

Helping Your Child with Mathematics



A Booklet for Parents

Year 4

Calculation Strategies

In Year 4 your child will use the following written calculation strategies.

Addition

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

$$\begin{array}{r} 47 \\ + 76 \\ \hline 123 \\ \hline 11 \end{array} \qquad \begin{array}{r} 368 \\ + 493 \\ \hline 861 \\ \hline 11 \end{array}$$

Then onto larger numbers and decimals.

Subtraction

Vertical layout being able to exchange from the next column.

$$\begin{array}{r} 5 \quad 6 \quad 3 \\ - 2 \quad 4 \quad 1 \\ \hline 3 \quad 2 \quad 2 \end{array} \qquad \begin{array}{r} \overset{4}{5} \quad \overset{15}{6} \quad 13 \\ - 2 \quad 7 \quad 8 \\ \hline 2 \quad 8 \quad 5 \end{array}$$

Then onto larger numbers and decimals.

Multiplication

Grid method for TUxTU $56 \times 27 = (50 + 6) \times (20 + 7)$

x	50	6	
20	1000	120	1120
7	350	42	392
			1512

Moving onto long multiplication

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

Then 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 HTU \div U

$$\begin{array}{r}
 560 \div 4 \\
 \hline
 140
 \end{array}$$

Efficiently using multiples of the divisor or 'chunking' HTU \div TU

$$560 \div 24$$

Approximate answer:

$$550 \div 25 = 22$$

Answer 23 r 8

$$\begin{array}{r}
 24 \overline{) 560} \\
 \underline{20} \\
 -480 \\
 \hline
 80 \\
 \underline{3} \\
 -72 \\
 \hline
 8
 \end{array}$$

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

Doubles of any 2 digit number

E.g double 57

Doubles of multiples of 10 and 100 and their halves

E.g. double 60 = 120, half of 60 = 30

double 540 = 1080, half of 540 = 270

Count backwards through zero to include negative numbers

E.g. counting back in 4's

8, 4, 0, -4, -8, -12

Count on and back in hundredths

E.g. 0.04, 0.06, 0.08, 0.10, 0.12

Addition and subtraction facts for numbers that total 1000

E.g. $350 + 650 = 1000$ $1000 - 650 = 350$

$220 + 780 = 1000$ $1000 - 780 = 220$

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. 12 is a multiple of 3 and a multiple of 4

Pairs of fractions that total 1

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

Add and subtract fractions with the same denominator

E.g. $4/8 + 3/8 = 7/8$ $5/6 + 2/6 = 1$ and $1/6$

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

Shape

A quarter turn is 90° or one right angle

Half a right angle is 45°

Angles at the corners of rectangles and squares are 90°

The angles of an equilateral triangle are 60°

Acute angles are less than 90°

Obtuse angles are greater than 90° and less than 180°

An equilateral triangle has 3 equal sides and 3 equal angles

An isosceles triangle has 2 equal angles and 2 equal sides

A scalene triangle has no equal sides or angles

Measures

1000m = 1 km

100cm = 1m



1000mm=1m

10mm = 1 cm

1000g = 1kg (kilogram)



1000ml = 1l (litre)



Time

60seconds = 1minute

60minutes = 1 hour

24 hours = 1 day

7 days = 1 week

52 weeks = 1 year

12 months = 1 year

100 years = 1 century

1000 years = 1 millenium



Fun Activities to Do At Home



Number Game

Use three dice.

If you have only one dice, roll it 3 times.

◆ Make three-digit numbers, e.g. if you roll 2, 4 and 6, you could make 246, 264, 426, 462, 624 and 642.

◆ Ask your child to round the three-digit number to the nearest multiple of 10. Check whether it is correct, e.g. 76 to the nearest multiple of 10 is 80. 134 to the nearest multiple of 10 is 130.

◆ Roll again. This time around three-digit numbers to the nearest 100.

Dicey Division

You each need a piece of paper. Each of you should choose five numbers from the list below and write them on your paper.

5 6 8 9 12 15 20 30 40 50

◆ Take turns to roll a dice. If the number you roll divides exactly into one of your numbers, then cross it out, e.g. you roll a 4, it goes into 8, cross out 8.

◆ If you roll a 1, miss that go. If you roll a 6 have an extra go.

◆ The first to cross out all five of their numbers wins.

Pairs to 100

This is a game for two players.

◆ Each draw 10 circles. Write a different two-digit number in each circle - but not a 'tens' number (10, 20, 30, 40...).

◆ In turn, choose one of the other player's numbers.

◆ The other player must then say what to add to that number to make 100, e.g. choose 64, add 36.

◆ If the other player is right, she crosses out the chosen number.

◆ The first to cross out 6 numbers wins.



Mugs

You need a 1 litre measuring jug and a selection of different mugs, cups or beakers.

◆ Ask your child to fill a mug with water.

◆ Pour the water carefully into the jug and read the measurement to the nearest 10ml.

◆ Write the measurement on a piece of paper.

◆ Do this for each mug or cup.

◆ Now ask your child to write all the measurements in order.



Looking around

Choose a room at home. Challenge your child to spot 20 right angles in it.