



Christ Church, Church of England (VC) Primary School

*Aspire, celebrate and learn in an inclusive community*

# NATIONAL CURRICULUM 2014

## **A parent's guide to Year 5 Maths**



**By the end of Year 5 children should be able to...**

<b>Learning objectives</b>	<b>Success criteria</b>
1. Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.	<i>I can add and subtract numbers with up to 4 digits using written methods (for example, using column addition and subtraction).</i>
2. Estimate and use inverse operations to check answers to a calculation.	<i>I can estimate an answer and check my answer using inverse operations.</i>
3. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	<i>I can solve longer addition and subtraction problems and explain all the steps I took and why I worked things out as I did.</i>
4. Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).	<i>I can add and subtract whole numbers with more than 4 digits using written methods such as column addition and subtraction.</i>
5. Add and subtract numbers mentally with increasingly large numbers.	<i>I can add and subtract larger numbers in my head.</i>
6. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	<i>I round numbers to check the accuracy of my solution.</i>
7. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	<i>I can solve addition and subtraction multi-step problems, deciding which operations and methods to use and why.</i>
8. Recognise and show, using diagrams, families of common equivalent fractions.	<i>I can show in drawings why a number of fractions equal each other (such as <math>\frac{3}{5}</math> and <math>\frac{6}{10}</math>) and are called equivalent fractions.</i>
9. Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	<i>I can count up and down in hundredths and know that a hundredth is made by dividing an object by one hundred and a tenth is made by dividing an object by ten.</i>
10. Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.	<i>I can work out the fractions of numbers such as <math>\frac{4}{5}</math> of 25 or <math>\frac{7}{10}</math> of 700.</i>
11. Add and subtract fractions with the same denominator.	<i>I can add and subtract fractions with the same denominator.</i>
12. Recognise and write decimal equivalents of any number of tenths or hundredths.	<i>I can tell you the decimal equivalents of any number of tenths or hundredths - such as <math>\frac{1}{10} = 0.1</math> and <math>\frac{23}{100} = 0.23</math>.</i>
13. Recognise and write decimal equivalents to $\frac{1}{4}$ , $\frac{1}{2}$ , $\frac{3}{4}$ .	<i>I know what the decimal equivalents are for <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math> and <math>\frac{3}{4}</math>.</i>
14. Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.	<i>I can divide a one- or two-digit number by 10 and 100 and I know what the tenths and hundredths mean after the decimal point.</i>
15. Round decimals with one decimal place to the nearest whole number.	<i>I can round decimals with one decimal place to the nearest whole number.</i>
16. Compare numbers with the same number of decimal places up to two decimal places.	<i>I can compare numbers such as 0.26 and 0.56 to say which is bigger or lower.</i>
17. Solve simple measure and money problems involving fractions and decimals to two decimal places.	<i>I can solve measure and money problems involving fractions and decimals to two decimal places.</i>
18. Compare and order fractions whose denominators are all multiples of the same number.	<i>I can compare and order fractions whose denominators are all multiples of the same number.</i>
19. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.	<i>I can name and write equivalent fractions of a given fraction, and show these in a drawing (including tenths and hundredths).</i>
20. Recognise mixed numbers and improper fractions and convert from one form to the other and write	<i>I know what mixed numbers and improper fractions are and I can convert from one to the other [for example,</i>

