



Staveley C.E. Primary School

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Headteacher: Mr M Prince

Monday 12th December 2011

Dear Parents

We are aware that some of the methods of calculating we now use in school are different from how you were taught when you were at school. These methods have changed since we were at school too! We also appreciate that this can make it difficult when children come home and talk about what they have been doing in class or have homework tasks to do and you feel that you don't want to show them a different way to what we have been doing in school.

Because of this, over the last few weeks we have been developing a document that shows the kind of methods of calculation we teach in each year group and for each of the four operations. (+ - x ÷) Although the different methods relate to year groups within school we do operate a stage not age approach which means that your child will be taught the methods that are appropriate for their ability regardless of what year group they are in.

We hope this document will prove to be useful and aid you with helping your child. We would really appreciate feedback on the calculation document and if you would like to share your thoughts please do so on the slip below.

To complement our calculations document we are planning to have an evening in school where you would be able to come in and see the children using these methods to work out a range of calculations. This evening would probably be in the spring term. Please could you indicate on the form below whether you would be interested in attending or not.

In addition to the calculation document we have also included a 'What can I do with my child to support them with Maths at home?' guide. We would also be interested in your ideas about other ways we could support you and your child/children at home and so if you have any ideas that you would like to share please also add that to the slip.

If you have any questions about maths in school or the attached document please do not hesitate to contact me or your class teacher.

Yours sincerely

Lisa Strange
Senior Teacher and Maths Subject Leader

Name of Child _____

I would be interested in attending the calculations evening

I would not be interested in attending the calculations evening

Comments about calculation document:

Suggestions for other ways school could support children and parents with maths at home

-
-
-

Signed _____



Calculation Policy for Staveley Primary School

This document illustrates the methods of calculation used throughout each year group within school

In Reception children are provided with a range of mathematical opportunities and experiences through stories, songs, games and imaginative play. Mathematical terms are used in a variety of situations throughout the day e.g. during play, in Forest and daily routines.

In a Maths session children will develop their knowledge of a variety of mathematical areas including, numbers and counting, matching and sorting and shape, space and measures. There is a Maths area in the classroom where children are encouraged to practise and extend their skills in a range of contexts.

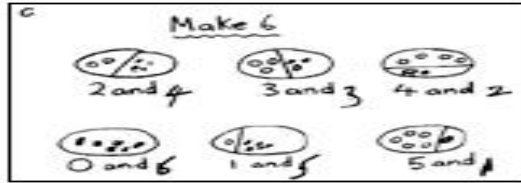
For the Calculating aspect of Early Learning Goals children assessed upon four key areas

- Begin to use the vocabulary involved in adding and subtracting
- Use language such as 'more' or 'less' to compare two numbers
- Find one more or one less than a number from 1 – 10
- Begin to relate addition to combining two groups of objects and subtraction to 'taking away'

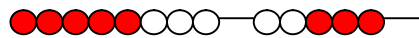
The above areas are approach through lots of practical activities and discussion using tangible objects rather than formal recording.

Y1

Using pictures



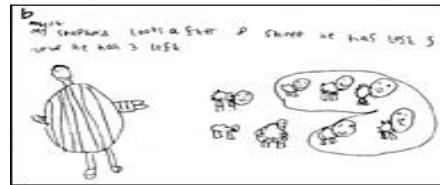
Bead strings or bead bars can be used to illustrate addition including bridging through ten by counting on 2 then counting on 3.



They use numberlines and practical resources to support calculation and teachers *demonstrate* the use of the numberline.

Children then begin to use numbered lines to support their own calculations using a numbered line to count on in ones.

Using pictures



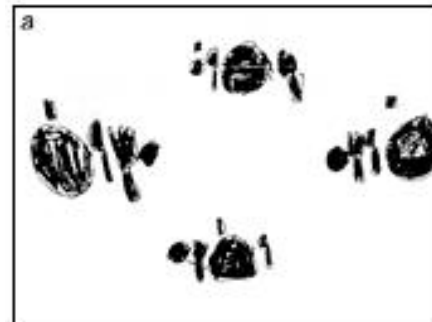
Children begin to use numbered lines to support their own calculations - using a numbered line to count back in ones.

The numberline should also be used to show that $6 - 3$ means the 'difference between 6 and 3' or 'the difference between 3 and 6' and how many jumps they are apart.

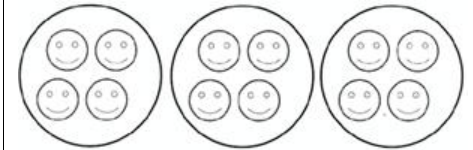
Children will experience equal groups of objects.

They will count in 2s and 10s and begin to count in 5s.

They will work on practical problem solving activities involving equal sets or groups.



