How we teach Maths at Ellingham

Year 1

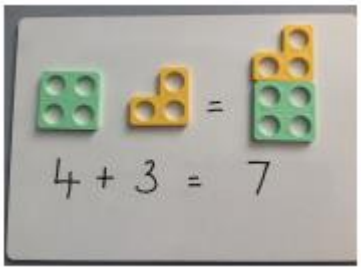
A helpful guide for parents

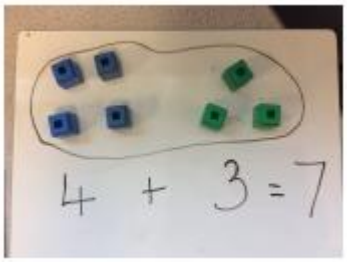
Addition

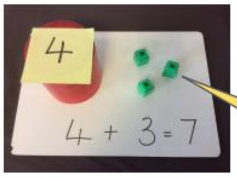
Addition is taught in the following stages:

Using Practical Resources

Children will use Numicon, Base 10, counters, cubes, pennies, etc. to add totals practically.







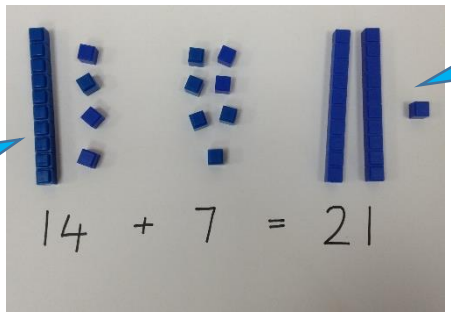
The next stage will involve 'hiding' the larger number of objects under a pot and counting on to find the total.

5, 6, 7

We begin to use Base 10 resources when we introduce addition of two-digit numbers including tens and ones.

These represent tens.

They are made of ten ones.



These represent ones.

Counting on

7

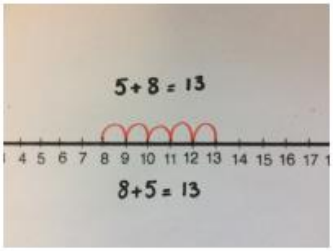
8, 9, 10, 11

Children will be encouraged to put the larger number 'in their head' (see picture), then 'count on' from the larger number, using their fingers.

7 + 4 = 11

Number Line

Children will start at the larger number and count on the correct number of jumps, e.g. 5 + 8 would be 'start at 8 and jump on 5, what number have I landed on?'



Subtraction

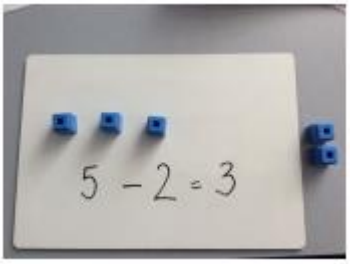
Subtraction is taught in the following stages:

Songs and Rhymes

Children sing lots of songs and rhymes to help them with the concept of 'one less' and counting back, e.g. 5 little speckled frogs, 10 green bottles, etc.

Using Practical Resources

Children will use counters, cubes, pennies, etc. to subtract practically.



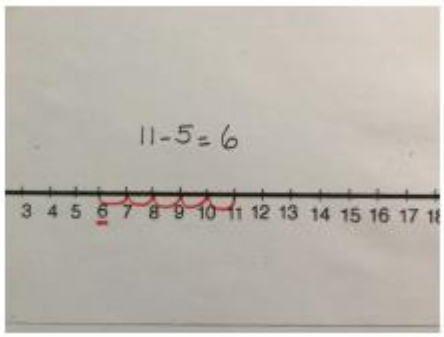
Counting Back

Children will be encouraged to put the larger number in their head and then use their fingers to 'count back' from the larger number, using their fingers.

Number Lines

7 - 4 = 3

Children will start at the larger number and count back the correct number of jumps e.g. 11-5 would be 'start at 11 and jump back 5, what number have I landed on?'



Another concept that the children in Year 1 is the idea that 11 – 5 also means 'What's the difference between 11 and 5?' This can also be shown on a number line.

