Key Stage 1 Maths at Gayhurst:
A Guide for Parents and Carers.

Gayhurst Community School

<u>Year 2.</u> End of year objectives:

- **Count in steps of 2, 3 and 5 from 0 and any other one digit number, forward or backward and in steps of 10 from any number. Adding 1 more or 1 less, moving on to finding 2 or 10 more/less.**

As well as counting things at any given opportunity (number of a certain colour of car on the road, peas on a plate etc.), challenge your child to start on a number and count in different multiples e.g. count in 5s from 1. e.g. 1, 6, 11, 16, etc. They will need thinking time, but should then catch on to a pattern to help them.

- **Recognise the place value of each digit in a two-digit number and work up to three-digit numbers (hundreds, tens, ones). Understand 0 as a place holder.**

Place value is important here, making sure fifteen isn't written as 51. Children should develop their understanding of the digits in each number and what they represent. In 107 the **1** represents 100, the 0 holds the place for the tens and the 7 means 7 ones.

Say a 3 digit number and ask how many hundreds, tens and ones are in it. Write another number down and ask them to point out the hundreds, tens and then the ones. Ask what the number would be with 2 more ones. Play "I am a number with…" Write down a number, hide it and say:
I am a number with 1 hundred, 3 lots of ten and 6 ones. What number am I? What number would I be if I added one more lot of 10?
Take it in turns to pick a number, so you play too.

- **Compare and order numbers from 0 up to 100; use <, > and = signs.**

Use everyday objects, weights or measures and leave space in-between for your children to compare using the greater, less than or equals sign. Ask them to say the sentence aloud to check that it reads correctly.

- **Add and subtract numbers mentally including *A two-digit number and ones *A two digit number and tens *Two, two digit numbers *Three one digit numbers.**

Race your child to add and subtract mentally. For smaller numbers (24 + 6) they could start with 'locking' the bigger number in their heads and counting on or back using their fingers. Then they should move on to understanding that 4 + 6 = 10, 20 + 10 is 30. Drawing Dienes can

help when adding or subtracting 2, two digit or 3 digit numbers. Eventually they should move on to doing this without manipulatives/drawing. Column method does not come up until the end of the year, by which point they should securely add two, 2 digit numbers mentally.

- **Show that addition of two number can be done in any order (commutative) and subtraction of one number from another, cannot.**

Play a game of true or false:
True or false 40 + 20 = 20 + 40
40 – 20 = 20 - 40

- **Recognise and use the inverse relationships between addition and subtraction and use this to check calculations and missing number problems.**

Use the inverse to help with different number sentences. 11 + 4 = 15. So what is 15 – 4 = ? Talk about the inverse being the opposite "If 5 x 2 = 10, then what is 10 ÷ 2 = ?"

- **Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.**

Children should recall these facts for all numbers off by heart, to 20, by the end of year 1.They will continue to work on this in year 2. Play a game of 'ping pong'. Say the number that you are doing the bonds for (e.g. 14) and then 'ping'. Child says 'pong'. Keep going then 'ping' them number "9" and then 'pong' back the number that you add for 14, "5". Then can then build on this, learning pairs of numbers to 100, e.g. 70 + 30.

- **Solve problems involving missing numbers**

It's best to start with smaller numbers here. E.g. __ = 11 + 9. Work up to subtraction __ = 40 – 10. 8 = __ - 7

- **Recognise odd and even numbers**
- **Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables**
- **Solve problems involving multiplication and division, using materials and arrays. Multiply by using arrays for x 3,4,5 and 10. Use repeated addition, mental methods, and multiplication and division facts, including problems in contexts.**

Support your child to start learning their times-tables by heart. To start with they can count on their fingers in multiples. So, for 7 x 5 they can count in 5s, on 7 fingers. Remind your child that 7 x 5 gives the same answer as 5 x 7. Look at the link between this and division, and support your child to move on from sharing to using their understanding of multiples to divide.

Multiplication books, songs and games are all available if your child is keen to start learning their tables by heart!

Fractions:

- **Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity**
- **Write simple fractions, e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$**
- **Order fractions and equivalence using models**
- **Understand tenths = ten equal parts**
- **Count up and down in tenths, over 1 whole**

Children can find fractions challenging, and lots of practical experience really helps. They can be supported to know that the bottom number (denominator) is what they divide the amount/shape/ length by and they can do this by sharing into that amount. The top number (numerator) shows how many of those parts they need.
Suggest things like "Find $\frac{1}{4}$ of these grapes" by dividing them into 4 groups. Challenge them to find $\frac{3}{4}$.

Money:

- **Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.**

Whenever possible, let your child handle money. Paying for things and getting change back is great. Also challenge them to make the right amount out of the coins that you have, "I need 75p, can you make it with these different coins?" Change is very tricky concept but it's great for understanding how to find the difference. Ask how much change you would get from a £1 coin if the item was 60p, etc.