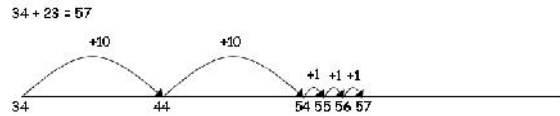
Children will understand equal groups and share items out in play and problem solving. They will count in 2s and 10s and later in 5s.



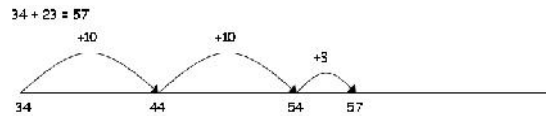
Y2

Children will begin to use 'empty number lines' themselves starting with the larger number and counting on.

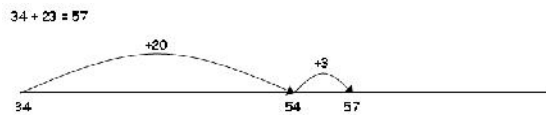
- ✓ First counting on in tens and ones.



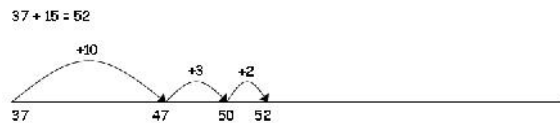
- ✓ Then helping children to become more efficient by adding the units in one jump (by using the known fact $4 + 3 = 7$).



- ✓ Followed by adding the tens in one jump and the units in one jump.



- ✓ Bridging through ten can help children become more efficient.

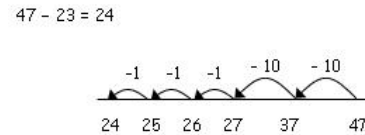


Y2

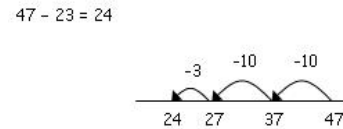
Children will begin to use empty number lines to support calculations.

Counting back:

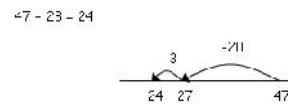
- ✓ First counting back in tens and ones.



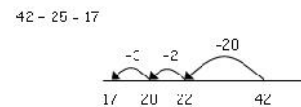
- ✓ Then helping children to become more efficient by subtracting the units in one jump (by using the known fact $7 - 3 = 4$).



- ✓ Subtracting the tens in one jump and the units in one jump.



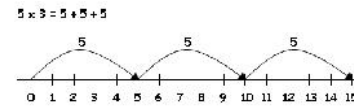
- ✓ Bridging through ten can help children become more efficient.



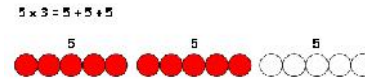
Children will develop their understanding of multiplication and use jottings to support calculation:

- ✓ **Repeated addition**
3 times 5 is $5 + 5 + 5 = 15$
or 3 lots of 5 or 5×3

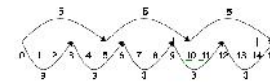
Repeated addition can be shown easily on a number line:



and on a bead bar:



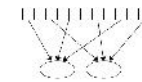
- ✓ **Commutativity**
Children should know that 3×5 has the same answer as 5×3 . This can also be shown on the number line.



- ✓ **Arrays**
Children should be able to model a multiplication calculation using an array. This knowledge will support with the development of

Children will develop their understanding of division and use jottings to support calculation

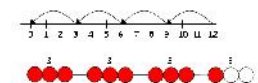
- ✓ **Sharing equally**
6 sweets shared between 2 people, how many do they each get?



- ✓ **Grouping or repeated subtraction**
There are 6 sweets, how many people can have 2 sweets each?



- ✓ **Repeated subtraction using a number line or bead bar**
 $12 \div 3 = 4$

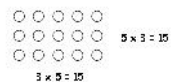


The bead bar will be preferred with interpreting division as collections such as 10 ÷ 5 or how many lots of 10?

- ✓ **Using symbols to stand for unknown numbers to complete equations using inverse operations**

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the grid method.

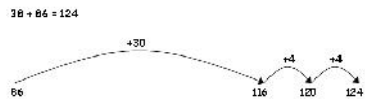


$$\square \div 2 = 4 \quad 20 \div \triangle = 4 \quad \square \div \triangle = 4$$

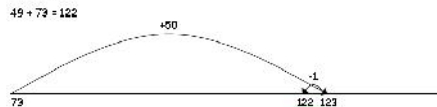
Addition

Y3 Children will continue to use empty number lines with increasingly large numbers, including compensation where appropriate.

- ✓ Count on from the largest number irrespective of the order of the calculation.



- ✓ Compensation



Children will begin to use informal pencil and paper methods (jottings) to support, record and explain partial mental methods building on existing mental strategies.

Adding the least significant

Subtraction

Children will continue to use empty number lines with increasingly large numbers.

Children will begin to use informal pencil and paper methods (jottings).

