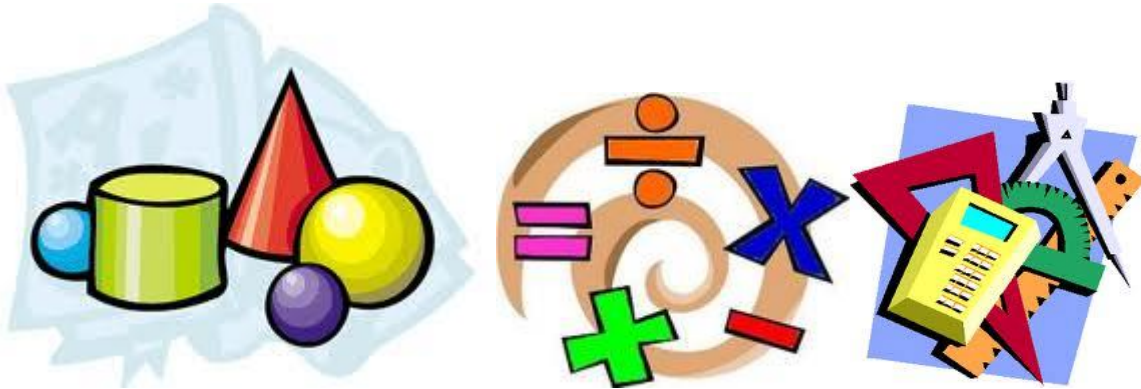




# Maths guide for parents and carers of mathematicians in Reception



## Contents

- *Introduction, do's and don'ts*
- *Overview of the year - key concepts that your child will be learning in mathematics*
- *Methods of calculation taught & mental strategies*
- *Vocabulary - mathematical words they need to know*
- *Maths at home, games and internet links*
- *Key objectives your child should know by the end of the year*

*This booklet has been written to help you understand how mathematics is taught in school. It also gives practical ideas and suggestions for helping your child at home, and outlines what your child will be learning this year.*

*We know that you are keen to help with your child's maths education but may find you do not understand what their child is doing at school. Methods we teach might be different from the way you were taught. Many of you might feel less confident in mathematics because you did not understand it or enjoy the subject when you were at school. We all want your children to feel the opposite. We want them to feel confident in their mathematical abilities and to enjoy maths lessons. Children are taught why the methods work, not just how to perform them. It is the difference between telling someone directions and giving them a map.*

*We hope that you use this guide to help you support your child with maths at home. If you have any questions about anything in this guide, please ask your child's teacher or Becca Wall (maths coordinator) and we will be more than happy to talk things through.*

*Reference materials include: Mathematical Vocabulary booklet (DfE), target setting booklet (DfE), Maths for Mums & Dads (Rob Eastaway & Mike Askew), the latter of which is a well worth reading.*

## Some Do's and Don'ts

- Make maths 'hands on'—remember the three C's of everyday maths: cash, clocks and cooking. All three are perfect opportunities to practise maths (see maths at home section)
- Recognise there's more than one way of doing a calculation. Children's methods may seem long-winded or confusing, but you should always let them try their own way of solving a problem - it's how they will learn to understand maths rather than finding quick short-cuts.
- Discuss how one method may not be appropriate for all calculations e.g. you would use different methods to find  $230 - 99$  than  $230 - 67$
- Don't expect children to 'get it' after you've explained to once—it can take a long time for the penny to drop. It is perfectly normal for children not to recognise a concept learnt in a new context.
- When a child gets a question wrong, it is tempting to tell them they are wrong and how to correct it. Why not ask them to explain their method and help them spot their mistake.
- Similarly if a child gets a question right, get them to explain how they reached their answer, perhaps pretending not to understand their reasoning.
- Make maths a casual part of what you do while you're doing something else. Instead of making maths formal, find ways to sneak it in e.g. How many more plates do I need? Have we got enough for the bread and milk? Did you see the number 23 bus? I was wondering, is 23 a prime number?
- Don't accept it if your child says they are bad at maths and don't say that you are bad at maths either —this can give the message that maths is difficult, not enjoyable and ultimately not important for success in life. This just isn't true; as adults we deal with mathematics every day in cooking, shopping, sharing, games, parking... the list is endless. If you are positive your child will be too.