mathematical statements greater than 1 as a mixed number [for example, $2/5 + 4/5 = 6/5 = 1\ 1/5$ ].	$2/5 + 4/5 = 6/5 = 1\ 1/5$ ].
21. Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	<i>I can add and subtract fractions with the same denominator and denominators that are multiples of the same number.</i>
22. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	<i>I use diagrams and some fraction tools to multiply proper fractions (<math>7/10</math>) and mixed numbers (<math>1\ 7/10</math>) by whole numbers.</i>
23. Read and write decimal numbers as fractions [for example, $0.71 = 71/100$ ].	<i>I can read and write decimal numbers as fractions [for example, <math>0.71 = 71/100</math>].</i>
24. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	<i>I know what thousandths are and how to use them with tenths, hundredths and decimals.</i>
25. Round decimals with two decimal places to the nearest whole number and to one decimal place.	<i>I can round decimals with two decimal places to the nearest whole number and to one decimal place.</i>
26. Read, write, order and compare numbers with up to three decimal places.	<i>I can read, write, order and compare numbers with up to three decimal places.</i>
27. Solve problems involving number up to three decimal places.	<i>I can solve problems involving numbers with up to three decimal places.</i>
28. Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.	<i>I know what the per cent symbol is (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.</i>
29. Solve problems which require knowing percentage and decimal equivalents of $1/2$ , $1/4$ , $1/5$ , $2/5$ , $4/5$ and those fractions with a denominator of a multiple of 10 or 25.	<i>I work on problems which require knowing percentage and decimal equivalents of <math>1/2</math>, <math>1/4</math>, <math>1/5</math>, <math>2/5</math>, <math>4/5</math> and those fractions with a denominator of a multiple of 10 or 25.</i>
30. Convert between different units of measure [for example, kilometre to metre; hour to minute].	<i>I can convert one unit of measurement to another, such as kilometre to metre, hour to minute and cm to mm.</i>
31. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.	<i>I can measure and calculate the perimeter of a rectangle (including a square).</i>
32. Find the area of rectilinear shapes by counting squares.	<i>I can find the area of a rectangular shape by counting the number of squares the shape takes up.</i>
33. Estimate, compare and calculate different measures, including money in pounds and pence.	<i>I can estimate and compare the measurements of a range of measures (such as cm, km, g, litres) and money.</i>
34. Read, write and convert time between analogue and digital 12- and 24-hour clocks.	<i>I can read, write and convert time between clocks with hands (analogue clocks) and digital 12- and 24-hour clocks.</i>
35. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	<i>I can convert hours to minutes, minutes to seconds, years to months and weeks to days.</i>
36. Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).	<i>I can convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).</i>
37. Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.	<i>I can change metric units to become imperial units such as inches, pounds and pints.</i>
38. Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.	<i>I can calculate the perimeter of multi-shape shapes in centimetres and metres.</i>
39. Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm <sup>2</sup> ) and square metres (m <sup>2</sup> ) and estimate the area of irregular shapes.	<i>I can calculate the area of rectangles in square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes.</i>
40. Estimate volume [for example, using 1 cm <sup>3</sup> blocks	<i>I can estimate volume [for example, using 1 cm<sup>3</sup> blocks</i>

to build cuboids (including cubes)] and capacity [for example, using water].	<i>to build cuboids] and capacity [for example, using water].</i>
41. Solve problems involving converting between units of time.	<i>I can convert between the units of time.</i>
42. Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	<i>I can solve more difficult problems which involve units of measurement, decimal numbers and scales.</i>
43. Recall multiplication and division facts for multiplication tables up to $12 \times 12$ .	<i>I know all my times table up to the 12 times tables.</i>
44. Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1.	<i>I know what the outcome is when I multiply a number by 1 or by zero.</i>
45. Use place value, known and derived facts to multiply and divide mentally, including: Dividing by 1.	<i>I know what the outcome is when I divide a number by 1.</i>
46. Use place value, known and derived facts to multiply and divide mentally, including: multiplying together three numbers.	<i>I can multiply three numbers together, such as <math>3 \times 6 \times 9</math>.</i>
47. Recognise and use factor pairs and commutativity in mental calculations.	<i>I know what factor pairs are how I can multiply numbers in any order and use my knowledge to work out questions in my head.</i>
48. Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.	<i>I can multiply a two-digit or a three-digit number by a one-digit number using written methods.</i>
49. Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	<i>I can solve maths problems such as - how many different outfits can I make from 3 hats and 4 coats.</i>
50. Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	<i>I can identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</i>
51. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.	<i>I know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.</i>
52. Establish whether a number up to 100 is prime and recall prime numbers up to 19.	<i>I know whether a number up to 100 is prime and recall prime numbers up to 19.</i>
53. Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers.	<i>I can multiply 4 digit numbers by a one- or two-digit number using a written method, including long multiplication for two-digit numbers.</i>
54. Multiply and divide numbers mentally drawing upon known facts.	<i>I multiply and divide numbers mentally drawing upon my times table knowledge and other number facts.</i>
55. Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.	<i>I can divide 4 digit numbers by a one-digit number using the written method of short division and find the remainder.</i>
56. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	<i>I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</i>
57. Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).	<i>I know what square numbers and cube numbers are, including the notation for squared (2) and cubed (3).</i>
58. Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	<i>I can solve multiplication and division problems using my knowledge of factors and multiples, squares and cubes.</i>
59. Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.	<i>I can solve more difficult problems involving addition, subtraction, multiplication and division and a combination of these.</i>
60. Solve problems involving multiplication and division,	<i>I can solve problems including scaling by simple fractions</i>

