Mathematics at Grayshott

Year 3 - Number Facts

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

Measure

- 60 seconds = 1 minute
- How many days in each month / year / leap year.
- Find and recognise complements to 60.
- 50p x 2 = £1.00 £50 x 2 = £100
- 25 p x 4 = £1.00 £25 x 4 = £100
- 20p x 5 = £1.00 £20 x 5 = £100
- 1000g = 1kg 1000ml = 1l
- 1000cm = 1km
- 1000 ÷ 2 = 500 1000 ÷ 4 = 250
- ½ l/kg/km = 500
- ¼ l/kg/km = 250
- ¾ l/kg/km = 750

Place Value

- Know the sequence of counting in 50's.
- Know the sequence if counting in 100's.

Multiplication and Division

- Know the 3, 4 and 8 times table and the related division facts.
- Understand that x 2 = doubling.
- Understand that ÷ 2 = halving.
- Know that… 50 x 2 = 100, 25 x 4 = 100 and 20 x 5 = 100.

Addition and subtraction

- Know all the complements to 100 e.g. ? + ? = 100.
- Know pairs of multiples of 100 that total 1000

  1 + 9 = 10 (Year 1), 10 + 90 = 100 (Year 2) , 100 + 900 = 1000 (Year 3). For example – If I know that 1+ 9 = 10, then I also know that 10 + 90 = 100.

Fractions

- $^1/_2 = {}^2/_4 = {}^3/_6 = {}^4/_8 = {}^5/_{10}$
- $^1/_5 + {}^1/_5 + {}^1/_5 + {}^1/_5 + {}^1/_5 = {}^5/_5$ = 1 whole
- $^1/_6 + {}^1/_6 + {}^1/_6 + {}^1/_6 + {}^1/_6 + {}^1/_6 = {}^6/_6$ = 1 whole
- $^1/_7 + {}^1/_7 + {}^1/_7 + {}^1/_7 + {}^1/_7 + {}^1/_7 + {}^1/_7 = {}^7/_7$ = 1 whole
- $^1/_8 + {}^1/_8 + {}^1/_8 + 1{}^1/_8 + {}^1/_8 + {}^1/_8 + {}^1/_8 + {}^1/_8 = {}^8/_8$ = 1 whole
- $^1/_9 + {}^1/_9 + {}^1/_9 + {}^1/_9 + {}^1/_9 + {}^1/_9 + {}^1/_9 + {}^1/_9 + {}^1/_9 = {}^9/_9$ = 1 whole
- $^1/_{10} + {}^1/_{10} + {}^1/_{10} + {}^1/_{10} + {}^1/_{10} + {}^1/_{10} + {}^1/_{10} + {}^1/_{10} + {}^1/_{10} + {}^1/_{10} = {}^{10}/_{10}$ = 1 whole
- Understand fraction facts related to whole number facts 1 + 5 = 6 (Year 1) $^1/_6 + {}^5/_6 = {}^6/_6$ (Year 3)

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Year 3 Objectives

Place Value

- Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number.
- Recognise the place value of each digit in a 3-digit number (100s, 10s, 1s).
- Compare and order numbers up to 1,000.
- Identify, represent and estimate numbers using different representations.
- Read and write numbers up to 1,000 in numerals and in words.
- Solve number problems and practical problems involving these ideas.

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 and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
- Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.
- Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which *n* objects are connected to *m* objects.

Number - fractions

- Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.
- Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.
- Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.
- Recognise and show, using diagrams, equivalent fractions with small denominators.
- Add and subtract fractions with the same denominator within one whole [for example, $^5/_7 + {}^1/_7 = {}^6/_7$].
- Compare and order unit fractions, and fractions with the same denominators.
- Solve problems that involve fractions.

Measurement

- Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).
- Measure the perimeter of simple 2-D shapes.
- Add and subtract amounts of money to give change, using both £ and p in practical contexts.
- Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.
- Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight.
- Know the number of seconds in a minute and the number of days in each month, year and leap year.
- Compare durations of events [for example, to calculate the time taken by particular events or tasks].

Geometry - properties of shapes

- Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.
- Recognise angles as a property of shape or a description of a turn.
- Identify right angles, recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angle.
- Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.

Statistics

- Interpret and present data using bar charts, pictograms and tables.
- Solve one-step and two-step questions [for example 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.

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End of year Maths Expectations for Year 3

This booklet contains:

- National Curriculum objectives for year 3 children in maths;
- Important number facts that children need to know by the of year 3;
- Hints and tips for helping your child at home.

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Year 3- 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 100. 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. 11. Once you say 60, your child should reply with 40. 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 50.' Your child will need to think of potential questions e.g. 51 - 1, 45 + 5

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 desk-top 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