

Mathematics at Grayshott

Year 4 Objectives



Place Value

- Count in multiples of 6, 7, 9, 25 and 1,000.
- Find 1,000 more or less than a given number.
- Count backwards through 0 to include negative numbers.
- Recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s).
- Order and compare numbers beyond 1,000.
- Identify, represent and estimate numbers using different representations.
- Round any number to the nearest 10, 100 or 1,000.
- Solve number and practical problems that involve all of the above and with increasingly large positive numbers.
- Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value.

Addition and Subtraction:

- Add and subtract numbers mentally, including: a three-digit number and 1s; a three-digit number and 10s; a three-digit number and 100s.
- Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction.
- Estimate the answer to a calculation and use inverse operations to check answers.
- Solve problems, including missing number problems, using number facts and place value.

Number - multiplication and division

- Recall multiplication and division facts for multiplication tables up to 12×12 .
- Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 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 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Number - fractions

- 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 100 and dividing tenths by 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.
- Add and subtract fractions with the same denominator.
- Recognise and write decimal equivalents of any number of tenths or hundreds.
- 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 1 decimal place to the nearest whole number.
- Compare numbers with the same number of decimal places up to 2 decimal places.
- Solve simple measure and money problems involving fractions and decimals to 2 decimal places.

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End of year Maths Expectations for Year 4

This booklet contains:

- National Curriculum objectives for year 4 children in maths;
- Important number facts that children need to know by the of year 4;
- Hints and tips for helping your child at home.

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Year 4- Maths

Hints and Tips for helping your child with maths at home:

Learning the important number facts:

The following games can be played at home with minimal resources to keep those important number facts fresh in your child's mind!



Ping Pong

This is a great game for learning number bonds or number facts, for example,

number bonds to 10,000. Start off by saying 'ping' and your child replies with 'pong.' keep repeating this in order to build up a rhythm and then replace the 'ping' with a number e.g. 10,000. Once you say 6000, your child should reply with 4000. Then start again with ping, before replacing it with another number.

If this is the answer.....

.....what is the question? Give children a number and say 'This is my answer, what is the question?' For example, you could say 'my answer is 1000.' Your child will need to think of potential questions e.g. $510 + 490$, $45 \times 20,000 \div 2$

Interactive Games

www.topmarks.co.uk – This website has a whole range of games for your child to play which are suitable for both tablet and desktop computers.

Around the house

- Talk about time. For example, get them to work out what time you need to leave the house to get to school on time.
- Cooking. Measure ingredients and set the timer together. Get them to work out how much more food will you need if extra people are coming for dinner.
- Talk about the shape and size of objects. Look online for interesting facts, like tallest and shortest people, or biggest and smallest buildings etc.
- When you are sharing food like pizza or cake, ask your child to help you share it equally between the number of people eating.
- Solve maths problems at home. For example, ask them how many apples to buy at the shop and why, or how long will it take you to get to a friend's house if you go to the library on the way.
- Collect information and create a tally chart, for example to find out the family's favourite animal or fruit etc.
- Make patterns with objects, colouring pencils, paint or Play-Dough, and build structures with Lego or boxes.

Taken from www.familymathstoolkit.org.uk

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Year 4- Number Facts



In order to meet age related expectations, your child will need to know the following number facts:

Measure

- £5.00 x 2 = £10.00
- £500 x 2 = £1000
- £2.50 x 4 = £10.00
- £250 x 4 = £1000
- £2.00 x 5 = £10.00
- £200 x 5 = £1000
- 10cm = $\frac{1}{10}$ m
- 1cm = $\frac{1}{100}$ m
- 100 g = $\frac{1}{10}$ kg
- 1.1 kg = 1kg + 100g = 1kg + $\frac{1}{10}$ kg
- 48 hours = 2 days

Place Value

- Know sequences of counting in multiples of 25.

Multiplication and Division

- Know the 6, 7 and 9 times table and the related division facts
- Know all the table facts and the related division facts
- $500 \times 2 = 1000$ therefore $1000 \div 2 = 500$
- $250 \times 4 = 1000$ therefore $1000 \div 4 = 250$
- $200 \times 5 = 1000$ therefore $1000 \div 5 = 200$

Fractions

- $100 \div 10 = 10$
- $1000 \div 10 = 100$
- $10 \div 10 = 1$
- $1 \div 10 = \frac{1}{10}$ $1 \div 10 = \frac{1}{10} = 0.1$
- $2 \div 10 = \frac{2}{10} = 0.2$ $3 \div 10 = \frac{3}{10} = 0.3$
- $4 \div 10 = \frac{4}{10} = 0.4$ $5 \div 10 = \frac{5}{10} = 0.5$
- $6 \div 10 = \frac{6}{10} = 0.6$ $7 \div 10 = \frac{7}{10} = 0.7$
- $8 \div 10 = \frac{8}{10} = 0.8$ $9 \div 10 = \frac{9}{10} = 0.9$
- $10 \div 10 = \frac{10}{10} = 1.0$ $\frac{1}{4} = 0.25$ $\frac{1}{2} = 0.5$
- $\frac{3}{4} = 0.75$

Addition and subtraction

- Know all the complements to 10,000 using multiples of 1000

- $1 + 9 = 10$ (Year 1)
- $10 + 90 = 100$ (Year 2)
- $100 + 900 = 1000$ (Year 3)
- $1000 + 9000 = 10,000$ (Year 4)

Pupils should also understand the related subtraction facts.

- Reliably calculate 2 digit numbers mentally.

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Year 4 Objectives (continued)



Measurement

- Convert between different units of measure [for example, kilometre to metre; hour to minute].
- 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.

Geometry - properties of shapes

- 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 2 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.

Geometry - position and direction

- 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.

Statistics

- 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.