Maths in Year 1

Number - Number and Place Value (Tens and Ones)

Most children in Year 1 will be ready to learn how to count to 100 both forwards and backwards from any given number. They might also begin to learn how to read and write numbers to 100 in digits (e.g knowing that 34 is thirty four) and count in steps of 2, 5 and 10.

Pupils will learn to say the number that is one more or less than any number to 100 and will become familiar with vocabulary such as: equal to, more than, less than, fewer, least and most, in order to answer questions containing this type of vocabulary, particularly in mental maths activities.

Children may also start writing number words to 20 (e.g eight, thirteen etc) and order numbers using vocabulary such as first, second, third etc.`

Number - Addition and Subtraction

In Year 1, most children are taught to recognise the following symbols: +, - and = and number bonds to 10 and 20 (these are both addition and subtraction number pairs which make 10 and 20, e.g 4 + 6 = 10, 10 – 6 = 4, 14 + 6 = 20 and 20 – 6 = 14). Number bonds are a great way of helping calculate quickly.

Your child may work on adding and subtracting one digit and two digit numbers to 20, including as part of solving simple problems. Your child might be given missing number problems to see if they can apply their knowledge of number bonds, e.g 20 - ? = 8 or 3 + ? = 10.

They will most likely be exposed to the following vocabulary often found in word problems: total (+), altogether (+), add, take away, difference between (-), distance between (-), less than (-) and more than (+). This will help your child to become familiar with what a word problem is actually asking them to do in order to find out the answer.

Number - Multiplication and Division.

Children may use arrays to learn about what multiplication actually is. The array below can help us to solve two multiplication calculations: 3 x 2 = 6 (3 lots of 2) or 2 x 3 = 6 (2 lots of 3).

Most Year 1 children will begin to double small numbers and quantities and look out for number patterns in the 2, 5 and 10 times tables, e.g all multiples of 2 end in an even number, multiples of 5 end in only 5 or 0.

To help introduce division, children might practise sharing and grouping small quantities. For example, if trying to solve 15÷3, we could share 15 counters into 3 separate piles and see how many are in each. Alternatively, we could group the 15 counters into piles of 3 and see how many are in each, either method will give the same answer.

From here, children will begin to solve simple multiplication and division word problems using objects, pictures and arrays to help them.

Number - Fractions

In Year 1, your child may learn to spot and name one half of objects or numbers, understanding that this is one of two equal parts. This will be extended to a quarter (one of four equal parts) and from here, children might be solving problems involving finding fractions of amounts of things, e.g what is ½ of 8 sweets?

Measurement

Your child may have already been exposed to much of the following vocabulary however this is likely to be revised in Year 1 to ensure children are secure: tall/short, double/half, long/short and longer/shorter in order to compare and describe lengths and heights using centimetre or metre rulers.

Similarly, children will need to be familiar with the following vocabulary related to mass (also known as weight): heavy/light, lighter than, heavier than, using weighing scales to make comparisons and capacity (also known as volume) – full/empty, half, half full, quarter full, more than, less than, using a variety of different containers.

Finally, time – slower, quicker, earlier and later. Once children are familiar with this vocabulary they will begin to learn the standard units of measurements related to each concept and what their abbreviations stand for e.g mm, cm, m, g, kg, ml, l, second, minute and hour.

Children should know what the various coins and notes are worth in relation to each other, for example 50p is worth more than a 2p coin however a 2p coins is worth more than a 1p coin because this is double that amount.

Children may also practise correctly sequencing events using vocabulary such as yesterday, tomorrow, morning, afternoon, evening, before, after, next, first and today.

In addition to this, your child may begin to learn and sequence the days of the week and months of the year.

Finally, your child will work on time in order to build their confidence with telling the time to the nearest hour and half hour. They may practise this by drawing hands on clocks.

Geometry - Shape

Your child may already be familiar with some shape names by the time they enter Year 1 however the teacher may check they are secure in their understand that 2D shapes are flat, whereas 3D shapes are not.

They may be exposed to all the different 2D and 3D shape names, looking for these in the word around them and labelling them.

Your child will need to remember that a shape may be a square however it may be shown in a different orientation such as sitting on its corner rather than on its side. Another similar learning point would be that a cuboid can be taller or shorter than another.

Geometry - Position and Direction

Does your child understand the following vocabulary? The difference between right and left, top, middle and bottom, on top, in front, between, above, near, around, close and far, forwards, backwards, up and down, inside and outside. Hopefully by the end of Year 1, this will be secure and children may have also learned how to make a full, half, quarter turn and three-quarter turn in both directions (linking this with the hands of a clock).

Maths in Year 2

Number - Number and Place Value (Tens and Ones)

In Year 2, children will be taught how to count in jumps of 2, 3, 5 and 10, forwards or backwards, starting at any number.

They will also be able to understand that a two digit number is made up of tens and ones (place value).

