

Barwell Infant School EYFS Calculation Policy

	22 – 36 months	30 – 50 months	40 – 60 months
Awareness of Numbers	<ul style="list-style-type: none"> Selects a small number of objects from a group when asked, for example, <i>'please give me one'</i>, <i>'please give me two'</i>. 	<ul style="list-style-type: none"> Uses some number names and number language spontaneously. Uses some number names accurately in play. 	<ul style="list-style-type: none"> Recognise some numerals of personal significance.
Counting	<ul style="list-style-type: none"> Recites some number names in sequence. 	<ul style="list-style-type: none"> Realises not only objects, but anything can be counted, including steps, claps or jumps. Recites numbers in order to 10. Knows that numbers identify how many objects are in a set. Sometimes matches numeral and quantity correctly. 	<ul style="list-style-type: none"> Counts up to three or four objects by saying one number name for each item. Counts out up to six objects from a larger group. Counts an irregular arrangement of up to ten objects. Counts objects to 10, and beginning to count beyond 10. Counts actions or objects which cannot be moved. Estimates how many objects they can see and checks by counting them.
Understanding & Using Numerals	<ul style="list-style-type: none"> Creates and experiments with symbols and marks representing ideas of number. 	<ul style="list-style-type: none"> Beginning to represent numbers using fingers, marks on paper or pictures. Shows an interest in numerals in the environment. Shows an interest in representing numbers. 	<ul style="list-style-type: none"> Recognises numerals 1 to 5. Selects the correct numeral to represent 1 to 5, then 1 to 10 objects. Records, using marks that they can interpret and explain.
Comparing Numbers	<ul style="list-style-type: none"> Begins to make comparisons between quantities. Uses some language of quantities, such as <i>'more'</i> and <i>'a lot'</i>. 	<ul style="list-style-type: none"> Compares two groups of objects, saying when they have the same number. 	<ul style="list-style-type: none"> Uses the language of <i>'more'</i> and <i>'fewer'</i> to compare two sets of objects. Says the number that is one more than a given number. Finds one more or one less from a group of up to five objects, then ten objects.
Adding & Subtracting	<ul style="list-style-type: none"> Knows that a group of things changes in quantity when something is added or taken away. 	<ul style="list-style-type: none"> Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same. 	<ul style="list-style-type: none"> Finds the total number of items in two groups by counting all of them. In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting.
Problem Solving		<ul style="list-style-type: none"> Shows curiosity about numbers by offering comments or asking questions. Shows an interest in number problems. 	<ul style="list-style-type: none"> Begins to identify own mathematical problems based on own interests and fascinations.

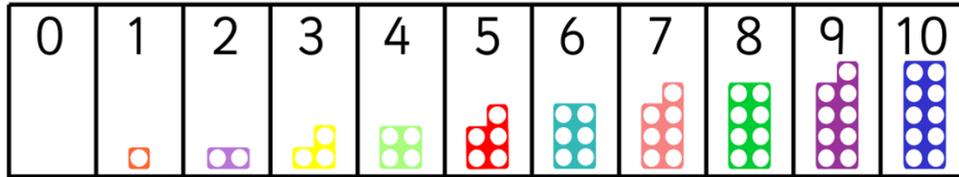
Early Learning Goal
<ul style="list-style-type: none"> Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.
<p>“Exceeding”</p> <ul style="list-style-type: none"> Children estimate a number of objects and check quantities by counting up to 20. They solve practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups.