# OVERVIEW OF MATHS IN RECEPTION

*The parts in bold should be particularly focused on and practised at home.*

*This outlines what the children will be learning over the course of the year:*

## Problem solving

- ❑ **Use developing mathematical, ideas and methods to solve practical problems**
- ❑ Match sets of objects to numerals that represent the number of objects
- ❑ Sort objects, making choices and justifying decisions
- ❑ **Talk about, recognise and recreate simple patterns**
- ❑ Describe solutions to practical problems, drawing on experience, talking about own ideas, methods and choices

## Number and place value

- ❑ **Say and use the number names in order in familiar contexts**
- ❑ Know that numbers identify how many objects are in a set
- ❑ **Count reliably up to 10 everyday objects**
- ❑ **Estimate how many objects they can see and check by counting**
- ❑ Count aloud in ones, twos, fives or tens
- ❑ **Match then compare the number of objects in two sets**
- ❑ **Use language such as 'more' or 'less' to compare two numbers**
- ❑ Use ordinal numbers in different contexts
- ❑ **Recognise numerals 1 - 9**

## Number facts

- ❑ Observe number relationships and patterns in the environment and use these to derive facts
- ❑ Find one more or one less than a number from one to 10
- ❑ Select two groups of objects to make a given total of objects

## Calculation (see following pages for methods)

- ❑ **Begin to relate addition to combining two groups of objects and subtraction to 'taking away'**
- ❑ **In practical activities and discussion begin to use the vocabulary involved in adding and subtracting**
- ❑ Count repeated groups of the same size
- ❑ Share objects into equal groups and count how many in each group

## Shape, space and measure

- ▣ Use familiar objects and common shapes to create and recreate patterns and build models
- ▣ Use familiar objects and common shapes to create and recreate patterns and build models
- ▣ Use everyday words to describe position
- ▣ Measure accurately using appropriate units, interpret and compare scales
- ▣ Use language such as 'greater', 'smaller', 'heavier' or 'lighter' to compare quantities
- ▣ Use everyday language related to time; order and sequence familiar events and measure short periods of time with a non-standard unit

## Data handling

- ▣ Use developing mathematical ideas and methods to solve practical problems
- ▣ Talk about, recognise and recreate simple patterns
- ▣ Sort familiar objects and count how many objects share a particular property, presenting results using pictures, drawings or numerals

## METHODS OF CALCULATION

If you would like to see detail of how these methods progress through each year group, please ask your child's teacher for our school calculation policy. If you use different methods, feel free to discuss these with your child but allow them to explain what they have learnt at school too.

*MANY MENTAL CALCULATION STRATEGIES WILL CONTINUE TO BE USED THROUGHOUT YOUR CHILD'S SCHOOLING. THEY ARE NOT REPLACED BY WRITTEN METHODS.*

**Children should be encouraged to**

- approximate their answers before calculating.
- check their answers after calculation using an appropriate strategy.

## ADDITION

Sum

Plus

Altogether

Total

### Mental Calculation Strategies for Addition

These are a **selection** of mental calculation strategies which should continue to be practiced and used in lessons right up to year 6.

#### **Mental recall of number bonds**

$$6 + 4 = 10$$

$$\square + 3 = 10$$

$$25 + 75 = 100$$

$$19 + \square = 20$$

Using number bonds to add many numbers

$5 + 2 + 8 + 9 + 1$  combine 9 and 1, 8 and 2 to see the answer is 25

#### **Use near doubles**

$$6 + 7 = \text{double } 6 + 1 = 13$$

#### **Addition using partitioning and recombining**

$$34 + 45 = (30 + 40) + (4 + 5) = 79$$

#### **Counting on or back in repeated steps of 1, 10, 100, 1000**

$$86 + 57 = 143 \text{ (by counting on in tens and then in ones)}$$

$$460 - 300 = 160 \text{ (by counting back in hundreds)}$$

#### **Add the nearest multiple of 10, 100 and 1000 and adjust**

$$24 + 19 = 24 + 20 - 1 = 43$$

$$458 + 71 = 458 + 70 + 1 = 529$$

#### **Use the relationship between addition and subtraction**

$$36 + 19 = 55$$

$$19 + 36 = 55$$

$$55 - 19 = 36$$

$$55 - 36 = 19$$

### Recording addition

Children are taught to recognise numerals 1-10 (Nursery) 1-20 (Reception). They learn that number names are numerals.

Children count from 1-10, understanding that 0 is 'nothing', finding one more or one less than a number from 1 to 10.

They know that \* \* \* = 3, moving or pointing to objects counted as they count. Emphasising the last number (cardinal number) to show that they count the objects and the last one is how many there are. If you move objects around, there are still 3. If you spread them out, there are still 3.

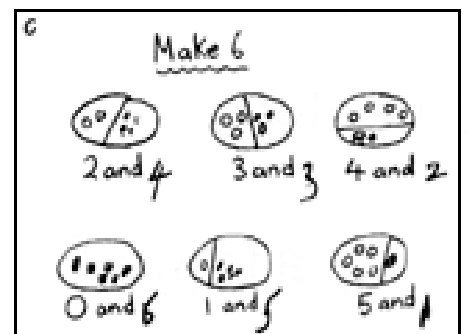
Children are able to give you a number of objects from a bigger group eg. give you 8 from a pile of 20.

They can count with help to 20, observing number relationships and patterns in the environment.

