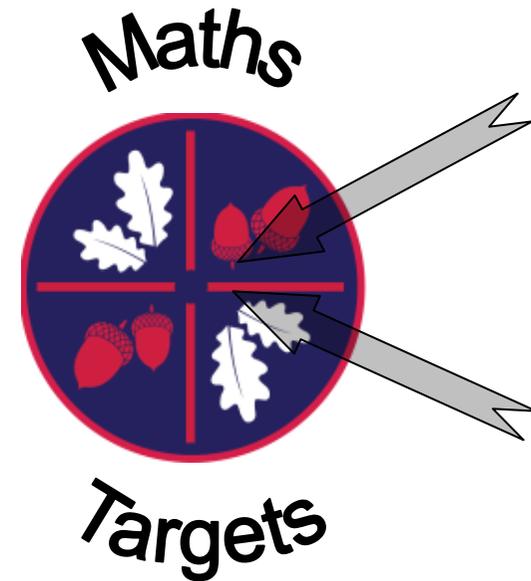


## Useful websites

- <https://nrich.maths.org> – website aimed at provoking mathematical thinking and discussion through problems.
- <http://www.mathszone.co.uk> - Useful website with hundreds of links to other websites – most resources are for KS2 with some for KS3.
- <http://www.supermathsworld.com> - Maths games website aimed at mostly KS2 pupils – pupils can log in as a guest or create an account.
- <http://www.educationquizzes.com/ks2/> - KS2 revision website – there is a parents as well as a pupil info section – click on the maths link on the left hand side - some resources are free but a login and password need to be set up to access the majority of resources.
- <http://www.free-training-tutorial.com/math-games.html> - a maths games website (American language) (with some links to typing practice as well) mostly suitable for KS2 pupils with some KS3 suitable games.
- <http://www.coolmath4kids.com/> - Maths games website (American language) for pupils with links to lots of other sister websites.
- <http://www.woodlands-junior.kent.sch.uk/maths/> - Useful website for KS2 pupils to practice some key skills in maths.

# Helping your child with maths in Year 4



**A booklet for parents**

## Year 4 Objectives

• count in multiples of 6, 7, 9, 25 and 1000
• find 1000 more or less than a given number
• recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)
• order and compare numbers beyond 1000
• round any number to the nearest 10, 100 or 1000
• read Roman numerals to 100 (I to C)
• estimate and use inverse operations to check answers to a calculation
• solve number and practical problems that involve all of the above and with increasingly large positive numbers
• count backwards through zero to include negative numbers
• add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
• estimate and use inverse operations to check answers to a calculation
• solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why
• recall multiplication and division facts for multiplication tables up to $12 \times 12$
• use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
• recognise and use factor pairs and commutativity in mental calculations
• multiply two-digit and three-digit numbers by a one-digit number using formal written layout
• 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
• recognise and show, using diagrams, families of common equivalent fractions
• count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten
• 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

## Number game 2

You need about 20 counters or coins.

- Take turns. Roll two dice to make a two-digit number, e.g. if you roll a 4 and 1, this could be 41 or 14.
- Add these two numbers in your head. If you are right, you win a counter. Tell your partner how you worked out the sum.
- The first to get 10 counters wins.

Now try subtracting the smaller number from the larger one.

## Number game 3



- Put some dominoes face down.
- Shuffle them.
- Each choose a domino.
- Multiply the two numbers on your domino.
- Whoever has the biggest answer keeps the two dominoes.
- The winner is the person with the most dominoes when they have all been used.

## Dicey tens

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

- Take turns.
- Choose a two-digit number on the board e.g. 24.
- Roll the dice. If you roll a 6, miss that turn.
- Multiply the dice number by 10, e.g. if you roll a 4, it becomes 40.
- Either add or subtract this number to or from your two-digit number on the board, e.g.  $24 + 40 = 64$ .
- If you are right, put a coin on the answer.
- The first to get 10 coins on the board wins.

## Looking around

Choose a room at home.

Challenge your child to spot  
20 right angles in it.



## 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**

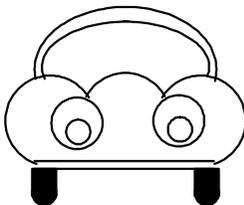
- ◆ Take turns to roll a die. If the number you roll divides exactly into one of your numbers, then cross it out, e.g. you roll a 4, it goes into 8, cross out 8.
- ◆ If you roll a 1, miss that go. If you roll a 6 have an extra go.
- ◆ The first to cross out all five of their numbers wins.

## Sum it up

- ◆ Each player needs a die.
- ◆ Say: *Go!* Then each rolls a die at the same time.
- ◆ Add up all the numbers showing on your own die, at the sides as well as at the top.
- ◆ Whoever has the highest total scores 1 point.
- ◆ The first to get 10 points wins.

## Out and about

- ◆ Choose a three-digit car number, e.g. 569.
- ◆ Make a subtraction from this, e.g.  $56 - 9$ .
- ◆ Work it out in your head. Say the answer.
- ◆ If you are right, score a point.
- ◆ The first to get 10 points wins.