- ✓ Partitioning and decomposition

- Partitioning - demonstrated using arrow cards
- Decomposition - base 10 materials

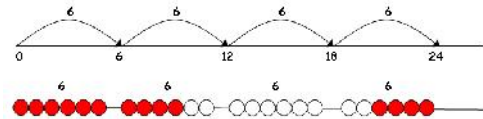
NOTE When solving the calculation $89 - 57$, children should know that 57 **does NOT EXIST AS AN AMOUNT** it is what you are subtracting from the other number. Therefore, when using base 10 materials, children would need to count out only the 89.

$$\begin{array}{r} 89 \\ - 57 \\ \hline 32 \end{array} = \begin{array}{r} 80 + 9 \\ 50 + 7 \\ \hline 30 + 2 = 32 \end{array}$$

Multiplication

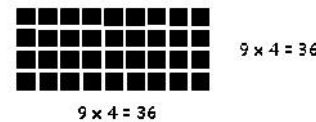
Children will continue to use:

- ✓ **Repeated addition**
4 times 6 is $6 + 6 + 6 + 6 = 24$
or 4 lots of 6 or 6×4
- Children should use number lines or bead bars to support their understanding.



- ✓ **Arrays**

Children should be able to model a multiplication calculation using an array. This knowledge will support with the development of the grid method.



- ✓ **Scaling**
e.g. Find a ribbon that is 4 times as long as the blue ribbon

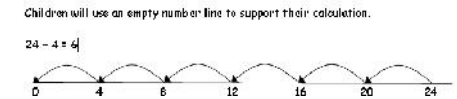


Division

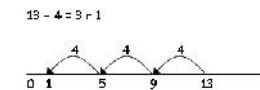
Ensure that the emphasis in Y3 is on grouping rather than sharing.

Children will continue to use:

- ✓ **Repeated subtraction using a number line**



Children should also move onto calculations involving remainders.



- ✓ **Using symbols to stand for unknown numbers to complete equations using inverse operations**

$$26 \div 2 = \square \qquad 24 \div \triangle = 12$$

$$\square \div 10 = 8$$

Addition

Y3 digits first

$$\begin{array}{r} 67 \\ + 24 \\ \hline 11 \text{ (7 + 4)} \\ \hline 80 \text{ (60 + 20)} \\ \hline 91 \end{array}$$

$$\begin{array}{r} 267 \\ + 85 \\ \hline 12 \text{ (7 + 5)} \\ \hline 140 \text{ (60 + 80)} \\ \hline 200 \\ \hline 352 \end{array}$$

Subtraction

✓ **Begin to exchange.**

$$\begin{array}{r} 7: = \\ - 46 \end{array}$$

Step 1 $\begin{array}{r} 70 + 1 \\ - 40 + 6 \end{array}$

Step 2 $\begin{array}{r} 60 + 11 \\ - 40 + 6 \\ \hline 20 + 5 = 25 \end{array}$

The calculation should be read as e.g. take 6 from 1

This would be recorded by the children as

$$\begin{array}{r} 70 + 1 \\ - 40 + 6 \\ \hline 20 + 5 = 25 \end{array}$$

Where the numbers are involved in the calculation are close together or near to multiples of 10, 100 etc counting on using a number line should be used.

102 - 89 = 13



Multiplication

✓ **Using symbols to stand for unknown numbers to complete equations using inverse operations**

$$\square \times 5 = 20 \qquad 3 \times \triangle = 18$$

$$\square \times \bigcirc = 32$$

✓ **Partitioning**

$$\begin{aligned} 38 \times 5 &= (30 \times 5) + (8 \times 5) \\ &= 150 + 40 \\ &= 190 \end{aligned}$$

Division

Addition

✓ Carry below the line.

$$\begin{array}{r} 625 \\ + 48 \\ \hline 673 \end{array}$$

$$\begin{array}{r} 703 \\ + 42 \\ \hline 745 \end{array}$$

$$\begin{array}{r} 367 \\ + 89 \\ \hline 456 \end{array}$$

Using similar methods, children will:

- ✓ add several numbers with different numbers of digits;
- ✓ begin to add two or more three-digit sums of money, with or without adjustment from the pence to the pounds;
- ✓ know that the decimal points should line up under each other, particularly when adding or subtracting mixed amounts, e.g. £3.59 + 78p.

