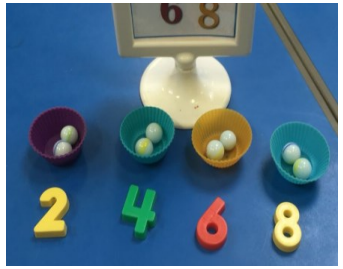
EYFS Stage:

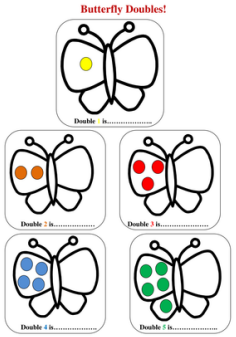
Multiplication

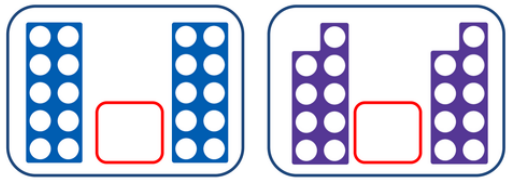
Concrete:

We encourage the children develop number sense to enable them to calculate numbers mentally. We embed the children's understanding of the numbers to 5, to 10 and then to count to 20. The children will use pictorial resources initially to help with counting and then develop ways of recording using practical / physical resources, when they are secure with 1:1 correspondence and then use numbers in a number sentence.



Pictorial

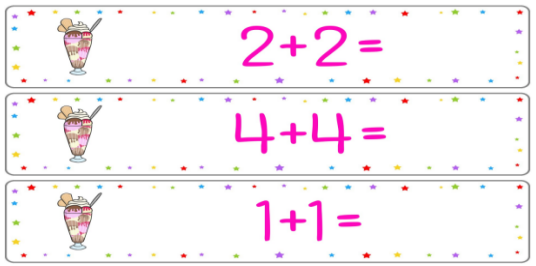




The children have pictorial representations of number to help them solve doubling problems. The children start to learn to match amounts to number and count in equal groups.

We can:
- ✓ We can double numbers.
- ✓ We start to understand that doubling is adding the same number again.

Abstract



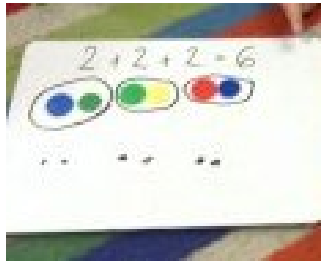
Once the children are ready, they will move onto solving doubling number sentences by counting on from their starting number.

Stage 1 :

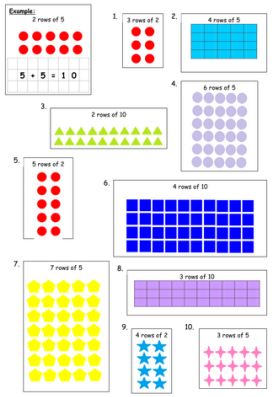
Multiplication

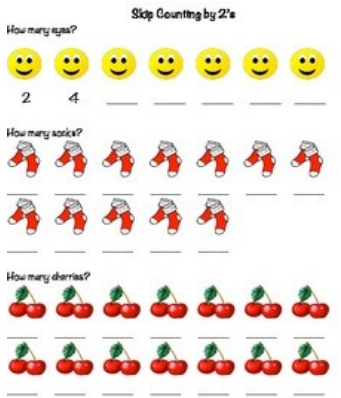
Concrete:

The children continue to use concrete apparatus to consolidate counting in equal groups of 2s, 5s and 10s. This then enables the children to use number lines, the bar model and arrays for multiplication and problem solving.



The children use practical resources to count in groups. This enables them to start to make the link between equal groups, repeated addition and then leading to multiplication.





The children use pictorial representations to solve repeated addition / multiplication problems. The children begin to use the language of groups of / lots of to prepare for multiplication problems.

Abstract:

2 + 2 + 2 =

5 + 5 + 5 + 5 =

4 x 2 =

The children apply their counting in groups / repeated to solving abstract number sentences and simple word problems. The children write mathematical statements.

"There are 2 shoes in each shoe box. How many shoes are there altogether?"