• add and subtract fractions with the same denominator
• recognise and write decimal equivalents of any number of tenths or hundredths
• recognise and write decimal equivalents to $\frac{1}{4}$ , $\frac{1}{2}$ , $\frac{3}{4}$
• 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
• round decimals with one decimal place to the nearest whole number
• compare numbers with the same number of decimal places up to two decimal places
• solve simple measure and money problems involving fractions and decimals to two decimal place.
• convert between different units of measure
• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres
• find the area of rectilinear shapes by counting squares
• estimate, compare and calculate different measures, including money in pounds and pence
• read, write and convert time between analogue and digital 12- and 24-hour clocks
• solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days
• compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
• identify acute and obtuse angles and compare and order angles up to two right angles by size
• identify lines of symmetry in 2-D shapes presented in different orientations
• complete a simple symmetric figure with respect to a specific line of symmetry
• describe positions on a 2-D grid as coordinates in the first quadrant
• describe movements between positions as translations of a given unit to the left/right and up/down
• plot specified points and draw sides to complete a given polygon
• interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs
• solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

## Fun activities to do at home

The activities given will all help your child towards achieving some of the maths objectives by the end of Year 4.

### Number game 1

Use three dice.

If you have only one die, 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.  
(A number ending in a **5** always **rounds up**.)
- ◆ Roll again. This time round three-digit numbers to the nearest 100.

### Tables

Practise the 6x table. Say it forwards and backwards.

Ask your child questions like:

What are five sixes? What is 36 divided by 6?

What is six times seven? How many sixes in 18?

### Playing cards

Remove the picture cards from the pack. Pick a card and ask your child to multiply it by 6. Can they then give you 3 other associated facts?

**e.g. Pick the '4' card, so:**

$$4 \times 6 = 24, 6 \times 4 = 24, 24 \div 6 = 4 \text{ and } 24 \div 4 = 6$$

### Measuring

Use a tape measure that shows centimetres.

- Take turns measuring lengths of different objects, e.g. the length of a sofa, the width of a table, the length of the bath, the height of a door.
- Record the measurement in centimetres, or metres and centimetres if it is more than a metre, e.g. if the bath is 165 cm long, you could say it is 1m 65cm (or 1.65m).
- Write all the measurements in order.

### 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.
- ◆ Read the measurement to the nearest 10 millilitres.
- ◆ 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.

### All the sixes

Time your child while he / she does one or more of these.

- ◆ Count in sixes to 60.
- ◆ Count back in sixes from 60 to zero.
- ◆ Start with 4. Count on in sixes to 70.
- ◆ Start with 69. Count back in sixes to 3.

Next week, try to beat the record.

6 12 18 24 30 36 42

## Left overs

- Take turns to choose a two-digit number less than 50.
- Write it down. Now count up to it in fours. What number is left over?
- The number left is the number of points you score, e.g.
  - Choose 27.
  - Count: 4, 8, 12, 16, 20, 24.
  - 3 left over to get to 27.
  - So you score 3 points.
- The first person to get 12 or more points wins.

Now try the same game counting in threes, or in fives.  
Can you spot which numbers will score you points?

4 8 12 16 20 24 28 32 36 40

## Tables

Practise the 9x table. Say it forwards and backwards.  
Ask your child questions like:  
What are nine sixes? What is 27 divided by 9?  
What is nine times nine? How many nines in 72?

## Playing cards

Remove the picture cards from the pack. Pick a card and ask your child to multiply it by 9. Can they then give you 3 other associated facts?

e.g. Pick the '6' card, so:

$$6 \times 9 = 54, 9 \times 6 = 54, 54 \div 6 = 9 \text{ and } 54 \div 9 = 6$$

## Make it real!



Dad measures 450g of sugar from a kilogram bag of sugar to bake a cake. How much sugar is left in the bag?

**550g**

**How do you know?**

**Because  $450\text{g} + 550\text{g} = 1000\text{g}$ , and  $1000\text{g} = 1\text{kg}$**

## Aim for 300

You need an ordinary die. A game for 2 or more people  
When it is your turn:

- Throw a die 4 times and write down the numbers.
- Add any 2 of your numbers, then add the other 2.
- Multiply your answers to get your score.

Keep taking turns like this. Whoever reaches a total score of 300 or more first wins.

## Tables

Practise the 7x table. Say it forwards and backwards.  
Ask your child questions like:

**What are seven fives? What is 49 divided by 7?**

**What is seven times three? How many sevens in 56?**

## Playing cards

Remove the picture cards from the pack. Pick a card and ask your child to multiply it by 7. Can they then give you 3 other associated facts?

e.g. Pick the '4' card, so:

$$4 \times 7 = 28, 7 \times 4 = 28, 28 \div 4 = 7 \text{ and } 28 \div 7 = 4$$

## Challenge

Choose any even 4 digit number, halve it.  
If the answer is even halve again, if it's odd add 1 then halve again. How far can you go?

## Make it real!



In a sponsored swim Paul swam 75 lengths of the pool. His sister swam twice as far. How many lengths did she swim?

**150 lengths**

**Can you tell me why?**

**Because double 75 is 150**

If 2 children have £27 to share equally between them, how much do they each have?

**£13.50 each**

**How do you know?**

**Because half of £20 is £10 and half of £7 is £3.50 which is £13.50 altogether**