Addition

Maths for young children should be meaningful. Where possible, concepts should be taught in the context of real life. Children will need opportunities to look at and talk about different models as they move between representations

Numicon should be introduced to children when they enter school



Numicon can be used to:

- identify 1 more/less
- combine pieces to add
 - *“What shape have you made?”*
 - *“Can you count the holes?”*
- find number bonds
 - *“This is 4, can you find two pieces that make 4?”*

Children can record their work by printing with or drawing around the Numicon

Children combine groups using concrete apparatus



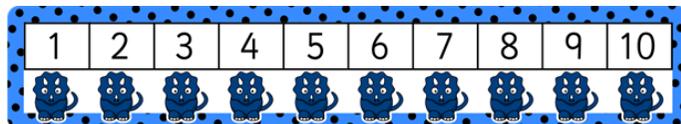
Children count the total orally using one-to-one correspondence and record by:

- saying the total orally
- indicating the correct numeral from a display
- writing the correct numeral (using a visual aid, if necessary)

Number tracks

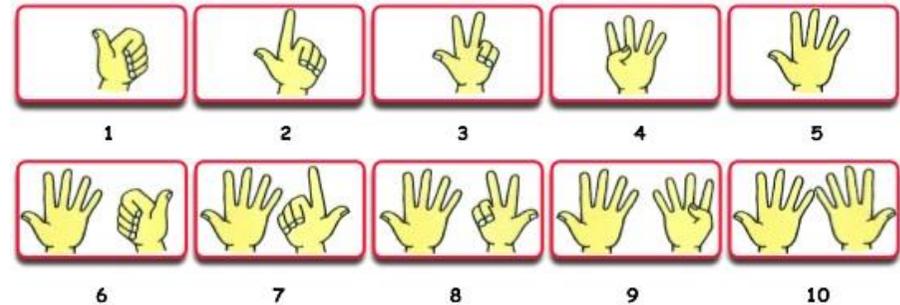
Once children are familiar with numerals, they can use number tracks:

- to count on
- to find 1 more



Counting on using fingers

Children should be encouraged to count (and, later, count on) using their fingers. Time should be spent teaching children to recognise how many fingers they have in different arrangements:



Becoming familiar with the finger arrangements means that children will not have to keep starting from 0 when adding two small numbers on their fingers.

Number sentences

Children should construct number sentences verbally to match the activity that they have performed. They should be encouraged to do this in a number of ways:

- *“I had 3 bears and got 2 bears. Now I’ve got 5 bears.”*
- *“If you put 3 and together, you get five (bears).”*
- *“3 and 2 make/equal 5.”*
- *“5 is the same as 3 and 2.”*

Children should be encouraged to read number sentences in different contexts.

They should be encouraged to make a record of the addition that they have carried out using pictures, symbols or words.

Vocabulary for addition

Songs and games are a good way to introduce and reinforce vocabulary.

and, add, more, make, altogether, total, sum, plus, one more / two more...



Subtraction

Maths for young children should be meaningful. Where possible, concepts should be taught in the context of real life. Children will need opportunities to look at and talk about different models as they move between representations

Taking away practically

Children use concrete apparatus to explore "How many are left?" after some have been taken away:



Children count how many are left using one-to-one correspondence and record by:

- saying the total orally
- indicating the correct numeral from a display
- writing the correct numeral (using a visual aid, if necessary)

Taking away with Numicon

Taking away can also be done using Numicon and Numicon cover-ups:

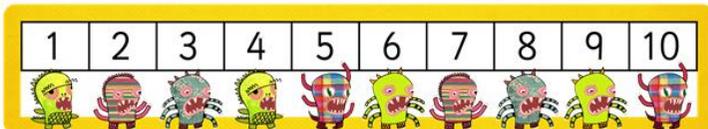


If we have 5 and take away 2, what is left?
 - What shape it is?
 - How many holes can you count?