including scaling by simple fractions and problems involving simple rates.	<i>and problems involving simple rates.</i>
<b>61.</b> Count in multiples of 6, 7, 9, 25 and 1000.	<i>I can count in multiples of 6, 7, 9, 25 and 1000.</i>
<b>62.</b> Find 1000 more or less than a given number.	<i>I can find 1000 more or less than a given number.</i>
<b>63.</b> Count backwards through zero to include negative numbers.	<i>I can count backwards to negative numbers below zero.</i>
<b>64.</b> Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones).	<i>I know what each digit means in Thousands, Hundreds Tens and Unit numbers such as 2024.</i>
<b>65.</b> Order and compare numbers beyond 1000.	<i>I can order and compare numbers above 1000.</i>
<b>66.</b> Identify, represent and estimate numbers using different representations.	<i>I can make estimates of a range of things - such as how many small objects there are in a large jar, how long in cm an object is, how heavy an object may weigh in kg.</i>
<b>67.</b> Round any number to the nearest 10, 100 or 1000.	<i>I can round a number to the nearest 10, 100 or 1000.</i>
<b>68.</b> Solve number and practical problems that involve rounding, ordering and exploring negative numbers and with increasingly large positive numbers.	<i>I can solve number and practical problems that involve rounding, ordering and exploring negative numbers and with increasingly large positive numbers.</i>
<b>69.</b> Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.	<i>I can read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.</i>
<b>70.</b> Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.	<i>I can read, write, order and compare numbers to at least 1 000 000 and know the value of each digit.</i>
<b>71.</b> Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.	<i>I count forwards or backwards in steps 10, 100, 1000, 10000 or 100000 for any given number up to 1000000.</i>
<b>72.</b> Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	<i>I can use negative numbers in my work and can count backwards and forwards to and from negative numbers.</i>
<b>73.</b> Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.	<i>I can round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.</i>
<b>74.</b> Solve number problems and practical problems that involve numbers up to 1000000, negative numbers, rounding or jumping in steps.	<i>I can solve number problems and practical problems that involve numbers up to 1000000, negative numbers, rounding or jumping in steps.</i>
<b>75.</b> Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	<i>I can read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</i>
<b>76.</b> Describe positions on a 2-D grid as coordinates in the first quadrant.	<i>I can find the coordinates of a point on a grid.</i>
<b>77.</b> Describe movements between positions as translations of a given unit to the left/right and up/down.	<i>I can move (translate) a point on a grid by a given set of jumps either up/down or left/right.</i>
<b>78.</b> Plot specified points and draw sides to complete a given polygon.	<i>I can plot points using coordinates and join up the points to create a shape.</i>
<b>79.</b> Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	<i>I can reflect or translate a shape on a grid.</i>
<b>80.</b> Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	<i>I can group 2-D shapes based on their properties (such as the number of sides) and sizes.</i>
<b>81.</b> Identify acute and obtuse angles and compare and order angles up to two right angles by size.	<i>I can find acute and obtuse angles and order a set of given angles by size.</i>
<b>82.</b> Identify lines of symmetry in 2-D shapes presented in different orientations.	<i>I can find all the lines of symmetry in 2-D shapes.</i>
<b>83.</b> Complete a simple symmetric figure with respect to a specific line of symmetry.	<i>If I have been given one half of a symmetrical shape, I can complete the other half based on the position of the line of symmetry.</i>
<b>84.</b> Identify 3-D shapes, including cubes and other	<i>I can identify 3-D shapes, including cubes and other</i>