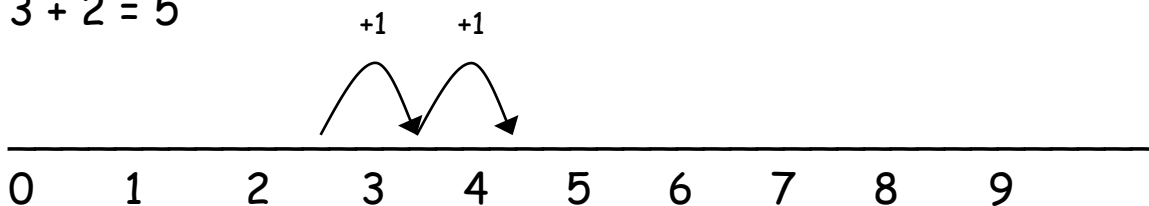
They are able to combine two groups of objects to make a given total of objects

**Some teaching strategies include:** using flash cards at carpet times, lining up numbers, using display to support recognition of numerals, counting incorporated into play/practical situations, using counting songs, using Numicon which children use to visualise number, add and subtract. It is also useful for number bonds. It is not about counting, but having a mental image of a number so children know instantly what 2 or 5 looks like.

Children are encouraged to develop a **mental picture** of the number system in their heads to use for calculation. They develop ways of recording calculations using pictures, etc. They use number lines, number squares and other practical resources to support calculation and teachers demonstrate the use of the number line to represent a 'number sentence'.

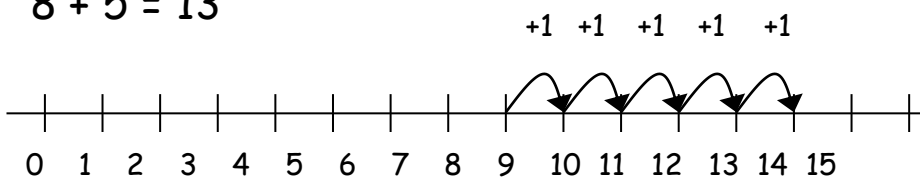


$$3 + 2 = 5$$

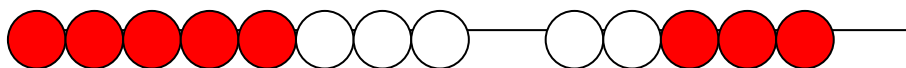


Children then begin to use numbered lines to support their own calculations using a numbered line to count on in ones. Some children may be able to count on in 2s.

$$8 + 5 = 13$$



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



The 100 square may be introduced with children using it to count on in 1s and to count forward or back in multiples of 2, 5 and 10 if they are very confident.

Dienes apparatus, as well as a bead string, should be used to show the first stages of partitioning eg. 23 is 20 and 3 more



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

## SUBTRACTION

Minus      Take-away      Less      Reduce      Find the difference

### Mental Calculation Strategies for Subtraction

These are a **selection** of mental calculation strategies taught throughout the school:

#### **Mental recall of addition and subtraction facts**

$$10 - 6 = 4$$

$$17 - \square = 11$$

$$20 - 17 = 3$$

$$10 - \square = 2$$

#### **Find a small difference by counting up**

$$82 - 79 = 3$$

#### **Counting on or back in repeated steps of 1, 10, 100,**

$$86 - 52 = 34 \text{ (by counting back in tens and then in ones)}$$

#### **Subtract the nearest multiple of 10, 100 and 1000 and adjust**

$$24 - 19 = 24 - 20 + 1 = 5$$

$$458 - 71 = 458 - 70 - 1 = 387$$



## Use the relationship between addition and subtraction

$$36 + 19 = 55$$

$$19 + 36 = 55$$

$$55 - 19 = 36$$

$$55 - 36 = 19$$

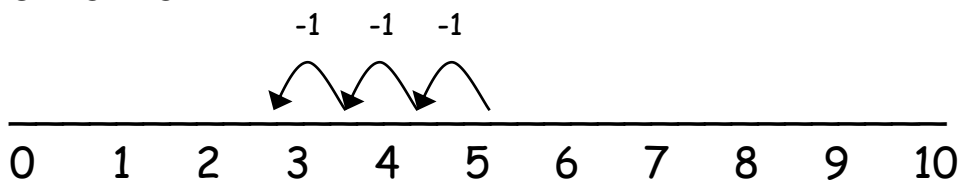
## Recording subtraction

Children are encouraged to develop a **mental picture** of the number system in their heads to use for calculation. They develop ways of recording calculations using pictures etc.