From understanding this concept, children will learn to estimate where numbers might appear on a blank number line, compare and order numbers up to 100 using symbols (<,> and =) and use place value to solve problems, for example 24 > 12 (24 is greater than 12), 9 < 78 (9 is less than 78) or 19 = 19 (the same as). An easy way to remember how to use these symbols is to think of the arrow as a crocodile's mouth which always likes to point towards the larger number!

Children should be able to identify odd and even numbers confidently and read and write numbers to 100 in numerals and in words.

Number - Addition and Subtraction

In Year 2, your child will be taught how to solve addition and subtraction problems involving measures (e.g length, capacity, weight or time), quantities (e.g money) and numbers both mentally and with written calculations and using pictures or practical equipment to help them.

In Year 2, most children will work on quick recall of number bonds to 20, and addition and subtraction number bonds to 100, e.g 55 + 45 = 100 / 100 – 63 = 27.

Using mental maths, pictures or practical equipment, children will practise adding and subtracting a two and one digit number, a two digit number and multiple of ten, 2 two digit numbers and adding three single digits.

They will understand that addition can be carried out in any order however this isn't the same for subtraction, for example you can work out 24 + 6 / 6 + 24 and still get 30 but you can't calculate 30 – 26 = 4 / 26 – 30 = 4!

Children will work on the idea that addition and subtraction are opposites but we can use them to check calculations or solve missing number problems, e.g 10 – ? = 7, 7 +3 = 10 therefore the missing number must be 3.

Number - Multiplication and Division.

Times tables are a bit like Marmite, children either love or hate learning them! Every child picks up times tables at different rates but by the end of Year 2 the national expectation is that your child will be able to use multiplication and division facts for the 2, 5 and 10 times tables, e.g 6 x 2 = 12, 12 ÷ 6 = 2, recording calculations correctly.

Children will learn that multiplication, as addition, can be done in any order however this rule doesn't apply to division. Children will be taught to recognise that multiplying by 2 is the same as doubling and dividing by 2 is halving.

Finally, children will use their knowledge to solve simple word problems, becoming familiar with different words which mean the same as 'multiply' and 'divide' such as 'lots of' or 'share'.

Number - Fractions

In Year 2, your child may be taught to name, write and find 1/3, 1/4, 2/4, 3/4 of a shape, length or set, writing and solving calculations such as ½ of 8 = 4.

Through working on fractions, they will begin to recognise equivalent fractions, such as 2/4 is the same as 1/2.

Children should be able to order fractions on a number line, understanding that they are part of a whole.

Measurement

Your child will learn to choose the correct units to estimate and measure mass (g/kg), temperature (°C), height or length in any direction using mm, cm and m and capacity in l or ml.

From measuring, children will then learn to compare using symbols (<,> and =).

Time can be tricky, but it will 'click' eventually, just like it did for us grown-ups!

In Year 2, children may learn to tell the time to the nearest 5 minutes and be able to make these times on a clock face.

Children will need to be familiar with how many minutes there are in an hour and how many hours in a day.

Money wise, your child might investigate different combinations of coins or notes to make a given amount, recognising £ and p symbols.

They will solve money problems, including giving change.

Geometry - Shape

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Year 3

Number - Number and Place Value (Hundreds, Tens and Ones)

Your child may learn to count in jumps of 4, 8, 50 and 100 and practise finding 10 or 100 more or less than another number. Children might extend their knowledge of place value to hundreds, tens and ones in order compare and order numbers to 1000.

Year 3 Children may practise reading and writing numbers up to 1000 in digits and words and solve number problems.

Number - Addition and Subtraction

In Year 3, your child may be taught to mentally add and subtract including a three digit number and ones, a three digit number and tens and a three digit number and hundreds.

They might also be introduced to adding and subtracting numbers up to three digits using formal written methods of column addition and subtraction (the methods and the order in which they are taught can vary between schools, your child's school will probably have a calculation policy that they would be willing to share with you).

Children in this year group are likely to be encouraged to estimate the answer to a calculation and use inverse operations to check their final answer.

They will solve addition and subtraction missing number problems using their knowledge of number bonds and place value.

Number - Multiplication and Division.

Your child may already be confident with their times tables however the national expectation by the end of year 3 is that children will be able to recall and use multiplication and division facts for the 3, 4 and 8 times tables, e.g 4 x 3 = 12, 12 ÷ 4 = 3.

They will also begin to use written calculation methods alongside their own times table knowledge to calculate sums involving a two and one digit number.

They will also use their knowledge to solve problems.

Number - Fraction

Fractions don't have to be scary!

Your child may be taught to count in fractions such as tenths (1/10) up to one in order to aid their understanding that fractions are part of a whole.

They may also begin to connect their understanding of the fraction with the decimal (1 divided by 10 = 0.1).

They may continue to find different fractions of a number or set and recognise equivalent fractions, also understanding how to add and subtract fractions.