Subtraction

✓ **Partitioning and decomposition**

$$754 =$$

$$\begin{array}{r} 754 \\ - 86 \\ \hline \end{array}$$

Step 1 $700 + 50 + 4$
 $\begin{array}{r} 700 + 50 + 4 \\ - 80 + 6 \\ \hline \end{array}$

Step 2 $700 + 40 + 14$ (adjust from T to U)
 $\begin{array}{r} 700 + 40 + 14 \\ - 80 + 6 \\ \hline \end{array}$

Step 3 $600 + 140 + 14$ (adjust from H to T)
 $\begin{array}{r} 600 + 140 + 14 \\ - 80 + 6 \\ \hline 600 + 60 + 8 = 668 \end{array}$

This would be recorded by the children as

$$\begin{array}{r} 600 + 140 + 14 \\ - 80 + 6 \\ \hline 600 + 60 + 8 = 668 \end{array}$$

✓ **Decomposition**

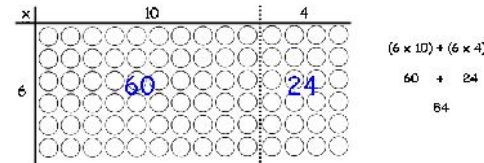
$$\begin{array}{r} 6141 \\ 754 \\ - 86 \\ \hline 668 \end{array}$$

Children should:

- ✓ be able to subtract numbers with different numbers of digits;
- ✓ using this method, children should also begin to find the difference between two three-digit sums of money, with or without 'adjustment' from the pence to the

Multiplication

Children will continue to use arrays where appropriate leading into the grid method of multiplication.



✓ **Grid method**

TU x U

(Short multiplication - multiplication by a single digit)

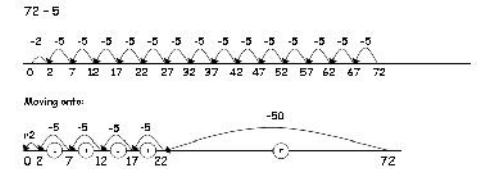
$$23 \times 8$$

Children will approximate first 23×8 is approximately $25 \times 8 = 200$

$$\begin{array}{r} \times \quad 20 \quad 3 \\ 8 \quad \boxed{160} \quad \boxed{24} \\ \hline 160 \\ + 24 \\ \hline 184 \end{array}$$

Division

Children will develop their use of repeated subtraction to be able to subtract multiples of the divisor. Initially, these should be multiples of 10s, 5s, 2s and 1s - numbers with which the children are more familiar.



Then onto the vertical method:
Short division TU ÷ U

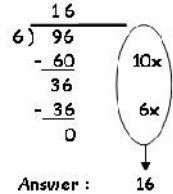
$$72 \div 3$$

$$\begin{array}{r} 3 \overline{) 72} \\ - 30 \\ \hline 42 \\ - 30 \\ \hline 12 \\ - 6 \\ \hline 6 \\ - 6 \\ \hline 0 \end{array}$$

Answer : 24

10x
10x
2x
2x

Leading to subtraction of other multiples.

	Addition	Subtraction	Multiplication	Division
Y4		<p><i>pounds;</i></p> <p>✓ <i>know that decimal points should line up under each other.</i></p>		<p>$96 \div 6$</p>  <p>Any remainders should be shown as integers, i.e. 14 remainder 2 or 14 r 2.</p> <p>Children need to be able to decide what to do after division and round up or down accordingly. They should make sensible decisions about rounding up or down after division.</p>

Addition

Y5 Children should extend the carrying method to numbers with at least four digits.

$$\begin{array}{r} 587 \\ + 475 \\ \hline 1062 \\ 11 \end{array} \qquad \begin{array}{r} 3587 \\ + 675 \\ \hline 4262 \\ 11 \end{array}$$

Using similar methods, children will:

- ✓ add several numbers with different numbers of digits;
- ✓ begin to add two or more decimal fractions with up to three digits and the same number of decimal places;
- ✓ know that decimal points should line up under each other, particularly when adding or subtracting mixed amounts, e.g. 3.2 m - 280 cm.

Subtraction

Partitioning and decomposition

Step 1 $7F4 = 700 + 50 + 4$
 $\begin{array}{r} 7F4 \\ - 2E6 \\ \hline \end{array}$

Step 2 $\begin{array}{r} 700 + 40 + 14 \\ - 200 + 80 + 6 \end{array}$ (adjust from T to U)

Step 3 $\begin{array}{r} 600 + 140 + 14 \\ - 200 + 80 + 6 \\ \hline 400 + 60 + 8 = 468 \end{array}$ (adjust from H to T)

This would be recorded by the children as

$$\begin{array}{r} 600 + 140 + 14 \\ - 200 + 80 + 6 \\ \hline 400 + 60 + 8 = 468 \end{array}$$

Decomposition

$$\begin{array}{r} 6141 \\ - 784 \\ \hline 468 \end{array}$$

Children should:

- ✓ be able to subtract numbers with different numbers of digits;
- ✓ begin to find the difference between two decimal fractions with up to three digits and the same number of decimal places;
- know that decimal points should line up under each other

Where the numbers are involved in the calculation are close together or near to multiples of 10, 100 etc

Multiplication

Grid method

HTU x U

(Short multiplication - multiplication by a single digit)

$$346 \times 9$$

Children will approximate first
 346×9 is approximately $350 \times 10 = 3500$

$$\begin{array}{r} \times \quad 300 \quad 40 \quad 6 \\ 9 \quad \boxed{2700} \quad \boxed{360} \quad \boxed{54} \\ \hline 2700 \\ + 360 \\ + 54 \\ \hline 3114 \\ 11 \end{array}$$

TU x TU

(Long multiplication - multiplication by more than a single digit)

$$72 \times 38$$

Children will approximate first
 72×38 is approximately $70 \times 40 = 2800$

$$\begin{array}{r} \times \quad 70 \quad 2 \\ 30 \quad \boxed{2100} \quad \boxed{60} \\ 8 \quad \boxed{560} \quad \boxed{16} \\ \hline 2100 \\ + 560 \\ + 60 \\ + 16 \\ \hline 2736 \\ 1 \end{array}$$

Division

Children will continue to use written methods to solve short division $TU \div U$.

