </table> $210 + 35 = 245$	x	30	5	7	210	35	<u>Partial Quotients</u> $15 \overline{) 360}$ <table style="margin: 10px auto; border-collapse: collapse;"> <tr><td style="padding: 2px 5px;">560</td><td style="padding: 2px 5px;">(10 x 15)</td></tr> <tr><td style="padding: 2px 5px;">-180</td><td></td></tr> <tr><td style="padding: 2px 5px;">400</td><td></td></tr> <tr><td style="padding: 2px 5px;">-300</td><td>(20 x 15)</td></tr> <tr><td style="padding: 2px 5px;">100</td><td></td></tr> <tr><td style="padding: 2px 5px;">-90</td><td>(2 x 15)</td></tr> <tr><td style="padding: 2px 5px;">10</td><td></td></tr> <tr><td style="padding: 2px 5px;">-10</td><td>(4 x 15)</td></tr> <tr><td style="padding: 2px 5px;">0</td><td></td></tr> </table>	560	(10 x 15)	-180		400		-300	(20 x 15)	100		-90	(2 x 15)	10		-10	(4 x 15)	0		<u>Multiplying Up</u> $72 \div 8$ $8 \times 5 = 40$ $8 \times 4 = 32$ $(5 + 4) = (40 + 32)$ $8 \times 9 = 72$
x	30	5																									
7	210	35																									
560	(10 x 15)																										
-180																											
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10																											
-10	(4 x 15)																										
0																											
<u>Repeated Subtraction</u>																											
$24 \div 6$ $24 - 6 - 6 - 6 - 6$ $6 \times 4 = 24$ SO $24 \div 6 = 4$																											



Time

- Practise telling the time using half past, quarter past and quarter to using analogue and digital clocks
- Practise minutes to and from the hour
- Be able to identify 24 hour notation
- Use calendars to plan and organise events
- Know the number of seconds in a minute, minutes in an hour, hours in a day, days in each month, weeks and days in a year.

5pm

Analogue



Digital

17:00

Examples of activities

- discuss the importance of arriving on time for events - school, clubs,
- Read TV times and cinema times and calculate the length of programmes and films
- Look at recipes - length of preparation and cooking times
- Look at train/bus/ferry timetables to plan journeys
- Identify 24 hour notation on digital clocks, mobile phones and computers
- Play timing games - how long does it take to walk to the shops? etc.
- Correctly order months of the year and relate these to the seasons

Key Vocabulary

before, after, during, morning, afternoon, midday, noon, night, today, evening, yesterday, tomorrow, day, sunset, sunrise, future, past, present, then, now, when, early, late, soon, days, weeks, months, years, midnight, time, clock, hours, minutes, seconds, o'clock, a.m., p.m., centuries, decades, seasons

Money

- Identify all coins and notes to £20
- Use money to pay for items and work out change from £1, £5, £10
- Discuss different ways to make the same total using combinations of notes and coins
- Talk about saving and spending pocket and birthday money
- Discuss different ways to pay for goods in shops and online

$$\begin{array}{r} 57\text{p} \\ + 22\text{p} \\ \hline 79\text{p} \end{array}$$

$$\begin{array}{r} 79\text{p} \\ - 43\text{p} \\ \hline 36\text{p} \end{array}$$

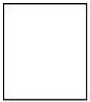
Key Vocabulary

money, coin, penny, pence, pound, price, cost, buy, sell, spend, spent, pay, change, costs more, costs less, cheaper, how much, how many, total, save, cash,

Shape

- Recognise, describe and sort 2D shapes and 3D objects by various criteria e.g. round, flat, straight and curved
- Look for and discuss 2D and 3D shapes at home and outdoors.

2D Shapes



square



rectangle



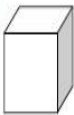
triangle



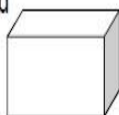
circle

3D Shapes

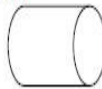
cube



cuboid



cylinder



cone



sphere



Key Vocabulary

shape, flat, round, curved, face, corner, edge,
surface, solid, point, straight, slide, roll

Problem Solving Strategies



Circle important numbers.



Underline the question and important information.



Box any maths **action** words.



Eliminate and **Evaluate**.



Solve and **show** your work.

***Remember to write your answer to the question.**

Useful Websites

- <http://www.primarygames.com/>
- <https://www.sumdog.com/city>
- <https://www.topmarks.co.uk/maths-games/>
- <http://www.primaryhomeworkhelp.co.uk/maths/>