Finally, they might compare and order fractions, using them to solve problems too.

Measurement

Children might learn how to add and subtract larger amounts of money and be able to give change.

Children in Year 3 are likely to work on being able to tell and write the time from an analogue clock (with hands), including a clock using Roman numerals, to the nearest minute.

They may work on writing the time in both 12 and 24 hour clock.

Other helpful information includes children learning the number of seconds in a minute, the number of days in each month, year and leap year.

Your child is likely to be solving time problems including finding the difference between two different times.

Regarding other measures, children may experience measuring, adding, subtracting and comparing volume/capacity, length/height and mass/weight.

Children will be taught how to measure the perimeter of a shape (the distance around the 2D shape).

Geometry - Properties of Shape

Your child may practise drawing 2D shapes, making 3D shapes and recognising all shapes in different orientations.

Children will also learn how to measure angles and identify vertical and horizontal lines including pairs or perpendicular (two or more lines that intersect at a 90-degree angle) and parallel lines (two lines that never meet, they are always the same distance apart).

Statistics

Children are likely to interpret and present data using tables, pictograms and bar graphs.

They will solve both one and two step problems relating to the data

Year 4

Number - Number and Place Value (Thousands, Hundreds, Tens and Ones)

Your child may learn to count in jumps of 6, 7, 9, 25 and 1000 and practise finding 1000 more or less than another number having understood the place value of each digit of a four digit number.

They might work on making estimations and round numbers to the nearest 10, 100 and 1000.

Children will solve problems involving these larger numbers and learn to read Roman numerals to 100, understanding that over time, our number system changed and included zero and place value.

Your child might also practise ordering and comparing numbers beyond 1000

Number - Addition and Subtraction

In Year 4, your child may be taught to use formal column written methods to add and subtract numbers with up to four digits. (The methods and the order in which they are taught can vary between schools, your child's school will probably have a calculation policy that they would be willing to share with you).

They may also be required to use their knowledge of addition as the opposite of subtraction (inverse) to check calculations, e.g they would work out the addition sum 432 + 367 = 799 and check it by doing a subtraction sum, 799 – 432 = 367.

Two step addition and subtraction problems will be posed to most children in Year 4.

Number - Multiplication and Division

The national expectations is that your child knows all their times tables up to 12 x 12 by the end of Year 4, and for some children this is no easy task.

There are a range of helpful games and activities on the twinkl website to help your child if you feel they need an extra source of support.

In Year 4, multiplication of two and three digit numbers by a single digit number may be taught using formal written methods and solving problems.

Number - Fractions

Fractions don't have to be scary! Your child may be taught to look for equivalent fractions, e.g 1/6 = 2/12 and 1/4 = 3/12 (simplifying where possible, e.g 6/10 = 3/5) and solve problems involving fractions in order to calculate a quantity, e.g 2/6 of 18 litres.

They may also work on adding fractions with the same denominator (lower number in the fraction) for example 3/8 + 2/8 =.

Your child may also be taught how to recognise and write decimals of the following fractions: 1/4 (0.25), ½ (0.5) and 3/4 (0.75).

They may practise dividing a one and two digit number by 10 and 100, describing the digits as ones, tenths and hundredths.

Rounding decimals with one decimal place to the nearest whole number and comparing numbers with the same number of decimal places (up to two decimal places) may also be practised.

Finally, solving simple money and measures problems solving including fractions and decimals to two decimal places may be worked on.

Measurement

Children might learn how to convert between different units of measure, e.g hours into minutes, kilograms into grams.

They may also learn how to work out the perimeter (the distance around the shape) in both cm and m. Your child may also learn about how to find the area of a shape this year.

Estimating and comparing different measures may be another focus this year e.g How much does this parcel weigh in grams/kilograms? or How many ml of liquid is there in this container? Which is longer, 300 seconds or 2 minutes?

Converting between analogue (clock with hands) and digital 12 and 24 clock might also be practised this year, e.g quarter past 6 in the afternoon – 18:15.

Geometry - Properties of Shape

In Year 4, children are likely to focus on looking for lines of symmetry in shapes in different orientations (different positions) and complete a shape or picture with one line of symmetry.

Your child may work on comparing and naming different quadrilaterals (four sided shape with four straight sides including parallelograms, trapezium and rhombus) and triangles (including acute, obtuse, right angled, equilateral, isosceles and scalene).

Children will be taught to spot and compare different angles using a protractor including acute angles (less than 90 degrees) and obtuse angles (more than 90 degrees).

Geometry - Position and Direction

Your child may describe positions on a grid, e.g (2 , 5) and (4 , 7).

The phrase 'Along the corridor and up the stairs' is a great way of remembering to take the x axis reference before taking the y reference.

Statistics

Children might learn to present their data in bar charts and time graphs, interpreting the data in different ways such as finding differences, totalling and making comparisons.