



Year 5

Supporting your child at
home with maths



Mathematics in Year 5

During the years of upper Key Stage 2 (Year 5 and Year 6), children use their knowledge of number bonds and multiplication tables to tackle more complex problems, including larger multiplication and division, and meeting new material. In Year 5, this includes more work on calculations with fractions and decimals, and using considerably larger numbers than previously.

Number and Place Value

- Recognise and use the place value of digits in numbers up to 1 million (1,000,000)
- Use negative numbers, including in contexts such as temperature
- Round any number to the nearest 10, 100, 1,000, 10,000 or 100,000
- Read Roman numerals, including years

Calculations

- Carry out addition and subtraction with numbers larger than four digits
- Use rounding to estimate calculations and check answers are of a reasonable size
- Find factors of multiples of numbers, including finding common factors of two numbers
- Know the prime numbers up to 19 by heart, and find primes up to 100
- Use the standard methods of long multiplication and short division
- Multiply and divide numbers mentally by 10, 100 or 1,000
- Recognise and use square numbers and cube numbers

Factors are numbers which multiply to make a product, for example 2 and 9 are factors of 18.

Common factors are numbers which are factors of two other numbers, for example 3 is a factor of both 6 and 18.

Fractions and Decimals

- Put fractions with the same denominator into size order, for example recognising that $\frac{3}{5}$ is larger than $\frac{2}{5}$
- Find equivalents of common fractions
- Convert between improper fractions and mixed numbers, for example recognising that $\frac{5}{4}$ is equal to $1\frac{1}{4}$
- Add and subtract simple fractions with related denominators, for example $\frac{2}{3} + \frac{1}{6} = \frac{5}{6}$
- Convert decimals to fractions, for example converting 0.71 to $\frac{71}{100}$
- Round decimals to the nearest tenth
- Put decimals with up to three decimal places into size order
- Begin to use the % symbol to relate to the 'number of parts per hundred'

In a fraction, the numerator is the number on top; the denominator is the number on the bottom.

Measurements

- Convert between metric units, such as centimetres to metres or grams to kilograms
- Use common approximate equivalences for imperial measures, such as $2.5\text{cm} \approx 1$ inch
- Calculate the area of rectangles using square centimetres or square metres
- Calculate the area of shapes made up of rectangles
- Estimate volume (in cm^3) and capacity (in ml)

Shape and Position

- Estimate and compare angles, and measure them to the nearest degree
- Know that angles on a straight line add up to 180° , and angles around a point add up to 360°
- Use reflection and translation to change the position of a shape

Graphs and Data

- Read and understand information presented in tables, including timetables
- Solve problems by finding information from a line graph

Fun activities to do at home

Line it up

You need a ruler marked in centimetres and millimetres.

- ◆ Use the ruler to draw 10 different straight lines on a piece of paper.
- ◆ Ask your child to estimate the length of each line and write the estimate on the line.
- ◆ Now give them the ruler and ask them to measure each line to the nearest millimetre.
- ◆ Ask them to write the measurement next to the estimate, and work out the difference.
- ◆ A difference of 5 millimetres or less scores 10 points. A difference of 1 centimetre or less scores 5 points.
- ◆ How close to 100 points can she get?

My estimate 8.5 cm

Dicey subtractions

- ◆ Take turns to roll a dice twice.
- ◆ Fill in the missing boxes.

$$400\Box - 399\Box$$

e.g. $4002 - 3994$

- ◆ Count on from the smaller to the larger number, e.g. 3995, 3996, 3997, 3998, 3999, 4000, 4001, 4002.
- ◆ You counted on 8, so you score 8 points.
- ◆ Keep a running total of your score
- ◆ The first to get 50 or more points wins.



Dicey division

For this game you need a 1–100 board (a snakes and ladders board will do), a dice and 20 coins or counters.

- ◆ Take turns.
- ◆ Choose a two-digit number. Roll a dice. If you roll 1, roll again.
- ◆ If your two-digit number divides exactly by the dice number, put a coin on your chosen two-digit number. Otherwise, miss that turn.
- ◆ The first to get 10 counters on the board wins.

Times tables

Say together the six times table forwards, then backwards. Ask your child questions, such as:

Nine sixes?

How many sixes in 42?

Six times four?

Forty-eight divided by six?

Three multiplied by six?

Six times what equals sixty?

Repeat with the seven, eight and nine times tables

Make a times-table grid like this.

