

## EYFS Calculation Policy

Updated January 2020

### 16-26 Months

**Beginning to organise and categorise objects, e.g. putting all the teddy bears together or teddies and cars in separate piles.**

<b>Language:</b>	same	together
<b>Examples:</b>	Children playing in the sand tray with a selection of objects. 'Look all the teddies are in the same pile/ together'	

**Knows that things exist, even when out of sight.**

<b>Language:</b>	gone
<b>Examples:</b>	Hide an object behind your back and the child still knows it's there. 'Where has it gone? there it is'

**Says some counting words randomly.**

<b>Language:</b>	random number names
<b>Examples:</b>	2,7,9,4. Children say numbers randomly throughout the day.

## 22-36 Months

Begin to make comparisons between quantities

### Concrete (objects)



Be able to say which jar has more or less marbles

#### Language:

more    less    bigger    smaller    larger

#### Examples:

There is more water in the tray than in the cup  
I have more fruit than Tom  
I have less lego than you

Know that a group of objects changes in quantity when something is added or taken away

### Concrete (objects)



Adding more playdough makes the quantity larger and taking some away makes the quantity smaller

#### Language

more    less    bigger    smaller    larger    add    take away

#### Examples:

Identifying when all their milk has gone  
We need more fruit, the bowl is empty  
There are more children on the carpet; there are less children on the carpet

Selects a small number of objects from a group when asked, for example, 'Please give me one', 'Please give me two'.

Concrete (objects)	
	
Ask the child to give you one orange from the bowl.	
Language:	number names      object names
Examples:	'Please give me one orange' 'Can you put one car in the garage' 'Take two sweets from the jar'

### Recites some number names in sequence

Language:	Number names
Examples:	Sing number songs and rhymes with the children, for example 1,2,3,4,5. Once I caught a fish alive Count steps as you walk 'I will count to ten and I would like you all sat down on the carpet, 1,2,3...'

### Creates and experiments with symbols and marks representing ideas of number

Language:	mark
Examples:	On a nature walk children have a clipboard with pictures of mini beasts on. Children make a mark next to each mini beast when they see it. 'How many spots on your ladybird?' Children to make a mark to show their understanding. 'Can you draw 2 people inside your rocket?'

Uses some language of quantities such as more and a lot

Concrete (objects)



Children may look at 2 sets of objects and identifies which set has more.

Teacher: 'How many cars are on this table?'

Child: 'a lot'

Language:

a lot    more    lots    most

Examples:

'Who has got more?'

'There are a lot of fish in the tank?'

'You've got a lot of cars in your garage'

'Fred has the most trains'



Separate a group of three or four objects in different ways, beginning to recognise that the total is still the same.

**Concrete (objects)**



Children have boats in the water tray. Each boat has a certain number of passengers. Children move the passengers around but notice the total number stays the same.

**Language:**

number names    stays the same

**Examples:**

Compare bears- sorting by colour, size- emphasis on same total.

Set 2 groups of chairs up as 2 buses. 3 children to choose the bus they would like to sit on, talk about how many children are on both buses altogether. Repeat activity, encourage the children to notice that the total is always the same.

**Uses some number names and number language spontaneously**

**Language:**

number names    more    less    altogether    total    same    a lot

**Examples:**

'There are two bears in the bed'  
'You have more toys than me'  
'We have five cars altogether;  
'Look we have the same'

**Uses some number names accurately in play**

**Concrete (objects)**



Four children are allowed in the home corner at any one time, children count them to check if they can go in or not.

**Language:**

number names

**Examples:**

'I need two bricks from the box to build a tower'  
 '1,2,3,4- there are four children in the play house'  
 'There are four sheep in the pen'

**Recites numbers in order to 10**

**Language:**

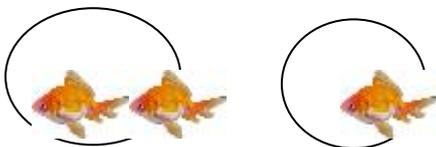
Number names in order

**Examples:**

Children count to 10 accurately starting from any given number.

**Knows that numbers identify how many objects are in a set**

**Concrete (objects)**



Have 2 hoops on the floor, each with a different number of objects. Children identify how many objects there are.

**Pictorial (models and images)**



Draw 10, 6, 4, 9 ducks in a pond. Ask the children how many ducks are in the pond.

**Symbolic (numbers and symbols)**



Match correct number of objects to number cards.