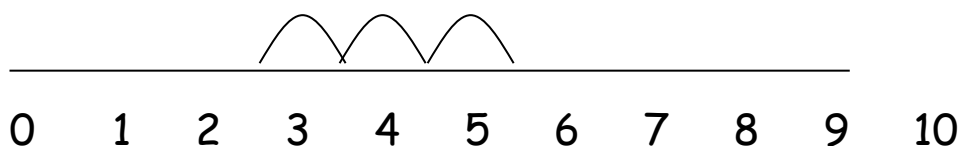


They use numberlines and practical resources to support calculation. Teachers *demonstrate* the use of the numberline.

$$6 - 3 = 3$$

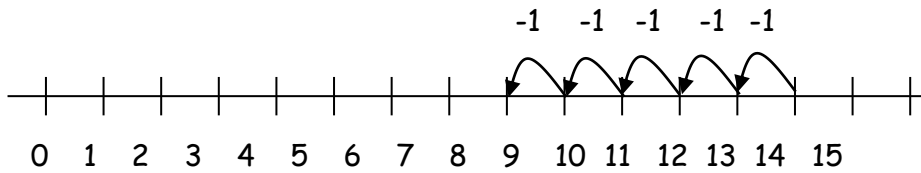


The numberline should also be used to show that  $6 - 3$  means the 'difference between 6 and 3' or 'the difference between 3 and 6' and how many jumps they are apart.



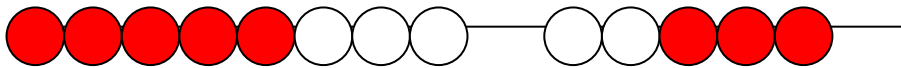
Children then begin to use numbered lines to support their own calculations - using a numbered line to count back in ones.

$$13 - 5 = 8$$



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

$$13 - 5 = 8$$



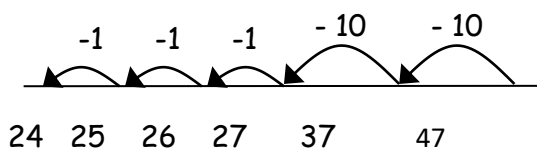
Children who are very confident will begin to use empty number lines to support calculations.

### Counting back - 'rob the bank'.

Children will remember the concept of robbing the bank problems as the robber steals in 1s and 10s. When we've found out how much is left, we can catch the robber and say 'take him away'!

✓ First counting back in tens and ones.

$$47 - 23 = 24$$



## MULTIPLICATION

Times	Lots of...	Product	Double	Groups of...
Multiple		Repeated addition		Array

These are a **selection** of mental calculation strategies used throughout the school:

### Doubling and halving

Applying the knowledge of doubles and halves to known facts.

e.g.  $8 \times 4$  is double  $4 \times 4$

## Using multiplication facts

Year 1-2    2 times table  
                  10 times table  
                  5 times table

Year 3        2 times table  
                  10 times table  
                  5 times table  
                  4 times table  
                  3 times table  
                  6 times table

Year 4        Derive and recall all multiplication facts up to  $10 \times 10$

Years 5 & 6 Derive and recall quickly all multiplication facts up to  $10 \times 10$ .

## Using and applying division facts

Children should be able to utilise their tables knowledge to derive other facts.

e.g. If I know  $3 \times 7 = 21$ , what else do I know?

$30 \times 7 = 210$ ,  $300 \times 7 = 2100$ ,  $3000 \times 7 = 21\ 000$ ,  $0.3 \times 7 = 2.1$  etc

## Use closely related facts already known

$$\begin{aligned} 13 \times 11 &= (13 \times 10) + (13 \times 1) \\ &= 130 + 13 = 143 \end{aligned}$$

## Multiplying by 10 or 100

Knowing that the effect of multiplying by 10 is a shift in the digits one place to the left.

Knowing that the effect of multiplying by 100 is a shift in the digits two places to the left.

## Partitioning

$$\begin{aligned} 23 \times 4 &= (20 \times 4) + (3 \times 4) \\ &= 80 + 12 \\ &= 92 \end{aligned}$$

## Use of factors

$$8 \times 12 = 8 \times 4 \times 3$$

## Recording multiplication

Children will experience equal groups of objects and 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 count on in 2s, 5s and 10s use 'finger multiplication' - each finger today is worth 2. How many if I hold up 4 fingers?

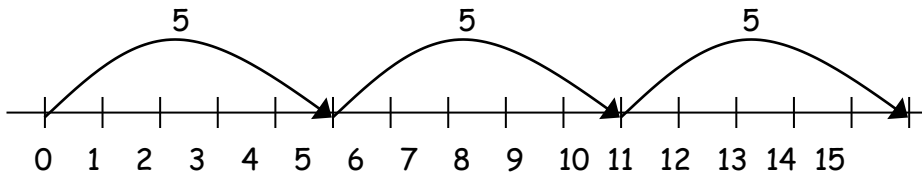
Towards the end of the year, children will develop their understanding of multiplication and use jottings to support calculation:

✓ **Repeated addition**

3 times 5 is  $5+5+5=15$  or 3 lots of 5 or  $5 \times 3$

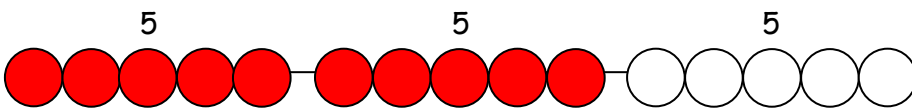
Repeated addition can be shown easily on a number line:

$$5 \times 3 = 5 + 5 + 5$$



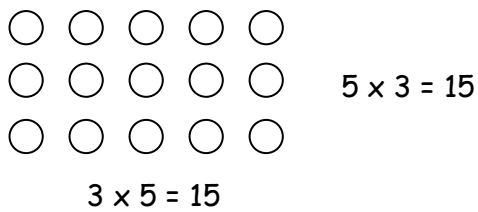
and on a bead bar:

$$5 \times 3 = 5 + 5 + 5$$



✓ **Arrays**

As they move into year 1, children might be able to model a multiplication calculation using an array. This knowledge will support with the development of the grid method later on.



Children will also begin to learn how to double (0-10) and halve (0-20) using objects to support initial understanding.

# DIVISION

Share    group    lots of    split    divide into

## Mental Calculation Strategies for Division

### **Doubling and halving**

Knowing that halving is dividing by 2

### **Recording division**

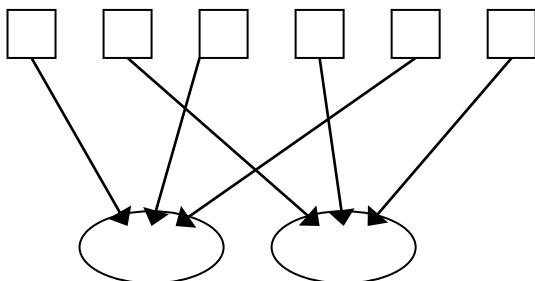
Children will understand equal groups and share items out in play and problem solving. They will count in 2s and 10s and later in 5s, using cubes, objects and jottings.



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?



# VOCABULARY

## Counting and recognising numbers

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### COUNTING

number  
zero, one, two, three... to twenty and beyond  
zero, ten, twenty... one hundred  
none  
how many...?  
count, count (up) to  
count on (from, to)  
count back (from, to)  
count in ones, twos... tens...  
more, less, many, few  
odd, even  
every other  
how many times?  
pattern, pair  
guess how many, estimate  
nearly, close to, about the same as  
just over, just under  
too many, too few, enough, not enough

---

### COMPARING AND ORDERING NUMBERS

the same number as, as many as  
*Of two objects/amounts:*  
greater, more, larger, bigger  
less, fewer, smaller  
*Of three or more objects/amounts:*  
greatest, most, biggest, largest  
least, fewest, smallest  
one more, ten more  
one less, ten less  
compare  
order  
size  
first, second, third... tenth  
last, last but one  
before, after  
next  
between  
above, below

## Adding and subtracting

add, more, and  
make, sum, total  
altogether  
score  
double  
one more, two more, ten more...  
how many more to make... ?  
how many more is... than...?  
take (away), leave  
how many are left/left over?  
how many have gone?  
one less, two less... ten less...  
how many fewer is... than...?  
difference between  
is the same as

## Solving problems

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### REASONING ABOUT NUMBERS OR SHAPES

pattern  
puzzle  
answer  
right, wrong  
what could we try next?  
how did you work it out?  
count, sort  
group, set  
match  
same, different  
list

### PROBLEMS INVOLVING 'REAL LIFE' OR MONEY

compare  
double  
half, halve  
pair  
count out, share out  
left, left over

money  
coin  
penny, pence, pound  
price  
cost  
buy  
sell  
spend, spent  
pay  
change  
dear, costs more  
cheap, costs less, cheaper  
costs the same as  
how much...? how many...?  
total

## Measures, shape and space

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### MEASURES (GENERAL)

measure  
size  
compare  
guess, estimate  
enough, not enough  
too much, too little  
too many, too few  
nearly, close to, about the same as  
just over, just under

### LENGTH

length, width, height, depth  
long, short, tall  
high, low  
wide, narrow  
deep, shallow  
thick, thin  
longer, shorter, taller, higher... and so on  
longest, shortest, tallest, highest... and so on  
far, near, close

### MASS

weigh, weighs, balances  
heavy/light, heavier/lighter, heaviest/lightest  
balance, scales, weight

### CAPACITY

full  
half full  
empty  
holds  
container

### TIME

time  
*days of the week: Monday, Tuesday...*  
day, week  
birthday, holiday  
morning, afternoon, evening, night  
bedtime, dinnertime, playtime  
today, yesterday, tomorrow  
before, after  
next, last  
now, soon, early, late  
quick, quicker, quickest, quickly  
slow, slower, slowest, slowly  
old, older, oldest  
new, newer, newest  
takes longer, takes less time  
hour, o'clock  
clock, watch, hands

## EXPLORING PATTERNS, SHAPE AND SPACE

shape, pattern  
flat  
curved, straight  
round  
hollow, solid  
corner  
face, side, edge, end  
sort  
make, build, draw

