

Mathematics vocabulary for the four operations

Many children have misconceptions over mathematical vocabulary. For example, find the difference between 6 and 4. A common misconception is '6 is a larger number than 4' whereas the answer should be 2. Here is a list of words for all four operations which you can practise with your child at home. The mental arithmetic tests which the children practise at school use vocabulary from this list.

+	-	x	÷
Add Plus Increase More than Find the sum of How many altogether Count on total	Take away Minus Decrease Less than Subtract Find the difference Count back	Groups of Times Multiply Lots of Product of	Divide How many times will it fit into...? Share equally



How can you help your child at home?



- It is very important to talk and listen to your child about their maths work. It will help your child if they have to explain their work to you.
- Be positive about maths, even if you don't feel confident about it yourself.
- Remember, you are not expected to teach your child maths, but please share, talk and listen to your child.
- If your child cannot do their maths homework please let the teacher know by writing a note in your child's diary.
- It is important that your child practises times tables and division facts regularly. Learning tables prepares children for other aspects of mathematics learning – it helps their confidence, speed and accuracy.
- Play games and have fun with maths!
- One very good idea is to give your child an answer which they have to make questions for e.g. The answer is 10. What is the question?

Here are some examples of how you can include mathematics learning at home:



SHOPPING

- Looking at prices and solving problems e.g. Can I buy 3 bags of crisps at 35p with my £1?
- Calculating change – which coins, different combinations
- Weighing fruit and vegetables at the supermarket

Miss Ridout Numeracy Co-ordinator

- Counting pocket money
- Reading bottles/packet labels in order to discuss capacity, weight and shape.
- Estimating the final bill at the end of a shopping trip
- Calculating the cost for the family to go to the cinema, swimming etc
- Looking at sales/offer prices. E.g. 10% off, 50% off, buy one get one half price etc.

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 e.g. 35 (pence)
- 2) Press the divide button
- 3) Count the number of sweets in the packet and enter this number on the calculator e.g. 42 (sweets)
- 4) Press the equals button
- 5) The answer is 0.833 (pence), which is less than 1p per sweet.

Now use the calculator to find the cost of:

- a) One stick of chewing gum
- b) One square of a chocolate bar
- c) One segment of a Satsuma



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d) One mint etc.

TIME

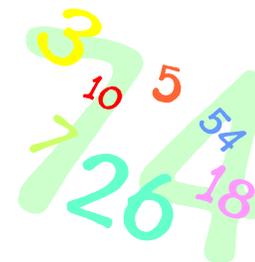
- Looking at the clock – BOTH analogue and digital. Children learn how to use the 24 hour clock in upper school.
- Ensure your child knows how many days in a year, hours in a day, minutes in an hour, seconds in a minute.
- Calculating how long a journey will take looking at train/bus/airline timetable.
- Using TV guides to calculate the length of programmes.
- Programming the microwave.
- Looking at posting times on the post box.
- Discussing events in the day e.g. teatime, bedtime, bath time. How long is it until lunch? How long ago was breakfast?
- Ask your child to be a 'timekeeper' (e.g. tell me when it is half past two because then we are going to the cinema).
- Setting an alarm clock.
- Play a game – how long do they think a minute is? Your child has to stand up when they think a minute has passed whilst you're timing. You could extend this challenge by asking them to stand up at a variety of times e.g. 52 seconds, 1 min 35 seconds.
- Discuss with the family what would be the most popular outings. Countryside, seaside, theme park, picnic etc.

Which outings could they reach from home in.....?

- a) Less than 1 hour
- b) Between 1 and 2 hours
- c) More than 2 hours

COUNTING

- Collections of objects – shells, buttons, pretty stones
- Particular objects on a journey e.g. red cards, Eddie Stobart lorries
- Animals in a field
- Stairs to bed
- Counting in 10s, 20s, 3s, 5s, 100s – forwards and backwards
- Counting items in a cupboard whilst tidying it!
- Sport scores – cricket averages, goal averages
- When reading, find the most common word on page 10 (This is called the mode)



ACTIVITES USING NUMBERS AROUND US



Using car number plates e.g F259 PAQ. You can vary the difficulty of the questions. You could ask....

- a) How quickly can you add the 3 digits in your head (2+5+9)?
- b) How close can you get to 20 using these digits? (Look for your child to see various mental methods – like countdown) e.g. $(2 \times 5) + 9 = 19$
- c) Round to the nearest 10/100.

