

Helping Your Child with Mathematics



A Booklet for Parents

Year 6

Calculation Strategies

In Year 6 your child will use the following written calculation strategies.

Addition

Vertical layout being able to contract the working to a compact efficient form:

47	368
+ 76	+ 493
<hr/>	<hr/>
123	861
<hr/>	<hr/>
11	11

They will then move onto larger numbers and decimals using the same method.

Subtraction

Vertical layout being able to exchange from the next column.

5	6	3	⁴ 5	¹⁵ 6	¹³
- 2	4	1	- 2	7	8
<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
3	2	2	2	8	5

They will then move onto larger numbers and decimals using the same method.

Multiplication

Long multiplication

$$\begin{array}{r} 56 \\ \times 27 \\ \hline 1000 \quad (50 \times 20) \\ 120 \quad (6 \times 20) \\ 350 \quad (50 \times 7) \\ 42 \quad (6 \times 7) \\ \hline 1512 \end{array}$$

Moving onto a vertical format with compact working

$$\begin{array}{r} 56 \\ \times 27 \\ \hline 392 \quad (56 \times 7) \\ 1120 \quad (56 \times 20) \\ \hline 1512 \\ 1 \end{array}$$

Division

Formal written method for $\text{HTO} \div \text{O}$

$$560 \div 4 \qquad 140$$
$$\begin{array}{r} 4 \overline{) 560} \end{array}$$

Efficiently using multiples of the divisor or 'chunking' $\text{HTO} \div \text{TO}$

$$560 \div 24$$

Approximate answer:

$$550 \div 25 = 22$$

Answer 23 r 8

$$\begin{array}{r} 24 \overline{) 560} \\ 20 \overline{) 560} \\ \hline 80 \\ 3 \overline{) 80} \\ \hline -72 \\ \hline 8 \end{array}$$

The following maths facts are important for your child to know. Please help them to learn them.

Doubles and halves of decimals

E.g. double 4.5 half of 9

Addition and subtraction facts for decimal numbers that total 100

E.g. $49.3 + 50.7 = 100$ $100 - 50.7 = 49.3$
 $36.22 + 63.78 = 100$ $100 - 63.78 = 36.22$

Pairs of fractions that total 1

E.g. $\frac{3}{8}, \frac{5}{8}$ $\frac{3}{4}, \frac{1}{4}$

All the multiplication tables

x2, x3, x4, x5, x6, x7, x8, x9, x10, x11, x12

Division facts for all the tables

E.g. $40 \div 5 = 8$

Pairs of factors of 2 digit whole numbers

E.g. 4,3 are factors of 12

Common multiples

E.g. 36 is a multiple of 6 and a multiple of 9

Square numbers

E.g. $2^2 = 4$ (2×2), $6^2 = 36$ (6×6), $10^2 = 100$ (10×10)

Cube numbers

E.g. $2^3 = 8$ ($2 \times 2 \times 2$), $5^3 = 125$ ($5 \times 5 \times 5$)

Prime numbers less than 100

E.g. 2, 3, 5, 7.....17, 23

Multiplying and dividing by 10, 100

When you multiply by 10 the digits move one place to the left.

When you multiply by 100 the digits move two places to the left.

When you divide by 10 the digits move one place to the right.

When you divide by 100 the digits move two places to the right

Equivalent fractions

E.g. $\frac{1}{2} = \frac{2}{4}$

Add fractions with the same denominator and denominators that are multiples of the same number

E.g. $\frac{4}{8} + \frac{3}{8} = \frac{7}{8}$ $\frac{1}{5} + \frac{3}{10} = \frac{5}{10} = \frac{1}{2}$

Multiply simple pairs of proper fractions

E.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$

Fraction, decimal, percentage equivalence

E.g. $\frac{1}{2} = 0.5 = 50\%$

Shape

Angles on a straight line = 180°

Angles around a point = 360°

A right angle = 90°

An acute angle is less than 90°

An obtuse angle is more than 90° and less than 180°

Angles of a triangle = 180°

Parallel lines never meet

A perpendicular line is at right angles to another line

Measures

1000m = 1 km 100cm = 1m 10mm = 1cm



1000g = 1kg (kilogram) 1000kg = 1 tonne



1000ml = 1l (litre) 100cl = 1 litre 10ml = 1cl



Time

60seconds = 1 minute 60minutes = 1 hour

24 hours = 1 day 7 days = 1 week

52 weeks = 1 year 12 months = 1 year

365 days = 1 year 366 days = 1 leap year

10 years = 1 decade 100 years = 1 century

1000 years = 1 millenium



Fun Activities to Do At Home

Card game

Use a pack of playing cards.

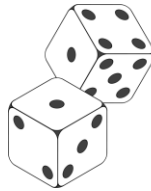
Take out the jacks, queens and kings.

- ♦ Take turns.
- ♦ Take a card and roll a dice.
- ♦ Multiply the two numbers.
- ♦ Write down the answer. Keep a running total.
- ♦ The first to go over 301 wins!



Doubles and trebles

- ♦ Roll two dice.
- ♦ Multiply the two numbers to get your score.
- ♦ Roll one of the dice again. If it is an even number, double your score. If it is an odd number, treble your score.
- ♦ Keep a running total of your score.
- ♦ The first to get over 301 wins.



Rhymes

Make up rhymes together to help your child to remember the

harder times-tables facts, e.g.

$6 \times 7 = 42$ phew! $7 \times 7 = 49$ fine! $6 \times 8 = 48$ great!

Journeys



Use the chart in the front of a road atlas that tells you the distance between places.

- ♦ Find the nearest place to you.
- ♦ Ask your child to work out how long it would take to travel to some places in England if you travelled at an average of 60 miles per hour, i.e. 1 mile per minute, e.g.

York to Preston: 90 miles 1 hour 30 minutes

York to Dover: 280 miles 4 hours 40 minutes

Encourage your child to count in 60s to work out the answers mentally.

Recipes

Find a recipe for 4 people and rewrite it for 8 people, e.g.

4 people	8 people
125g flour	250g flour
50g butter	100g butter
75g sugar	150g sugar
30ml treacle	60ml treacle
1 teaspoon ginger	2 teaspoons ginger

Can you rewrite it for 3 people? Or 5 people?