Children can start to subtract larger multiples of the divisor, e.g. $30x$

Short division $HTU \div U$

$$196 \div 6$$

$$\begin{array}{r} 32 \text{ r } 4 \\ 6 \overline{) 196} \\ - 180 \\ \hline 16 \\ - 12 \\ \hline 4 \end{array}$$

Answer: 32 remainder 4 or $32 \text{ r } 4$

Any remainders should be shown as integers, i.e. 14 remainder 2 or $14 \text{ r } 2$.

Children need to be able to decide what to do after division and round up or down accordingly. They should make sensible decisions about rounding up or down after division.

Addition

Subtraction

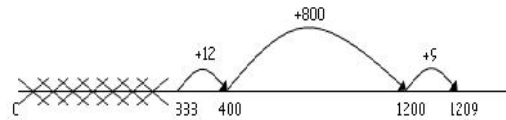
Multiplication

Division

Y5

counting on using a number line should be used.

$$1205 - 388 = 821$$



Using similar methods, they will be able to multiply decimals with one decimal place by a single digit number, approximating first. They should know that the decimal points line up under each other.

e.g. 4.9×3

Children will approximate first
 4.9×3 is approximately $5 \times 3 = 15$

×	4	0.9	
3	12	2.7	
			12
			+ 2.7
			<hr style="width: 50%; margin: 0;"/>
			14.7

Addition

Y6 Children should extend the carrying method to number with any number of digits.

$$\begin{array}{r} 7648 \\ + 1486 \\ \hline 9134 \\ 111 \end{array} \qquad \begin{array}{r} 6584 \\ + 5848 \\ \hline 12432 \\ \dots \end{array} \qquad \begin{array}{r} 42 \\ 6432 \\ 786 \\ 3 \\ + 4681 \\ \hline 11944 \\ 12 \end{array}$$

Using similar methods, children will

- ✓ add several numbers with different numbers of digits;
- ✓ begin to add two or more decimal fractions with up to four digits and either one or two decimal places;
- ✓ know that decimal points should line up under each other, particularly when adding or subtracting mixed amounts, e.g. $401.2 + 26.85 + 0.71$.

Subtraction

Decomposition

$$\begin{array}{r} 3131 \\ \cancel{6467} \\ - 2684 \\ \hline 3783 \end{array}$$

Children should:

- ✓ be able to subtract numbers with different numbers of digits;
- ✓ be able to subtract two or more decimal fractions with up to three digits and either one or two decimal places;
- ✓ know that decimal points should line up under each other.

Where the numbers involved in the calculation are close together or near to multiples of 10, 100 etc counting on using a number line should be used.

Multiplication

ThHTU x U

(Short multiplication - multiplication by a single digit)

$$4346 \times 8$$

Children will approximate first

$$4346 \times 8 \text{ is approximately } 4346 \times 10 = 43460$$

$$\begin{array}{r} \times \quad 4000 \quad 300 \quad 40 \quad 6 \\ 8 \quad \boxed{32000} \quad \boxed{2400} \quad \boxed{320} \quad \boxed{48} \end{array}$$

$$\begin{array}{r} 32000 \\ + 2400 \\ + 320 \\ + 48 \\ \hline 34768 \end{array}$$

HTU x TU

(Long multiplication - multiplication by more than a single digit)

$$372 \times 24$$

Children will approximate first

$$372 \times 24 \text{ is approximately } 400 \times 25 = 10000$$

$$\begin{array}{r} \times \quad 300 \quad 70 \quad 2 \\ 20 \quad \boxed{6000} \quad \boxed{1400} \quad \boxed{40} \\ 4 \quad \boxed{1200} \quad \boxed{280} \quad \boxed{8} \end{array}$$

$$\begin{array}{r} 6000 \\ + 1400 \\ + 1200 \\ + 280 \\ + 40 \\ + 8 \\ \hline 8928 \\ 1 \end{array}$$

Using similar methods, they will be able to multiply decimals with up to

Division

Children will continue to use written methods to solve short division $TU \div U$ and $HTU \div U$.