---

### 3D SHAPES

cube  
pyramid  
sphere  
cone

---

### 2D SHAPES

circle  
triangle  
square  
rectangle  
star

---

### PATTERNS AND SYMMETRY

size  
bigger, larger, smaller  
symmetrical  
pattern  
repeating pattern  
match

## POSITION, DIRECTION AND MOVEMENT

position  
over, under  
above, below  
top, bottom, side  
on, in  
outside, inside  
around  
in front, behind  
front, back  
before, after  
beside, next to  
opposite  
apart  
between  
middle, edge  
corner  
direction  
left, right  
up, down  
forwards, backwards, sideways  
across  
close, far, near  
along  
through  
to, from, towards, away from  
movement  
slide  
roll  
turn  
stretch, bend



## Instructions

listen  
join in  
say

think  
imagine  
remember

start from  
start with  
start at

look at  
point to  
show me

put, place  
fit  
arrange  
rearrange  
change, change over  
split  
separate

carry on, continue  
repeat  
what comes next?

find  
choose  
collect

use  
make  
build

tell me  
describe  
pick out  
talk about  
explain  
show me

read  
write  
trace  
copy  
complete  
finish, end

fill in  
shade  
colour

tick, cross  
draw  
draw a line between  
join (up)  
ring  
cost  
count  
work out  
answer  
check

## General

same number/s  
different number/s  
missing number/s  
number facts

number line, number track  
number square  
number cards  
counters, cubes, blocks, rods  
die, dice  
dominoes  
pegs, peg board

same way, different way  
best way, another way  
in order, in a different order

not  
all, every, each

# MATHS AT HOME

## Maths props to have in the house

Tape measure and ruler - get your child involved when completing DIY.

Bar of chocolate (with squares) - good for showing multiplication and fractions.

Magnet numbers - a great way for impromptu maths in the house.

Chess & draughts - a great turn taking game involving strategy.

Dartboard - darts teaches not only addition, subtraction and multiplication but also raises discussions of what is needed to finish the game.

Unusual dice - they don't have to be 6 sided.

Dominoes - another great game to show combinations of numbers

Guess who - this game shows how to group characters into categories and can be extended to shapes and numbers.

Thermometer - shows both positive and negative numbers to discuss

A prominent clock - use both an analogue and digital clock. Can you compare the two?

A wall calendar - not only good for noticing days and months, but also for finding patterns eg. The 7 x table since there are 7 days in a week

Board games with dice or spinner

Pack of playing cards - not only can you learn about counting but also chance and probability.

Calculator - you can discover so many patterns with calculators, not just basic computation.

Measuring jug - discover both imperial and metric ways of measuring.

Scales - traditional balances can show counting as well as measuring.

Dried beans, pasta - useful for counting, dividing and finding the difference

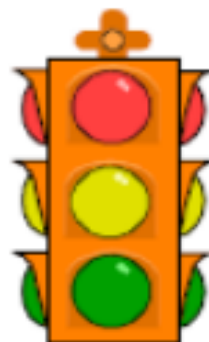
Money - count with coins and discuss all the ways of making an amount of money with different coins.

# Some fun ideas to try at home

## Shape activity

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?

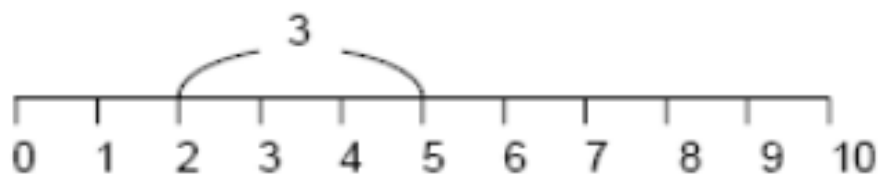


## Dice game

You need a 1–6 dice, paper and pencil.

- ◆ Take turns.
- ◆ Choose a number between 1 and 10 and write it down.
- ◆ Throw the dice and say the dice number.
- ◆ Work out the difference between the chosen number and the dice number, e.g. if you wrote down a 2 and the dice shows 5, the difference is 3.

You could also draw a number line to help your child to see the difference between the two numbers.



## How old?

Start with your child's age. Ask your child:

How old will you be when you are 1 year older?

How old were you last year?

How old will you be 10 years from now?

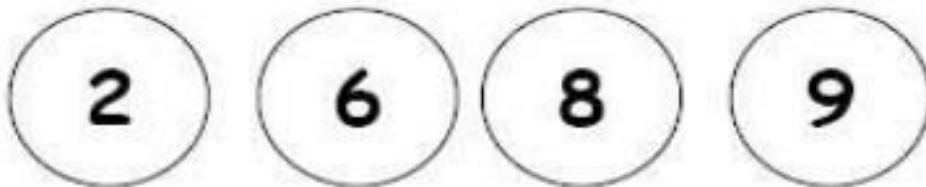
and so on.