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

- ◆ Shade in all the tables facts that your child knows, probably the 1s, 2s, 3s, 4s, 5s and 10s.
- ◆ Some facts appear twice, e.g. 7×3 and 3×7 , so cross out one of each.
- ◆ Are you surprised how few facts are left?
- ◆ There might only be 10 facts to learn. So take one fact a day and make up a silly rhyme together to help your child to learn it,
e.g. *nine sevens are sixty-three, let's have lots of chips for tea!*

Te

Target 1000

- ◆ Roll a dice 6 times.
- ◆ Use the six digits to make two three-digit numbers.
- ◆ Add the two numbers together.
- ◆ How close to 1000 can you get?

Finding areas and perimeters

Perimeter = distance around the edge of a shape

Area of a rectangle = length x breadth (width)

- ◆ Collect 5 or 6 used envelopes of different sizes.
- ◆ Ask your child to estimate the perimeter of each one to the nearest centimetre. Write the estimate on the back.
- ◆ Now measure. Write the estimate next to the measurement.
- ◆ How close did your child get?
- ◆ Now choose 5 or 6 adverts from newspapers or magazines.

You could do something similar using an old newspaper, e.g.

- ◆ Ask your child to estimate the area of each advert to the nearest centimetre squared – write these down.
- ◆ Now measure and calculate
- ◆ How close did your child get

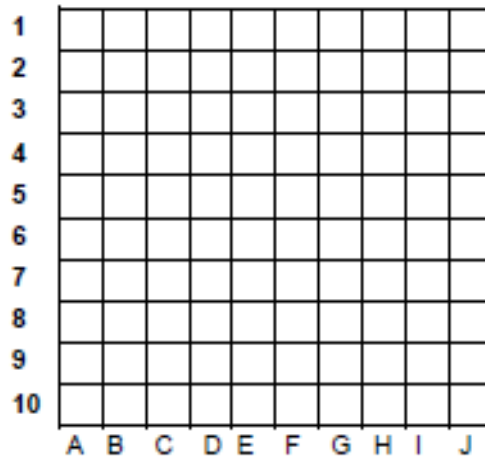
Telephone challenges

- ◆ Challenge your child to find numbers in the telephone directory where the digits add up to 42.
- ◆ Find as many as possible in 10 minutes.
On another day, see if they can beat their previous total

Telephone: 01264 738 281

Battleships

- ◆ Draw two grids like this



- ◆ Choose ships of various lengths (use between 2 and 4 squares)
- ◆ Hide your grid from your partner
- ◆ Take it in turns to guess the co-ordinates of your opponents ships.
- ◆ Respond with "hit" or "miss"
- ◆ Try to get as close as possible to 555
- ◆ The winner is the person to sink all their opponents ships

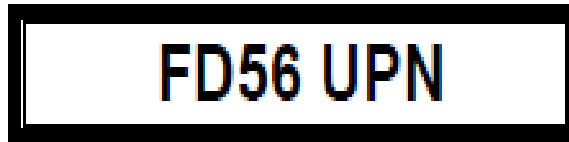
How much?

- ◆ While shopping, point out an item costing less than £1.
- ◆ Ask your child to work out in their head the cost of 3 items.
- ◆ Ask them to guess first. See how close they come.
- ◆ If you see any items labelled, for example, '2 for £3.50', ask them to work out the cost of 1 item for you, and to explain how they got the answer.



Decimal number plates

- ◆ Choose 2 digits from a car registration plate.



- ◆ Make the smallest and largest numbers you can, each with 1 decimal place, e.g. 5.6 and 6.5.
- ◆ Now find the difference between the two decimal numbers, e.g. $6.5 - 5.6 = 0.9$.
- ◆ Whoever makes the biggest difference scores 10 points.
- ◆ The person with the most points wins.

Play the game again, but this time score 10 points for the smallest difference, or 10 points for the biggest total. (If you add the numbers)

Guess my number

- ◆ Choose a number between 0 and 1 with one decimal place, e.g. 0.6.
- ◆ Challenge your child to ask you questions to guess your number. You may only answer 'Yes' or 'No'. For example, he could ask questions like 'Is it less than a half?'
- ◆ See if he can guess your number in fewer than 5 questions.
- ◆ Now let your child choose a mystery number for you to guess.

Extend the game by choosing a number with one decimal place between 1 and 10, e.g. 3.6. You may need more questions