Long division HTU ÷ TU

$$972 \div 36$$

$$\begin{array}{r} 27 \\ 36 \overline{) 972} \\ - 720 \\ \hline 252 \\ - 252 \\ \hline 0 \end{array}$$

20x
7x
 Answer: 27

Any remainders should be shown as fractions, i.e. if the children were dividing 32 by 10, the answer should be shown as $3 \frac{2}{10}$ which could then be written as $3 \frac{1}{5}$ in its lowest terms.

Extend to decimals with up to two decimal places. Children should know that decimal points line up under each other.

	Addition	Subtraction	Multiplication	Division
Y6		<p>3032 1957 = 1005</p>	<p>two decimal places by a single digit number and then two digit numbers, approximating first. They should know that the decimal points line up under each other.</p> <p>For example: 4.92×3 Children will approximate first 4.92×3 is approximately $5 \times 3 = 15$</p> $\begin{array}{r} \times \quad 4 \quad 0.9 \quad 0.02 \\ 3 \quad \underline{12 \quad 2.7 \quad 0.06} \end{array}$ $\begin{array}{r} 12 \\ + 0.7 \\ + 0.06 \\ \hline 12.76 \end{array}$ <p>Children will also be taught the more traditional method e.g.</p> $\begin{array}{r} 432 \\ \times 8 \\ \hline 3456 \end{array}$	<p>$87.5 \div 7$</p> <p>Answer : 12.5</p> <p>Children will also be taught the more traditional method e.g.</p> $\begin{array}{r} 139 \\ 5 \overline{) 695} \end{array}$

By the end of year 6, children will have a range of calculation methods, mental and written. Selection will depend upon the numbers involved. There will also be an element of them choosing the method they feel most confident with.

Children should not be made to go onto the next stage if:

they are not ready.

they are not confident.

Children should be encouraged to approximate their answers before calculating.

Children should be encouraged to consider if a mental calculation would be appropriate before using written methods.



What can I do with my child to support them with Maths at home?

This booklet is a compilation of ideas and activities you could complete at home with your child related to a variety of different topic areas that link to Maths.

SHOPPING

- looking at prices
- calculating change - which coins, different combinations
- deciding on coins to pay a bill
- guessing the value of a coin from a description
- weighing fruit and vegetables in the supermarket
- counting pocket money
- calculating the price of a holiday from brochures
- reading labels on bottles, packets, in order to discuss capacity, weight, shape, colour
- estimating the final bill at the end of shopping while waiting at the checkout
- calculating VAT, calculating foreign currency exchange rates
- purchasing litres of petrol and calculating total cost
- calculating discounts eg 20% reduction, 50% sale price
- calculating how many tins fill an area on a shelf
- using shopping bills to calculate change
- estimating how many apples, tomatoes in a kilogram
- calculating bank accounts and rates of interest
- calculating postage on letters using first or second class stamps
- writing and sorting shopping lists
- rubbings of different coins – can we recognise the value?
- talking about the different shapes of packets, tins etc.
- calculating the cost of a meal using a menu

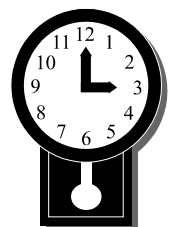
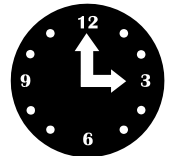


- compare the prices of the same item in different shops
- using a collection of receipts as a basis for addition, etc
- calculating the cost of the contents of a lunch box
- using a scanner in a supermarket
- using the till receipt to check the shopping
- calculating price per pound, kilogram, etc
- calculating the cost of the family going to the cinema, swimming baths, etc



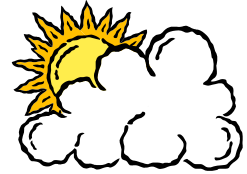
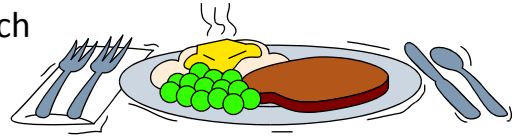
TIME

- 🕒 looking at the clock - identify the numbers
- 🕒 telling the time
- 🕒 calculating how long a journey will take looking at train/bus/airline timetables
- 🕒 using TV guide to calculate the length of programmes
- 🕒 programming the video, the microwave
- 🕒 discussing the seasons
- 🕒 looking at a calendar - days, weeks, months
- 🕒 planning out birthdays and discussing how many weeks
- 🕒 estimating how long it will take to walk/drive to school
- 🕒 identifying the day of the week on a newspaper
- 🕒 calculating time differences in foreign countries
- 🕒 calculating age at a given a date, eg I was born in 1954, how old am I? The building was built in 1860, how old is it?
- 🕒 discussing the age of family members, putting them in order
- 🕒 calculating the time if the clock is 10 minutes fast, 10 minutes slow
- 🕒 trying to find a clock in every shop on a visit to town
- 🕒 looking at the posting times on the post box
- 🕒 discussing events in the day eg tea time, bed time, bath time
- 🕒 setting the radio alarm
- 🕒 standing still for a minute – count 60 seconds
- 🕒 looking at different types of clocks
- 🕒 vocabulary of time – decade, century, millennium
- 🕒 using clocks - analogue and digital