# Some fun ideas to try at home

## Adding circles

For this game, you need a dice and pencil and paper.

- ◆ Each of you should draw four circles on your piece of paper. Write a different number between 2 and 12 in each circle.



- ◆ Roll the dice twice. Add the two numbers.
- ◆ If the total is one of the numbers in your circles then you may cross it out.
- ◆ The first person to cross out all four circles wins.

## Dicey coins

For this game you need a dice and about twenty 10p coins.

- ◆ Take turns to roll the dice and take that number of 10p coins.
- ◆ Guess how much money this is. Then count aloud in tens to check, e.g. *saying ten, twenty, thirty, forty...*
- ◆ If you do this correctly you keep one of the 10p pieces.
- ◆ First person to collect £1 wins.
- ◆ Don't forget to give the coins back!

## Out and about

On the way to school, see how many cuboids, spheres and cylinders you can spot. Which did you see most of?



## Some fun ideas to try at home

### Car number bingo

- ◆ Each person chooses a target number, e.g. 10. Think about which pairs of numbers add to make your target.
- ◆ You have to see a car that has two numbers that add up to your target number.

**K456 XWL**

- ◆ Say:  $4 + 6 = 10$ , bingo!
- ◆ Change the target number each week.

You can extend this activity by looking for three numbers which add up to your target number.

### Secret numbers

**0123456789**

- ◆ Write the numbers 0 to 20 on a sheet of paper.
- ◆ Ask your child secretly to choose a number on the paper. Then ask him / her some questions to find out what the secret number is, e.g.
  - Is it less than 10?
  - Is it between 10 and 20?
  - Does it have a 5 in it?He / she may answer only yes or no.
- ◆ Once you have guessed the number, it is your turn to choose a number. Your child asks the questions.

For an easier game, use numbers up to 10. For a harder game, use only 5 questions, or use bigger numbers.

### Calculator costs

Use a calculator to find the cost of one sweet:

#### Clues:

1. Enter the cost of the packet of sweets on the calculator display, for example 35 pence.
2. Press the divide  $\div$  button
3. Count the number of sweets in the packet, and enter this number on the calculator, for example 42 (sweets).
4. Press the equals = button
5. The answer is 0.833 (pence), which is less than 1p for each sweet.

Now use your calculator to find the cost of:



- One stick of chewing gum;
- One finger of a chocolate bar;
- One segment of a tangerine;

## MATHS AT HOME FOR ANY AGE

### SHOPPING

- £ Looking at prices
- £ Calculating change - which coins, different combinations.
- £ Weighing fruit and vegetables in the supermarket.
- £ Counting pocket money.
- £ Reading labels on bottles, packets, in order to discuss capacity, weight, shape and colour.
- £ Estimating the final bill at the end of shopping while waiting at the cash out.
- £ Calculating the cost of the family going to the swimming baths, etc.



### Time



- ⊕ Looking at the clock - identify the numbers telling the time using analogue and digital clocks.
- ⊕ 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 or the microwave.
- ⊕ Looking at the posting times on the post box.
- ⊕ Discussing events in the day e.g. teatime, bed time, bath time.
- ⊕ Setting an alarm clock.



## Starting off

Discuss with the family what would be the most popular outings. Countryside, seaside, a theme park, a museum, a tourist attraction or just a picnic in the local park?

Which outings can you reach from home in...?

- Less than 1 hour
- Between 1 and 2 hours
- More than 2 hours

## SEQUENCING

- The main events of the day;
- Routines and what comes next;
- The parts of a recipe, set of instructions;
- Getting dressed;
- Tying shoe laces;
- Imagine you have a week to do whatever you wish. Plan your week on the timetable

## MEASUREMENT

- Calculating distances in a journey e.g. 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.
- Comparing sizes of clothes - bigger than, smaller than.
- Wrapping parcels - what amount of paper, string do we need?
- Reading the scale on weighing machines and calculating the calibrations.
- Measuring ingredients out for a recipe using different types of spoons
- Estimating the quantity of milk from a cow/herd.
- Estimate the amount of time to harvest a field

Weigh your child on the bathroom scales.

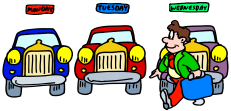
Weigh them again while they are holding the family pet. Can they work out how much heavier they are?

Can you find two things heavier than your child and two things lighter than your child around the house?



## COUNTING

- ◆ Collections of objects - shells, buttons, pretty stones.
- ◆ Cars on a journey e.g. how many red cars?
- ◆ Animals in a field e.g. sheep, cows.
- ◆ Stairs up to bed, steps etc.
- ◆ Sports scores - cricket averages, goal averages.
- ◆ Pages in a storybook.
- ◆ Counting up to 10, 20, and 100 - backwards and forwards.
- ◆ Counting buttons, shoes, socks as a child gets dressed.
- ◆ Tidy a cupboard or shelf and count the contents e.g. tins, shoes, etc.
- ◆ Counting particular vehicles on a journey e.g. Eddie Stobartlorries, motorbikes, etc.