Multiplication

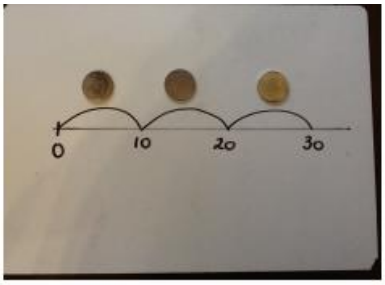
Multiplication is taught in the following stages:

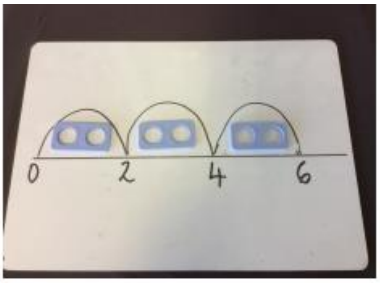
Concrete Examples

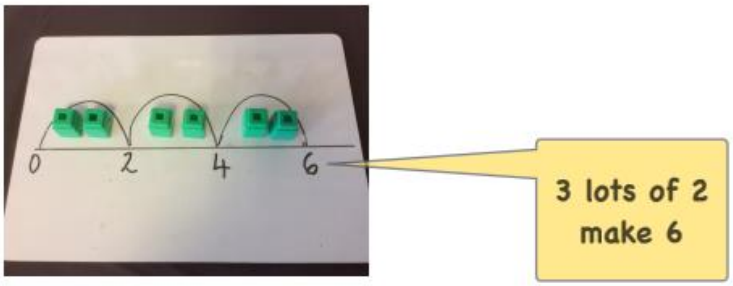
The concept of multiplication as 'repeated addition' is taught very practically in Year 1, with lots of counting in 2s, 5s and 10s with everyday objects (pairs of socks, gloves, coins).

Counting on a number line (using objects, pictures and Numicon)

In Year 1, the children begin to create multiplication stories which link pictures and concrete resources to explore making equal groups. They begin to write multiplication sentences like 'there are 3 groups of 2, there are 6 altogether.'







Division

Division is taught in the following stages:

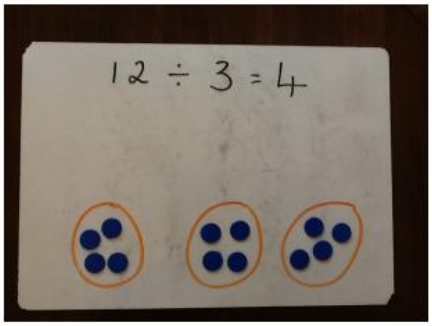
Real-life examples

The concept of 'sharing' is used when introducing division to Year 1. Again, this is done very practically with everyday objects. For example, 9 sweets are shared equally between 3 children. How many sweets will they each get?

Each person gets 3 sweets.

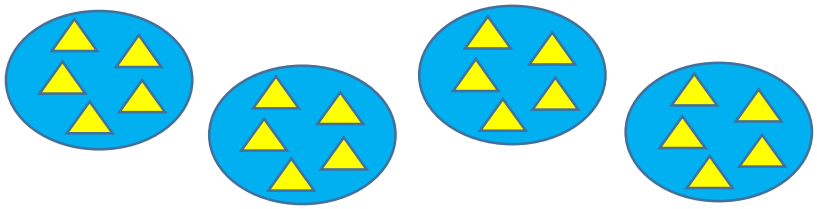
Using practical resources

Children will be encouraged to use counters (and other resources) to help them solve problems with division.



Grouping

Children start with a given total and they make groups of an equal amount, e.g. 20 shared by 5. The children would make equal groups of 5. The children would answer these questions using stem sentences, e.g. There are 4 equal groups of 5.



There are ___ groups of ___ pencils.

There are ___ groups of ___ flowers.

Sharing

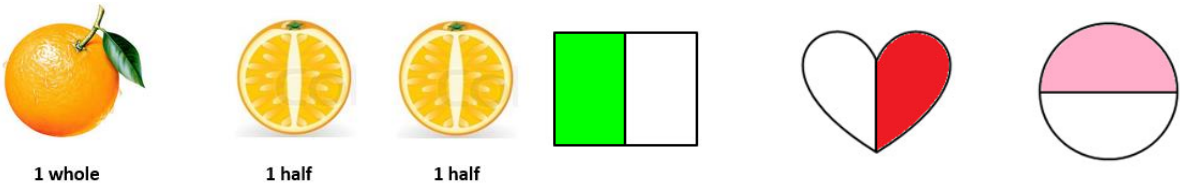
Children explore sharing as a model of division. This is where the children share objects into equal groups of the number they are dividing by. For example, 15 shared by 3, the children would share 15 into 3 equal groups.

Fractions

Fractions are taught in the following steps:

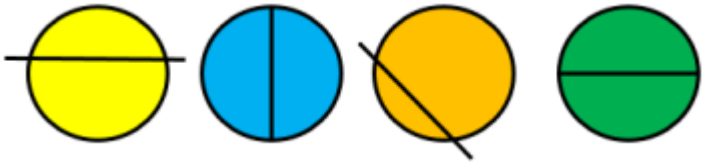
Finding half of an object

Children explore finding a half for the first time using shapes and sets of objects. They will use the vocabulary 'half' and 'whole'. It is important that the children begin to develop an understanding that half means 'one of two equal parts'.