Number tracks

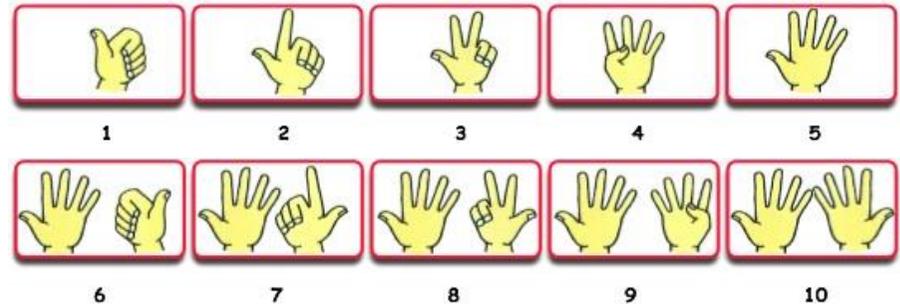
Once children are familiar with numerals, they can use number tracks:

- to count back
- to find 1 less



Subtracting using fingers

Children should practise counting back using their fingers. As with addition, children should spend time recognising finger arrangements for different numbers.



Hence,



Number sentences

Children should construct number sentences verbally to match the activity that they have performed. They should be encouraged to do this in a number of ways:

- "I had 5 bears and took 3 away. Now I've got 2 bears."
- "If you have 5 sweets and eat 3, you have 2 left."
- "5 count back 3 makes/equals 2."
- "2 is the same as 5 take away 3."

Children should be encouraged to read number sentences in different contexts.

They should be encouraged to make a record of the subtraction that they have carried out using pictures, symbols or words.

Vocabulary for subtraction

Songs and games are a good way to introduce and reinforce vocabulary. *take(away), left, leave, subtract, one / two less...*



Multiplication

Maths for young children should be meaningful. Where possible, concepts should be taught in the context of real life. Children will need opportunities to look at and talk about different models as they move between representations

Doubling

Multiplication (repeated addition) should first be introduced through doubling. This should be practised using a range of concrete apparatus:

"If I have 5 and you have 5, how much have we got altogether?"

"Get one lot of 5, now get another lot of 5. How much have you got altogether?"

"If there are 5 people on the top deck and 5 people on the bottom deck, how many people are on the bus?"

"Double 5 is..."



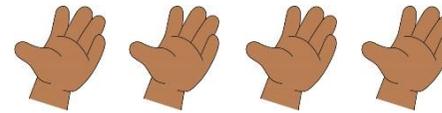
The children should be encouraged to make a record of the multiplication that they have carried out using pictures, symbols or words.

Counting in 2s, 5s and 10s

Children should practise counting in 2s, 5s and 10s; initially using objects that naturally occur in these numbers (to give context and purpose).



2, 4, 6, 8, 10



5, 10, 15, 20



10, 20, 30

Repeated addition

"They solve practical problems that involve combining groups of 2, 5 or 10"
– expectation for Exceeding

Children should use concrete apparatus to solve problems, i.e.

At the picnic, the 3 bears had 2 cakes each. How many cakes were there altogether?



Vocabulary for multiplication

Songs and games are a good way to introduce and reinforce vocabulary. *lots, times, multiply, groups, twos, fives, tens*