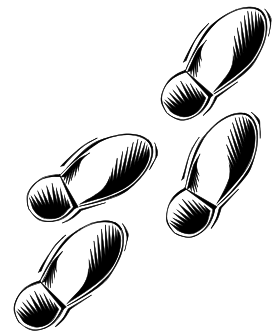
SEQUENCING

- the main events of the day eg breakfast, lunch
- routines and what comes next
- the parts of a recipe, set of instructions
- getting dressed
- tying shoe laces
- the seasons of the year, months of the year
- the instructions to make a cup of tea
- familiar stories

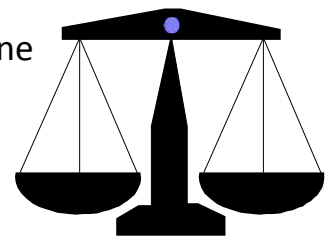
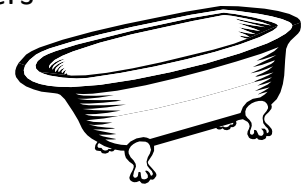


MEASUREMENT

- calculating distances in a journey eg how much further?
- calculating heights of family members - who is the tallest?
- measuring weights of ingredients for baking
- playing with plastic jugs and containers in the bath
- measuring a distance using hand spans, footsteps
- reading a map to calculate the distance of a journey
- using non-standard measures to decide a measurement
- comparing sizes of clothes - bigger than, smaller than
- calculating areas eg how many squares on the patio, how many tiles in the shower?

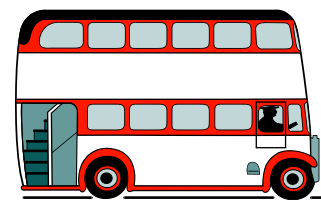
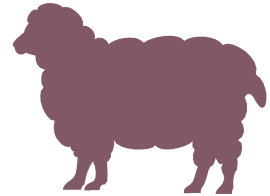


- calculating in DIY activities eg estimate amount of carpet, curtain material, paint etc
- looking at bottles and discussing capacity of various containers
- recording the growth of plants in the garden
- estimating the length of the holiday journey
- drawing simple plans of the bedroom, the kitchen, the garden
- looking at road signs to discuss distances
- comparing the shoe sizes within the family
- identifying position on an OS map using co-ordinates and grid references
- calculating capacity of coke can, milk cartons, etc
- reading the scale on weighing machines and calculating the calibrations
- measuring ingredients out for a recipe using different types of spoons
- comparing journey distances using different routes
- calculating the capacity of the bath using a variety of containers
- converting miles to kilometres on a car journey
- discussing oven temperature when cooking
- monthly diary of own weight, height, etc
- matching metric weight of article to that on the label
- using different length measuring devices eg rulers, tape measures
- weighing different toys to find heaviest, lightest, two the same, etc
- water consumption/wastage in the home
- making orange squash – how many cups can you get from one bottle?
- weighing unusual items eg snails
- discussing the weight of your pet at the vets
- estimating with string the circumference, perimeter of a puddle made by pouring 1 pint of water on the ground
- estimating then counting the squares contained in the outline of a hand/foot
- wrapping parcels - what amount of paper, string do we need?



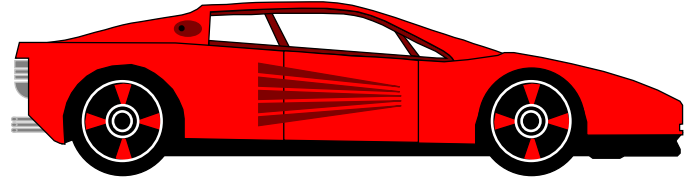
COUNTING

1. collections of objects - shells, buttons, pretty stones
2. cars on a journey eg how many red cars?
3. animals in a field eg sheep, cows
4. stairs up to bed, steps etc
5. stepping stones in the garden
6. railings around the school, park, garden
7. lamp posts, gates, road signs
8. house numbers - emphasising odd and even
9. sports scores - cricket averages, goal averages
10. pages in a story book
11. traffic to pass a house and draw graphs, pie charts to represent data
12. counting up to 10, 20, 100 – backwards and forwards
13. counting buttons, shoes, socks as a child gets dressed
14. tidy a cupboard or shelf and count the contents eg tins, shoes, etc
15. rows of seeds in the garden and plants in pots etc
16. counting particular vehicles on a journey eg Eddie Stobart lorries, motor bikes, etc
17. using magnetic numbers to make sums on the fridge door
18. counting the legs on pub signs eg Duke of York, The Horse and Farrier
19. tally charts eg bird survey
20. on a bus journey count how many people on the bus, how many get off, etc