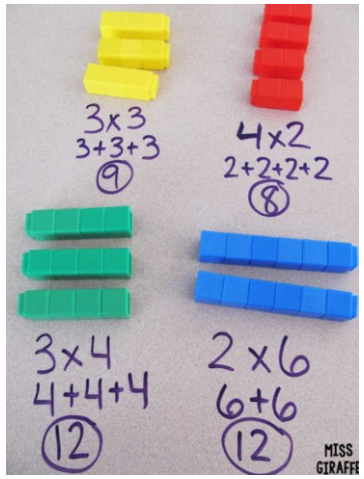
We can:

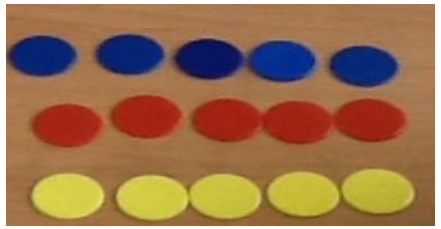
- ✓ Solve one – step problems involving multiplication by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.
- ✓ Use the language of groups of / lots of

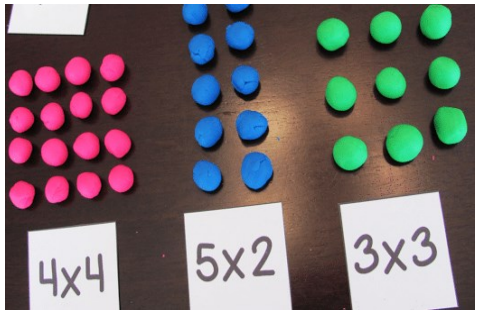
Stage 2 :

Multiplication

Concrete:

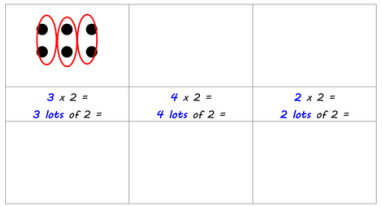


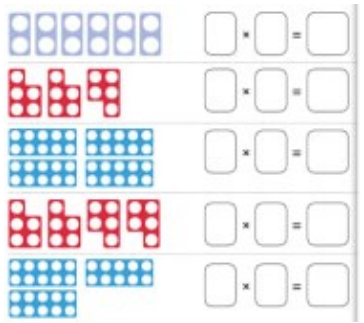


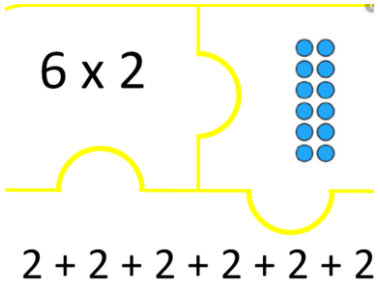


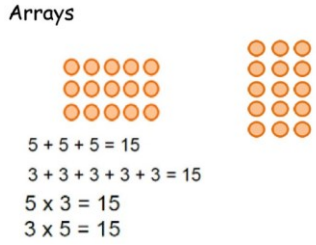
The children use practical resources to make links between counting in groups, repeated addition and multiplication number sentences. The children use arrays in Year 2.

Pictorial:









The children use pictorial representations to match arrays to multiplication facts and to represent commutativity.

We can:

- ✓ Recall multiplication facts for the 2, 5 and 10 multiplication tables/
- ✓ Calculate mathematical statements using the correct signs
- ✓ Show that multiplication is commutative (can be done in any order.)
- ✓ Solve multiplication problems using concrete, pictorial and mental methods.
- ✓ Solve problems involving multiplication using; arrays, repeated addition and division facts.
- ✓ Use multiplication and division facts for 2, 5 and 10 to make deductions outside known multiplication facts.
- ✓ Solve multiplication word problems
- ✓ Recognise the relationship between multiplication and addition.

Stage 2 :

Multiplication

Abstract:

7 x 2 =

10 x 5 =

4 x 10 =

The children draw arrays to solve problems, if they cannot mentally recall the multiplication fact. The children can also use mental multiplication facts to solve abstract problems.

For word problems, the children will apply their array knowledge or use of the bar model to solve problems.

"Josie has 6 bags of oranges. Each bag has 10 oranges in. How many oranges does Josie have altogether? "

10	10	10	10	10	10

The children use their known facts to make deductions about unknown / different numbers, using that phrase " I know that ___ so what else do I know?"

e.g. *"I know that numbers in the 5 times table all end in 5 or a 0 so I know that 260 must be in the 5 times table."*