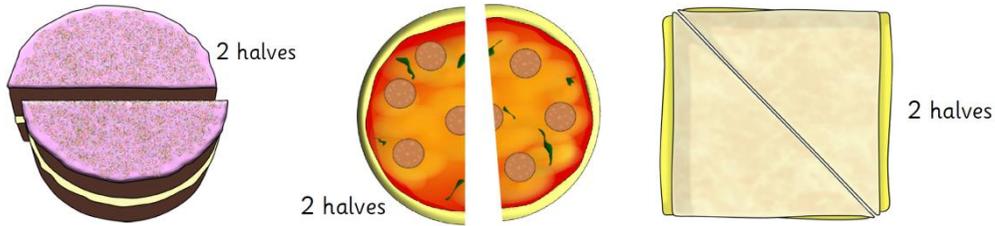
Division



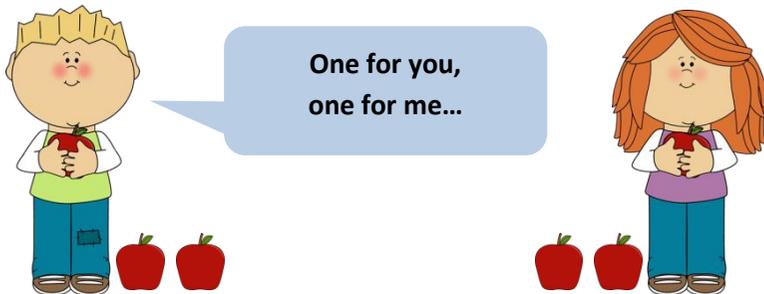
Maths for young children should be meaningful. Where possible, concepts should be taught in the context of real life. Children will need opportunities to look at and talk about different models as they move between representations

Halving

Halving should initially be introduced through halving (familiar) single objects. It is essential to emphasise that the two halves MUST be equal (exactly the same).

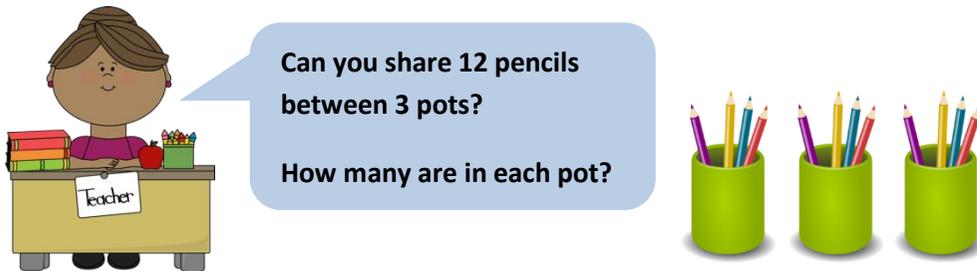


This should progress to halving by sharing small quantities in familiar contexts:



Sharing

When the children understand how to share equally, they can begin sharing between more than two people/sets using concrete apparatus:

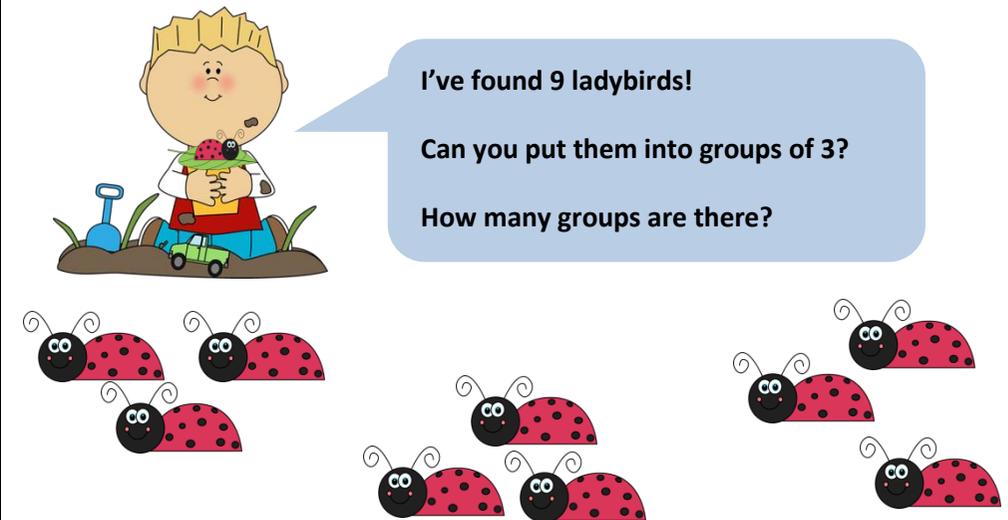


The children should be encouraged to make a record of the division that they have carried out using pictures, symbols or words.

Grouping

"They solve practical problems that involve sharing into equal groups."
– expectation for Exceeding

Children should use concrete apparatus to solve problems, i.e.



Vocabulary for division

Songs and games are a good way to introduce and reinforce vocabulary.
half, halve, share, equal, equally, same, sets, groups, divide, one for me...