cuboids, from 2-D representations.	<i>cuboids, from 2-D drawings.</i>
<b>85.</b> Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.	<i>I know that angles are measured in degrees and I can estimate and compare acute, obtuse and reflex angles.</i>
<b>86.</b> Draw given angles, and measure them in degrees (°).	<i>I can draw a given angle (such as 47°), and then measure them in degrees (°).</i>
<b>87.</b> Identify angles at a point and one whole turn (total 360°).	<i>I know one whole turn - or a set of angles all around a point - measure a total of 360°.</i>
<b>88.</b> Identify angles at a point on a straight line and a turn (total 180°).	<i>I know that a straight line - or angles that add up to a straight line - measure 180°.</i>
<b>89.</b> Identify other multiples of 90°.	<i>I can identify multiples of 90° (right angles).</i>
<b>90.</b> Use the properties of rectangles to deduce related facts and find missing lengths and angles.	<i>I can find the missing lengths and angles of a rectangle.</i>
<b>91.</b> Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	<i>I know regular shapes have equal sides and angles and irregular shapes do not have equal sides and angles.</i>
<b>92.</b> Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.	<i>I can take continuous and discrete data and create a bar chart or time graph.</i>
<b>93.</b> Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	<i>I can solve comparison, sum and difference problems using information in bar charts, pictograms, tables and other graphs.</i>
<b>94.</b> Solve comparison, sum and difference problems using information presented in a line graph.	<i>I can solve problems using a line graph to find the answers.</i>
<b>95.</b> Complete, read and interpret information in tables, including timetables.	<i>I can find the information I need from a timetable or large table of data.</i>

# Strategies my child will be learning throughout the year

## **Addition**

We continue on from the work done in year 4 the contracted column method

Column addition (contracted)

$$\begin{array}{r}
 79624 + 34319 \\
 79624 \\
 + 34319 \\
 \hline
 113943 \\
 \begin{array}{cc} 1 & 1 \end{array}
 \end{array}$$

### **Children will also :**

Use rounding to check answers to calculations and determine, in the context of the problem, levels of accuracy

Add increasingly large numbers mentally

Add fractions with the same denominator and denominators that are multiples of the same number (beyond 1 as a mixed number)

Add tenths mentally, and one digit whole numbers and tenths

Solve addition multi-step problems in context deciding which operations and methods to use and why

Add decimals including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of one e.g.  $0.83 + 0.17 = 1$

## **Subtraction**

We continue on from the work done in year 4 the expanded then contracted column subtraction with exchange:

874 – 523 becomes

$$\begin{array}{r}
 874 \\
 - 523 \\
 \hline
 351
 \end{array}$$

Answer: 351

932 – 457 becomes

$$\begin{array}{r}
 932 \\
 - 457 \\
 \hline
 475
 \end{array}$$

Answer: 475

Moving onto:

$$9662 - 6354 =$$

$$\begin{array}{r}
 9662 \\
 - 6354 \\
 \hline
 3308
 \end{array}$$

0 1

$$\begin{array}{r}
 1.10 \\
 - 0.03 \\
 \hline
 1.07
 \end{array}$$

### **Children will also:**

Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

Solve subtraction multi-step problems in context, deciding which operations and methods to use and why

Subtract increasingly large numbers mentally

Subtract fractions with the same denominator and denominators that are multiples of the same number (beyond 1 as a mixed number)

Subtract tenths mentally, and one digit whole numbers and tenths

Subtract decimals including a mix of whole numbers and decimals, decimals with different numbers of decimal places, including complements of one e.g.  $1 - 0.83 = 0.17$

## Multiplication

We consolidated understanding of

$$564 \times 3 = 1692$$

x	500	60	4
3	1500	180	12

$$1500 + 180 + 12 = 1692$$

Children then move onto:

Short multiplication 4-digit by 1-digit  
(including decimals)

$$\begin{array}{r} 2326 \\ \times \quad 4 \\ \hline 9304 \\ 112 \end{array}$$

Use multiplication and division as inverses to support the introduction of ratio in Year 6

With most children progressing onto:

Long multiplication for 2-digit by 2-digit,  
3-digit by 2-digit and 4-digit by 2-digit (units  
first)

$$\begin{array}{r} 24 \\ \times 16 \\ \hline 144 \\ 240 \\ \hline 384 \end{array}$$

Note:

Times tables skills are fundamental to developing confidence with multiplication. Please keep practising.

Children will need to be able to:

- Multiply numbers mentally drawing upon known facts
- Multiply whole numbers and decimals by 10, 100 and 1000
- Understand the term factor, multiple, prime, square and cube numbers, and use them to construct equivalence statements
- Identify multiples and factors including finding all factor pairs of a number, and common factors of 2 numbers
- Solve word problems using multiplication
- Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
- Establish whether a number up to 100 is prime and recall prime numbers up to 19
- Multiply proper factors and mixed numbers by whole numbers

## Division

We consolidated understanding of division

$$432 \div 5 \text{ becomes}$$

$$\begin{array}{r} 86 \text{ r} 2 \\ 5 \overline{) 432} \\ \underline{40} \phantom{2} \\ 32 \\ \underline{30} \\ 2 \end{array}$$

Answer: 86 remainder 2

In addition children will

- Divide numbers mentally drawing upon known facts
- Divide whole numbers and those involving decimals by 10, 100 and 1000
- Solve word problems using division
- Understand that distributivity can be expressed as  $a(b + c) = ab + ac$
- Interpret non integer answers to division by expressing results in different ways according to the context, including with remainders, as fractions, as decimals or by rounding e.g.  $98 \div 4 = 98/4 = 24 \text{ r} 2 = 24.5$



## Games to support your child at home with maths

### Favourite food

- ◆ Ask your child the cost of a favourite item of food.  
Ask them to work out what 7 of them would cost, or 8, or 9.  
How much change would there be from £50?
- ◆ Repeat with his / her least favourite food.  
What is the difference in cost between the two?

### Four in a line

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

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

- ◆ 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.
- ◆ Cover the number you make with a coin or counter.
- ◆ The first to get four of their counters in a straight line wins.

### TV addicts

Ask your child to keep a record of how long he / she watches TV each day for a week. Then ask him / her to do this.

- ◆ Work out the total watching time for the week.
- ◆ Work out the average watching time for a day  
(that is, the total time divided by 7).

Instead of watching TV, you could ask them to keep a record of time spent eating meals, or playing outdoors, or anything else they do each day. Then work out the daily average.

## Recipes

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

4 people

125g flour  
50g butter  
75g sugar  
30ml treacle  
1 teaspoon ginger

8 people

250g flour  
100g butter  
150g sugar  
60ml treacle  
2 teaspoons ginger

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

## 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!

## Remainders

Draw a 6 x 6 grid like this.

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

- ◆ Choose the 7, 8 or 9 times table.
- ◆ Take turns.
- ◆ Roll a dice.
- ◆ Choose a number on the board, 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!



### 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.

### 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*

### 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!

## Dicey division

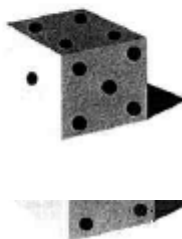
For this game you need a 1–100 board (a snakes and ladders board will do), a dice and 20 coins or counters.

- ◆ 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.

## 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?



## Dicey subtractions

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

$$400\square - 399\square$$

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.

## Finding areas and perimeters

*Perimeter = distance around the edge of a shape*

*Area of a rectangle = length  $\times$  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 estimate then work out the area of each envelope.
- ◆ Were perimeters or areas easier to estimate? Why?

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

- ◆ Work out which page has the biggest area used for photographs.
- ◆ Choose a page and work out the total area of news stories or adverts on that page.