**Language:**

number names altogether total

**Examples:**

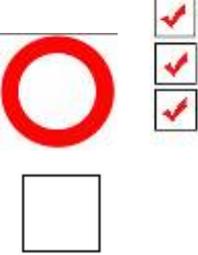
'There are six fish in the pond altogether'

'The total number of children at school today is...'  
 'There are 5 cars in this hoop and 4 trains in this hoop'

**Sometimes matches numeral and quantity correctly**

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Set up 10 bowls, each with a different number inside. Children to use a peg to put the correct number of pasta pieces in each bowl.</p>	 <p>Set up a matching game. Children to count the objects on the card and match them with the correct numeral.</p>	 <p>Match the correct number of spots on a dice with the correct number card.</p>
<p><b>Language:</b></p> <p style="text-align: center;">number names</p>		
<p><b>Examples:</b></p> <p>'I am going to put seven pieces of pasta in the bowl because I can see a number seven in the bottom'</p> <p>Show a child a number car, 'can you pass me this many piece of lego?'</p> <p>Number puzzle- match the correct picture puzzle piece to number piece.</p>		

## Beginning to represent numbers using fingers, marks on paper or pictures

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Show the children a set of objects and ask them to show you how many there are on their fingers.</p>	 <p>Children to mark on a piece of paper how many times they see a circle or square on an investigation walk.</p>	 <p>'Show me five'- children show you five fingers. 'Show me two'- children show two fingers.</p>
<p><b>Language:</b></p> <p style="text-align: center;">Number names</p>		
<p><b>Examples:</b></p> <p style="text-align: center;">'I have drawn two pigs in the field' 'I am holding up three fingers' There are five cows in the field, 'show me five with your fingers'</p>		

## Shows curiosity about numbers by offering comments or asking questions

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Children notice that there are pigs in a field. Child asks 'How many piglets did the mummy have?'</p>	 <p>Put pictures of birthday cakes with different numbers of candles on each. Children notice and comment on the different number of candles.</p>	 <p>Children notice that a number on a door is the same as their age.</p>
<p><b>Language:</b></p> <p style="text-align: center;">how many?    number names</p>		
<p><b>Examples:</b></p> <p style="text-align: center;">'How many crocodiles are in the swamp?' 'Can you see the number seven?' 'There is a 5 on the door'</p>		

### Shows an interest in numerals in the environment

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Magnetic numbers - Children play with and talk about them</p>	 <p>Dominoes puzzle - children to match correct numeral with picture</p>	 <p>Looking for numbers around the classroom, school and local environment</p>
<p><b>Language</b></p> <p style="text-align: center;">number names</p>		
<p><b>Examples:</b></p> <p style="text-align: center;">                     'I can see a five and a seven'                      'Can you find two matching numbers?'                      'Look there's a number 2 on the bus stop'                 </p>		

### Shows an interest in representing numbers

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Children use the playdough to make numbers in and out of order.</p>	 <p>Children use marks to represent numbers e.g. playing in a café children mark how many customers there are.</p>	 <p>Children write numbers on a whiteboard.</p>
<p><b>Language</b></p> <p style="text-align: center;">number names</p>		
<p><b>Examples:</b></p> <p style="text-align: center;">                     'Can you make a number two using the play dough?'                      'How many customers are in the café?' Children write it down                      Children use resources in the room to write numbers in and out of order                 </p>		

Realises that not only objects, but anything can be counted including steps, claps or jumps

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Children walking up steps, counting as they go. 1,2,3...</p>	 <p>Children notice there are seven rockets on the display board</p>	 <p>Teacher to show children a number flashcard , children to then jump/hop/clap x amount of times</p>
<p><b>Language</b></p> <p style="text-align: center;">number names in correct order    how many?</p>		
<p><b>Examples:</b></p> <p style="text-align: center;">"There are 5 bears at the picnic"          "Count how many times I jump"          On a nature walk children notice how many flowers there are in the field</p>		

## 40-60+ Months

### Recognise some numerals of personal significance

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
		
<p>Whilst investigating the numicon a child picks up a shape with 5 holes and says 'I'm five!'</p>	<p>Percy is holding 4 balloons, 1,2,3,4. Child may say 'I am 4'</p>	<p>Numbers on a number line. Child points to number 10 and says 'My sister is 10'</p>
<p><b>Language</b></p> <p style="text-align: center;">number names    match    same    different</p>		
<p><b>Examples:</b></p> <p style="text-align: center;">'I am four, but my sister is 10. That is different!'            First child: 'I am 4' Second child: 'I am 4' Both: 'We match!'            'Can you find the number card that is the same as your age?'</p>		