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- d) What's the largest (952)/smallest(259) number your child can make using the 3 digits?
- e) Divide/multiply 259 by 10/100/1000.
- f) The answer is 259 – what is the question?
- g) Choose two of the digits, e.g. 2 and 9. Make the smallest and largest numbers you can, each with 1 decimal places, e.g. 2.9 and 9.2. Now find the difference between the two decimal numbers, e.g. 9.2 – 2.9. Whoever makes the biggest difference scores 10 points. The person with the most points wins.
- Share out sweets, toys etc. into groups of 2, 3, 4, 5, 6 etc to help with times tables.
 - Use telephone numbers. Make largest/smallest possible numbers by rearranging the digits.
 - Use sandwiches to show fractions $\frac{1}{2}$, $\frac{1}{4}$
 - Use a round cake to discuss other fractions e.g. $\frac{1}{6}$, $\frac{1}{8}$
 - Discuss and compare house prices from the newspaper. Ask your child to read out the prices to practise working with large numbers.
 - Laying the table for 4 people – how many knives, forks and spoons do they need altogether?



MEASURES



- Calculating distances on 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?
- Measuring out ingredients for a recipe.
- Take a “walk around the edge” – Your child could measure the perimeter of a variety of objects large and small e.g. a book, envelopes, their bed, their bedroom carpet. Encourage your child to estimate first. You can extend this by asking your child if they can convert the perimeter into another unit of measure, e.g. 890mm = 89cm
- Use a thermometer to demonstrate negative numbers.
- Estimate how many people live on your street.
- Name 2D and 3D shapes around the house or on a car journey.
- Play ‘guess my shape’. You think of a shape. Your child asks questions to try to identify it but you can only answer ‘yes’ or ‘no’ (e.g. Does it have more than 4 vertices (corners)?)
- Hunt for right angles around your home. Can your child spot angles larger or smaller than a right angle?
- Look for symmetrical objects. Your child could draw or paint symmetrical pictures / patterns.
- Unfold cardboard food packaging to look at the nets of 3D shapes.
- Ratio – convert a recipe for 4 people into a recipe for 8, 12 or 6.

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- A common misconception amongst children is that the tallest container always has the greatest volume. Work with your child to prove that this is incorrect.

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 ($1/2$) of the whole pizza cost?

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

- How much does one slice ($1/4$) cost now?
- How much does half a pizza cost now?
- Is it the same, more or less than above? (This helps to show that $3/6 = 2/4 = 1/2$, equivalent fractions)

NUMBER GAMES

- Skipping – every skip count 2,3,4 etc.
- Hop scotch
- Snakes and ladders
- Dominoes
- Cards – number sequences
- Cards – Rummy, Patience, Pontoon, Snap
- Bingo
- Yahtzee
- Heads & Tails and keep a tally
- Chess and draughts
- Monopoly
- Connect 4
- I spy a number in town, on a journey
- Crazy golf on holiday to help counting
- Snooker and pool
- Number Lotto
- Skittles
- Happy families
- Number crosswords, dot to dot, Sudoku puzzles



The level of mathematical challenge in a board game can be altered by introducing more dice & either adding or subtracting the numbers thrown.

BEAT THE CLOCK

Time your child as they do one of the following:

- Count back from 100 in tens
- Starting at 6, count in tens to 206
- Starting at 39, count in twenties to 239
- Starting at 67, count in thirties to 367

Can they beat their record?



Two fun, challenging games using all four operations.

THREE IN A LINE

Draw a 6 x 7 grid like below.
Fill it with numbers under 100.

- ◆ Take turns.
- ◆ Roll three dice, or roll one dice three times.
- ◆ Use all three numbers to make a number on the grid.
- ◆ You can add, subtract, multiply or divide the numbers, e.g. if you roll 3, 4 and 5, you could make $3 \times 4 - 5 = 7$, $54 \div 3 = 18$, $(4 + 5) \times 3 = 27$, and so on. (Similar to countdown)
- ◆ Cover the number you make with a coin or counter. If you cannot make a number, your turn is over.
- ◆ The first to get three of their counters in a straight line wins.

26	54	47	21	19	5	38
9	25	67	56	31	49	13
39	41	6	1	75	28	90
14	50	81	23	43	4	37
45	29	72	34	7	58	17
36	2	55	11	22	40	42

REMAINDERS

Draw a 6 x 6 grid like this.

Fill it with numbers under 100.

♦ Choose the 7, 8 or 9 times table.

♦ Take turns.

♦ Roll a dice.

♦ Choose a number on the grid, e.g. 59. Divide it by the tables number, e.g. 7. If the remainder for $59 \div 7$ is the same as the dice number, you can cover the board number with a counter or coin.

♦ The first to get four of their counters in a straight line wins!

82	33	60	11	73	22
65	12	74	28	93	51
37	94	57	13	66	38
19	67	76	41	75	85
86	29	68	58	20	46
50	69	30	78	59	10