Maths in Year 6

How to help your child at home and have fun!

The National curriculum maths objectives for children in Year 6 are on the back of this leaflet.
Some targets are harder than they seem.
For example, a child may be able to work out sums on paper but they need to be able to decide on the most efficient method. Using different strategies for working out calculations is a good way to more reliably check answers too.

I can	Maths - Year 6 (expected)
+ - x ÷	Add and subtract using negative numbers.
	Perform mental calculations, including with mixed operations and large numbers.
	Divide numbers up to 4-digits by a 2-digit whole number up to 20 using the efficient written method and interpret remainders as whole number remainders, fractions or by rounding, as appropriate for the context.
	Solve multi-step problems involving the 4 rules and use estimations to check answers to calculations.
	Use my knowledge of the order of operations to carry out calculations involving the 4 operations.
Fractions, Decimals and %	Add and subtract fractions with different denominators and mixed numbers using the concept of equivalent fractions.
	Multiply simple pairs of proper fractions writing the answer in its simplest form (e.g. 1/4 x 1/2) Divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6).
	Multiply 1-digit numbers with up to 2 decimal places by whole numbers.
	Use written division methods in cases where the answer has up to 2 decimal places.
	Solve problems which require answers to be rounded to specified degrees of accuracy.
	Find a percentage of any given number.
Ratio and Proportion	Solve problems involving the relative sizes of 2 quantities.
	Solve problems involving unequal sharing and grouping e.g. 3/5 of the class are boys etc.
	Solve problems involving similar shapes where the scale factor is known or can be found.
	Solve simple ratio and proportion problems.
	Reduce a given ratio to its lowest terms.

I can	Maths - Year 6 (expected)
Algebra	Find pairs of numbers that satisfy number sentences involving two unknowns e.g. what is 2a+3b if a=2 and b=3.
	Work out all possibilities of combinations of two variables.
Measures	Recognise that shapes with the same areas can have different perimeters and vice versa.
	Calculate the area of parallelograms and triangles and be able to use the correct formulae.
	Calculate the volume of cubes and cuboids using centimetre cubed and cubic metres and extending to other units, such as mm cubed and km cubed.
Shape	Classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.
	Find unknown angles where they meet at a point and are on a straight line and are vertically opposite.
	Find missing angles in a parallelogram, rhombus and trapezium by working out diagonally opposite angles.
	Draw and translate simple shapes on the co-ordinate plane, reflect them in the axes and rotate around a point.
Data	Interpret and construct pie charts and use these to solve problems using my knowledge of angles, fractions and percentages.
	Interpret and construct line graphs and use these to solve problems.

Year 6

Maths in Year 6—Games to play:

Favourite food

- Ask your child to find the cost of their favourite food. Ask them to work out what 7 of them would cost. Repeat this with their least favourite. What is the difference in cost between the two amounts.

Sale of the century

- When out (or in magazine and newspapers or even on the TV) look for sale signs and work out what some of the items would cost. Ask them to explain how they calculate:

  50% off 25% off 10% off 5% off

TV addicts

- Ask your child to keep a record of how long they watch TV or use a screen over a week, Then, work out the total watching time. Work out the mean average of time per day. Do the same with how much time they spend playing outside or eating meals.

Four in a line

- Draw a 6 x 7 grid and fill it randomly with numbers between 1 and 100. Roll 3 dice (or one, 3 times) Use all numbers with any operations to try to make a number on the grid. So if you rolled a 3, 4 and 5 you could make… **3 x 4—5 = 7 54 ÷ 3 = 18 (4 + 5) x 3 = 27** etc so you could cover the 7 or the 18 or the 27. First to get 4 in a row wins.

Fours

- Use exactly four 4s each time. You can + - x or ÷ How many of the numbers between 1 and 100 can you make—this will take several days to complete! Eg:

  1 = (4x4) ÷ (4x4) 2 = (4÷4) + (4÷4)

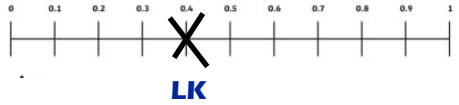
Maths in Year 6—Games to play:

Recipes

- Find a recipe for four people and rewrite it for 8 people. What about 2 people. Now can you work out how much of everything is needed for 3 people?

3 in a row

- You will need a calculator for this game. Draw a decimal number line. Take it in turns to choose a fraction. Use the calculator (if necessary) to convert the fraction into a decimal. Eg: **2/5 = 2 ÷ 5 = 0.4**
  Mark it on the line and write your initials.
  The aim is to get 3 crosses in a row of your initials without someone else's cross getting in between.



Flowers

- Think of a flower. Use an alphabet code A = 1 B= 2 etc Find the numbers for the first and last letters of your flower. Then multiply the numbers together. Whoever has the biggest answer wins the point eg:
  ROSE **R = 18 E = 5 18 x 5 = 90** First to 10 wins.
  You could play using other categories like: animals, countries or football teams.

Journeys

- Use a map or google maps to find the distances between cities. Eg: **York to Preston is 90 miles**. Ask the child to calculate how long it would take to drive there if you stuck to an **average speed of 60mph** ie: 1 mile per minute. Encourage the use of the 6 times tables to help them work it out.

Doubles and trebles

- Roll 2 dice. Multiply the 2 numbers. This is your score. Roll again, If your total is even, double your score. If it is odd , treble it. The first to get over 301 wins.