### Recognises numerals 1-5

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
		
<p>Children build a tower with numbered bricks and say each number as they stack</p>	<p>As children are playing with dinosaur number cards, they point to and say the correct numeral</p>	<p>Squidgy numbers in a sand tray, children identify numbers 1-5</p>
<p><b>Language</b></p> <p style="text-align: center;">1,2,3,4,5</p>		
<p><b>Examples:</b></p> <p style="text-align: center;">Child is able to see a number between 1 and 5 and is able to identify it correctly            'I found the number 3'            'What number am I holding up?'</p>		

**Counts up to 3 or 4 objects by saying one number name for each item**

**Concrete (objects)**



Children playing with the train track count the number of carriages attached.

**Language**

number names in order

**Examples:**

'Can you count the number of spoons on the table?'  
 'Count how many pears are in the fruit bowl' (3 or 4 pears in the bowl)  
 While building a tower, children count 1,2,3,4 in the correct order.

**Counts actions or objects which cannot be moved**

**Concrete (objects)**



While playing on the climbing frame the children notice that there are 7 steps.

**Pictorial (models and images)**



A poster on the wall has nine butterflies on it. The child confidently counts them, saying each number in sequence.

**Symbolic (numbers and symbols)**

**Language**

number names in order    how many?

**Examples:**

During a walk to the park the child counts the number of street lamps they see.  
 'Can you count how many boats are in the picture on the wall?'  
 Children notice that the ladybirds on the mat have six spots.

## Counts objects to 10 and beginning to count beyond 10

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Children build a tall tower using unifix cubes. As the build they count 1,2,3,4,5,6...</p>	 <p>While exploring different houses, a child notices that the flat has 15 windows and the house only has 4.</p>	
<p><b>Language:</b> number names in order    count    how many?</p>		
<p><b>Examples:</b> 'Can you count the number of marbles in the bag? 1,2,3,4,5,6...' 'How many lions are at the zoo?' Children count everyday objects to 10 and beyond by saying number names in order.</p>		

## Counts out up to six objects from a larger group

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Set up a picnic on the carpet. 'Please can I have 6 grapes and 4 apples from the bowl'</p>	 <p>During a story time activity, children notice that there are 6 yellow butterflies, 2 red ones and 4 blue ones.</p>	
<p><b>Language</b> group    number names in order    how many?    count</p>		
<p><b>Examples:</b> 'Can you pass me 6 animals from the farm box?' Count the number of orange counters in the jar. Child counts 5 black cars in their garage.</p>		

**Selects the correct numeral to represent 1-5 then 1-10 objects**

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Build a number of different garages to park cars. Put a number on the top of each and encourage the children to park that number of cars in each garage.</p>	 <p>Using numbered bowls 0-10, children put the correct number of objects into each bowl.</p>	 <p>Play a game of bingo with a group of children. Children take it in turns to pick a number card. Can they match the correct numeral to the correct picture card?</p>
<p><b>Language</b></p> <p style="text-align: center;">number names    count    how many?</p>		
<p><b>Examples:</b></p> <p>Numbered buckets and fish in the water tray. Encourage the children to put the correct number of fish in each bucket.</p> <p>Large numbers on the playground, can the children throw the correct number of beanbags at each number? What number am I holding? Can you give me that many dinosaurs?</p>		

**Counts an irregular arrangement of up to 10 objects**

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Set up a play farm with ten different animals on it. Can the children count how many animals live on the farm?</p>	 <p>Page with lots of ladybirds on - can the children count all the spots on the ladybirds?</p>	
<p><b>Language</b></p> <p style="text-align: center;">number names    how many?    count</p>		
<p><b>Examples:</b></p> <p style="text-align: center;">'How many cars are in the car park?' 'Can you count the marbles in the jar?' 'Let's count the dinosaurs 1,2,3,4,5...'</p>		

**Estimates how many objects they can see and checks by counting them**

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Show the children a handful of seeds. 'How many seeds do you think there are?' Child counts to check.</p>	 <p>'How many balloons do you think are at the party?' Children looking at a party picture. Child checks by counting the balloons.</p>	
<p><b>Language</b></p> <p style="text-align: center;">how many?    number names    estimate    count</p>		
<p><b>Examples:</b></p> <p style="text-align: center;">'How many do you think there are?'                  'Can you count the objects to check?'                  'Estimate how many oranges you think are in the box, check by counting them'</p>		