USING NUMBERS AROUND US

- ◆ using car number plates - add the digits to find biggest, smallest and total



- ◆ sharing out sweets, toys etc in groups of 2, 3, 4, 5, 6 etc to help with times tables
- ◆ looking for numbers - in shops, on buses, doors, cars
- ◆ using telephone numbers - add the digits to find the nearest to 20, 30 etc

- ◆ using telephone numbers - value of each digit

- ◆ using sandwiches to show fractions $\frac{1}{2}$, $\frac{1}{4}$

- ◆ using a round sandwich cake to show fractions $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{6}$ etc



- ◆ looking in newspapers at sports results – calculate average scores, average crowds, etc

- ◆ looking at speed limits on a journey

- ◆ finding 'big' numbers in newspapers

- ◆ looking for numbers in the home eg washing machine, thermometer, cooker

- ◆ checking the temperature in different parts of the world in a newspaper

- ◆ on a visit to town – can you find a number 5, 6, etc?

- ◆ collecting data and representing in pictorial form eg graph, pie chart

- ◆ reading meters eg electricity, gas

- ◆ using TV weather forecast to discuss temperature, wind speed, wind direction, etc

- ◆ folding towels to show $\frac{1}{2}$, $\frac{1}{4}$

- ◆ using the appropriate vocabulary eg position – on, over, up, down, above, below

- ◆ keeping a height chart in the kitchen/bedroom

REASONING

- laying the table for four people
- planning a TV viewing session
- planning a day out for the family
- asking what do you think will happen if?

OTHER IDEAS

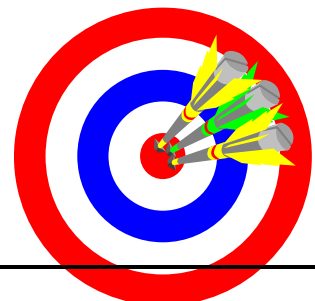
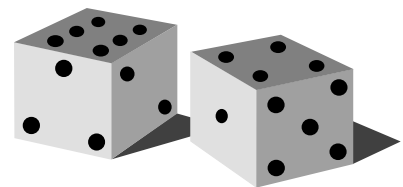
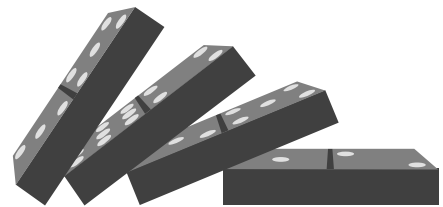
- singing nursery rhymes and songs
- clapping in different sequences
- reading stories with a number element
- games of chance
- calculator fun games
- looking for shapes in the environment eg windows
- looking for and making patterns eg bricks in a wall, square tiles on a floor
- playing with a number line or number square
- using a thermometer to read temperature - identify negative numbers
- identifying angles eg right angles
- looking at symmetry eg petals on a flower
- making 3D shapes in card
- tessellating shapes eg tiles in the bathroom
- grabbing straws – estimating a group of 10, 12, 15, etc
- counting how many items will fit into a match box or film canister
- using fridge magnet numbers and sponge numbers around the house



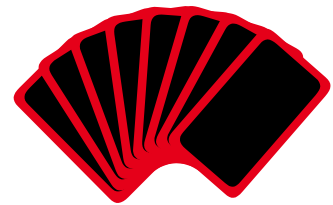
- make a scrap book of numbers
- learning times tables - tape on a car journey
- making sandcastles and discussing different shapes
- using salt dough, plasticine to make numbers
- using a compass when on a walk to check direction, degrees, angles

NUMBER GAMES

- Skipping - every skip count, 2, 3, 4 etc
- Hop scotch
- Ludo
- Snakes & Ladders
- Dominoes
- Cards - number sequences
- Bingo
- Dice
- Yahtzee
- Darts
- Heads & Tails and keep a tally
- Chess and draughts
- Monopoly
- Computer programmes
- Beetle
- Bridge
- Snap
- Connect 4
- Counting games to practise times tables
- I spy a number in town, on a journey



- Number jigsaws
- Rummy
- Patience
- Clock golf, croquet, crazy golf on holiday to help counting
- Snooker
- Pool
- Number Lotto
- Dot to dot with numbers
- Skittles
- Polydron
- Happy families
- Whist
- Shuttle table
- Quoits
- Newmarket
- Pontoon
- Cribbage
- Number crosswords, dot to dot, puzzles
- Rubik cube



SORTING AND MATCHING

- ◆ setting the table - 1 to 1 correspondence and sorting cutlery
- ◆ sorting buttons, beads, colours of pegs,
sweets, biscuits, containers,
seeds for the garden, flowers
- ◆ sorting clothes for washing -
size, colour
- ◆ matching pairs of socks, gloves, shoes
- ◆ ordering a group of items by size
- ◆ threading beads on a string to a set pattern
- ◆ sorting groceries