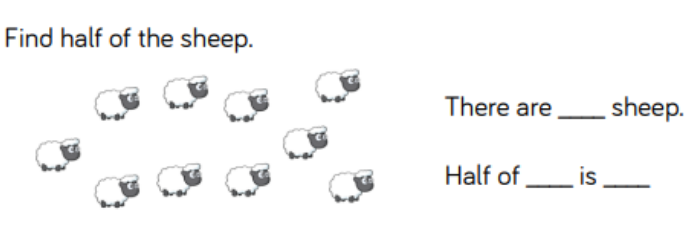
Problem Solving

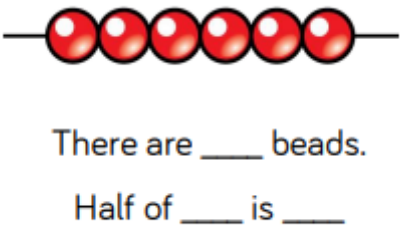
The children will begin to use their problem solving skills to identify shapes that have been cut into halves, using their knowledge of 'two equal parts'.



Finding half of an amount

Children use their understanding of finding half of an object or shape and apply this to finding half of a small quantity. The children will use their understanding of division and 'sharing' as well as concrete resources, such as counters and cubes to help them find half of an amount.



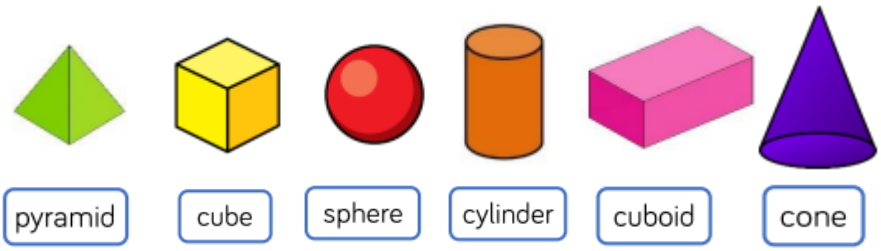


Stem sentences

The children will use stem sentences like 'there are 6 sheep, half of 6 is 3' to answer fraction questions. The mathematical sign for ½ is not introduced until Year 2.

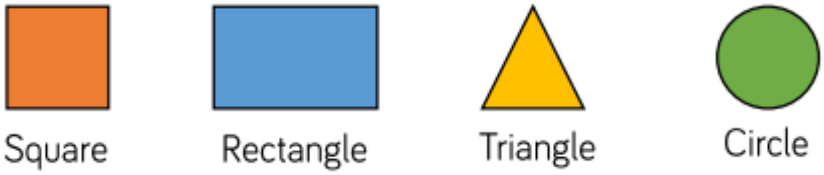
Shape

In Year 1, children name simple three dimensional (3D) shapes: cuboids, cubes, cylinders, pyramids, cones and spheres.



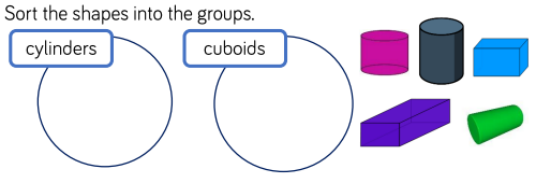
The children will begin to see 2D shapes on the surfaces of 3D shapes. Children begin to use 3D shapes as stencils or prints to make 2D shapes – developing the understanding that 2D shapes are flat and 3D shapes are not.

In Year 1, the children will look at these specific 2D shapes:

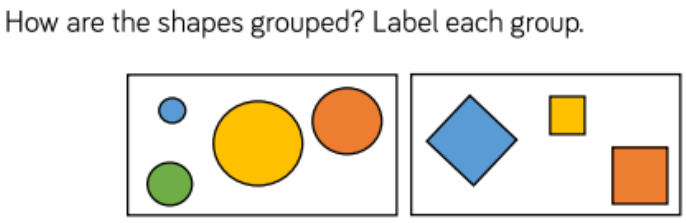


Children sort and group simple 2D and 3D shapes according to simple properties, including their size, type, colour and whether they roll or stack.

With 3D shapes, this will lead children to think about why they roll (because they have a curved surface) or why they stack (because they have a flat surface).



With 2D shapes, this will allow the children to consider what is the same and what is different about each shape. The children will also begin to recognise that the orientation (the way the shape is drawn) does not affect its properties.



<u>Properties of shapes:</u>

Sides	**Faces**
Vertex (corners)	**Curved edges**
Surfaces	**Flat faces**