### Beat the clock

Time your child as they do one of the following:

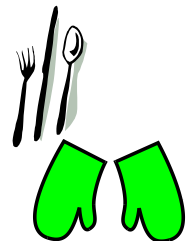
- Count back from 100 in tens.
- Count back from 75 in fives.
- Starting at six, count up in tens to 206.
- Starting at 39, count up in twenties to 239.
- Starting at 67, count up in thirties to 367.

Can they beat their record?

## REASONING

- ? Laying the table for four people, 'How many knives, forks and spoons will I need altogether?'
- ? Planning a TV viewing session, 'How long will the programme last?'

- How many rectangles can you count?





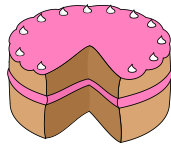

## SORTING AND MATCHING

- ✧ Setting the table and sorting cutlery. This teaches 1 to 1 correspondence and is helpful for you!
- ✧ Sorting clothes for washing - size, colour.
- ✧ Matching pairs of socks, gloves, shoes.
- ✧ Sorting groceries.



## ACTIVITIES 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.
- \* 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  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{6}$ ,  $\frac{1}{8}$  etc.



### Pizza please!

Your pizza costs £3.60. Cut it into six equal slices.

How much does each slice cost?

The answer is that each slice costs 60p.

- How much is half a slice?
- How much do two slices cost?
- How much does half ( $\frac{1}{2}$ ) of the whole pizza cost?

What if you cut your pizza into four equal slices (quarters)?

- How much does one slice ( $\frac{1}{4}$ ) cost now?
- How much does half cost now?
- Is it the same, more or less than above?



# GAMES AND INTERNET LINKS

## WEB SITES

- 🔗 [www.fronter.com/camden](http://www.fronter.com/camden) hosts our MLE (managed learning environment) which has a maths room for each class full of useful links and games. Make sure your child has their username and password copied at home.
- 🔗 [www.mathletics.co.uk](http://www.mathletics.co.uk) has mental maths games played live against children from around the world and tutorials and homework sections. Your child's teacher will give your child a login and username.
- 🔗 <http://nrich.maths.org/public/> has heaps of problems for KS1 and 2 which they call 'stage 1' and 'stage 2'
- 🔗 <http://www.mathszone.co.uk/> has links organised by maths area and key objective.
- 🔗 [www.counton.org](http://www.counton.org) has lots of ideas and games to play.
- 🔗 [www.learn.co.uk](http://www.learn.co.uk) help for all children with reading, maths and revision.
- 🔗 [www.bbc.co.uk/schools](http://www.bbc.co.uk/schools) games to play and links to many subjects.
- 🔗 <http://www.beam.co.uk/mathsofthemonth.php> has problem solving activities for each age.

## NUMBER GAMES

- ⊙ Skipping - every skip count 2, 3, 4 etc.
- ⊙ Hop scotch
- ⊙ Ludo
- ⊙ Snakes and ladders
- ⊙ Dominoes
- ⊙ Cards - number sequences
- ⊙ Cards - Rummy, Patience, Pontoon, Snap
- ⊙ Bingo
- ⊙ Yahtzee
- ⊙ Darts
- ⊙ Heads & Tails and keep a tally
- ⊙ Chess and draughts
- ⊙ Monopoly
- ⊙ Computer programmes
- ⊙ Beetle
- ⊙ Connect 4
- ⊙ Counting games to practise times tables
- ⊙ I spy a number in town, on a journey
- ⊙ Number jigsaws
- ⊙ Clock golf, croquet, crazy golf on holiday to help counting
- ⊙ Snooker and pool
- ⊙ Number Lotto
- ⊙ Dot to dot with numbers
- ⊙ Skittles
- ⊙ Happy families
- ⊙ Whist
- ⊙ Cribbage
- ⊙ Number crosswords, dot to dot, puzzles



## Learning intentions by the end of the year

- Verbalise some number names in familiar contexts, such as nursery rhymes.
- Counts reliably up to 10 everyday objects.
- Says number names in order to at least 10 and orders them.
- Recognises numerals 1 to 9.
- Finds one more or one less from a group of 10 objects.
- Relates addition by combining two groups.
- Relates subtraction to taking away.
- Begins to use the vocabulary involved in addition and subtraction.
- Begins to use mathematical vocabulary to describes 2D and 3D shapes in simple models, pictures and patterns.
- Talks about, recognises and recreates simple patterns.
- Uses everyday language to describe position.
- Use language such as 'greater', 'smaller', 'heavier', or 'lighter' to compare quantities.
- Uses developing mathematical ideas and methods to solve practical problems.