Temperature

- **Choose appropriate standard units to estimate and measure length/ height in any direction (cm/m); mass (g/kg); temperature (C); capacity (ml/l) to the nearest appropriate unit, use rulers, scales, thermometers and measuring vessels**
- **Compare and order lengths, mass, volume/ capacity and record using < and > and =**
- **Choose and use appropriate standard units to estimate and measure temperature (°C) to the nearest appropriate unit, using thermometers.**

These things are often covered in our homework challenges, so keep an eye out! It's great to do things practically, like keeping a height chart at home of your child and any siblings, and comparing their height over time. Weigh things whilst cooking and baking and look at the weather on your phone or the news to support their understanding of the temperature.

Shape

- **Identify and describe 2D shapes, including lines of symmetry on a vertical line, including quadrilaterals. Use language of sides and corners for 2D. Vertices, edges and faces for 3D.**
- **Compare and sort common shapes and everyday objects.**

Talk about the difference between 2D and 3D shapes, and the language used for each. You can find shapes in the house and describe what they are like, using the key terms. Sort the shapes – for instance into those with more than 6 faces, and those with less than. Play 'guess my shape'. You think of a shape. Your child asks questions to try to identify it but you can only answer 'yes' or 'no' (e.g. Does it have more than 4 corners? Does it have any curved sides?)

Time

- **Tell and write the time for o'clock, half past, quarter to and quarter past, and to five minute intervals. Draw the hands on a clock face to show these times.**

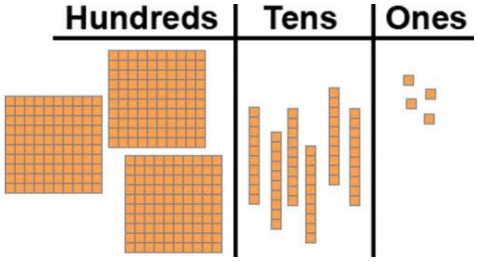
Have calendars and clocks at home. Ask what the time is for o'clock times, on both digital and analogue clocks. There is a big focus on ensuring children can tell the time to o'clock and half past before moving on to finding quarter to or past. Talk about the days, of the week, what day it is tomorrow and what you will do.

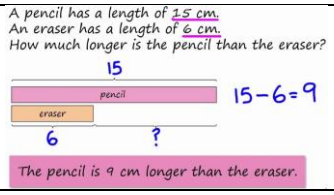
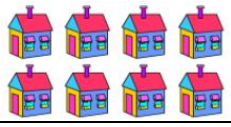
Data

- **Construct simple pictograms, tally charts, block diagrams and simple tables. Suggest ways of answering data questions. Make pictograms and block graphs where one symbol represents one unit or where one symbol represents more than one unit**

Make tally charts of anything! Colours of pencils in a drawer, colours of socks in the basket, favourite things for dinner etc. Put this into pictograms and bar models. Then ask questions like, "How many more blue socks are there than red?"

Glossary of key terms:

Place value	The value of each digit depends on its position in a number. The 6 in 645 has a value of six hundred, whereas it has a value of 6 ones in 776.
Place value mat	A3 sheet showing columns to represent the value of each digit in a number. Often used with cubes, straws or Dienes. Shows the number in a concrete way or can be used to add or take away. 
Dienes	Concrete apparatus to show place value, and to help with addition and subtraction. 
Number bonds	Pairs of numbers that add together to make another number, with the expectation that we learn these by heart from instant recall. E.g. number bonds to 5: 1 + 4 3 + 2 2 + 3 4 + 1 0 + 5 5 + 0
Fact families	Like a number bond, but with the subtraction facts too. Using the same numbers as part of that 'family'. Fact family for 6 1 + 5 = 6 6 – 5 = 1 5 + 1 = 6 6 – 1 = 5
Bar models	Pictorial representation of a number sentence or word problem, allowing a visual representation to help select the correct operation needed. It shows a part, part, whole relationship.

	
Numerator	The top part of the fraction shows how many of the parts we have. $\frac{3}{5}$ ← numerator ← denominator
Denominator	The bottom part of the fraction shows how many equal parts to split into. $\frac{3}{5}$ ← numerator ← denominator
Concrete Pictorial Abstract	Concrete: things children can touch and manipulate, often used to represent numbers. Pictorial: things children can draw or pictures they can use to help with number. Abstract – an understanding of the number and operation without these things.
Array	A pictorial representation of a multiplication sentence, set out in rows and columns:  2 x 4 4 +4 4 x 2 2 + 2 + 2 + 2
Repeated addition	The same number added a number of times. 3 x 4 = 4 + 4 + 4
Inverse	The opposite operation. It can be used to check if you are right, or complete a missing number problem. E.g.: 4 + 5 = 9 helps with 9 – 4 =__
Number sentence	A written maths calculation such as 7 + 5 =
Sum	Only to be used when referring to adding numbers. 28 – 13 = is referred to as a **calculation/number sentence.**
Partition	To break a number down into smaller numbers. Often we partition into tens and ones.
Equivalent Fractions	Fractions that look different but show exactly the same amount.
Regrouping	This may have been referred to as borrowing or grouping previously. For example, when we take a number of tens and move them into the ones so we can subtract e.g. for 57 – 39.