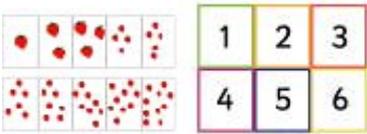
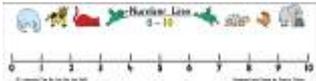
**Uses the language of 'more' and 'fewer' to compare two sets of objects**

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Two children playing with the marble run, each child has a handful of marbles. Encourage the children to say who has more/fewer marbles.</p>	 <p>Pictures of children with objects in front of them. Who has more? Who has fewer?</p>	
<p><b>Language:</b></p> <p style="text-align: center;">more    most    fewer    less    sets    how many?    Number names</p>		
<p><b>Examples:</b></p> <p style="text-align: center;">Play snap with a child, encourage them to notice who has most cards.                  Set up a bears picnic and share out the food on the plates. Who has the most apples on their plate?</p>		

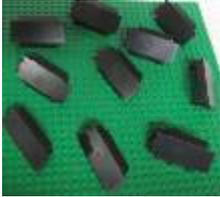
**Find the total number of items in two groups by counting all of them**

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Two hoops on table - One hoop contains cars the other contains bears. Children count how many items altogether.</p>	 <p>Picture cards - Picture of a park with trees and picture of a street with trees. How many trees are there altogether?</p>	 <p>Children able to have whiteboards to mark make or write numbers after counting the total.</p>
<p><b>Language</b></p> <p>how many? altogether? total? number names groups count add</p>		
<p><b>Examples:</b></p> <p>'Can you count how many trees there are altogether?'</p> <p>'How many cars in this group? How many in this group? Let's add them together. What is the total?'</p> <p>'There are 10 bears altogether. I counted!'</p>		

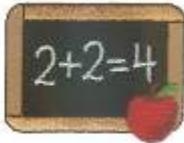
**Say the number that is one more than a given number.**

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Child to have toys on table. When counting objects, adults to prompt and ask, what is one more than...?</p>	 <p>Picture cards with number and corresponding total of objects. E.g. Number 5 then 5 apples underneath. Child to count the objects or recognise number. Teacher asks if we had one more apple how many would we have?</p>	 <p>Children to have number cards/lines. To play a game saying the number that is one more than the number they can see.</p>
<p><b>Language</b></p> <p>number names one more how many?</p>		
<p><b>Examples:</b></p> <p>Giant number line - point to number 6 - What is one more than 6?</p> <p>Child playing with number cards, holding number 10 - What is one more than 10?</p> <p>Child has 4 carrots - If you had one more carrot, how many would you have?</p>		

**Finds one more or one less from up to 5 objects, then 10 objects**

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>5/10 objects on a table. Teacher asks child what is one more/one less than 5/10?</p>	 <p>Show children a book about space - children count 7 planets. Teacher responds by asking; What is one more than 7? What is one less than 7?</p>	
<p><b>Language</b> one more    one less    how many?    number names</p>		
<p><b>Examples:</b> Give child 5 sweets. Say 'I am going to give you one more - How many will you have?' 'The dinosaur has 8 leaves on his plate, he eats one leaf. What is one less than 8?' 'There are 2 cows in a field. Another cow comes to join them. What is one more than 2?'</p>		

**In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting**

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Set up chairs as a bus. Children to be on the bus. We add one more person to the bus...One person gets off, we take one person away.</p>	 <p>Visual number sentences on the Interactive Whiteboard (IWB). Work as a class to solve the pictorial number sentence.</p>	 <p>Using number sentence cards. Children to solve the number sentence by using objects to help. Recognise and discuss symbols + , - &amp; =.</p>
<p><b>Language</b> add    take away    plus    minus    more    less    fewer    how many?    number names    equals    total</p>		

**Examples:**

'If I add one more pineapple to the fruit bowl. How many will we have?'

Song: 5 little men in a flying saucer...5 little speckled frogs...Discuss one less each time

Children line up at home time. 7 children left one goes home (taken away). 'How many children left?'

**Records using marks that they can interpret and explain**

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Children using chunky chalks on the playground to practise number formation. Children will be able to tell you which number they are writing.</p>	 <p>Children imitate taking the dinner register. Write at bottom number of children having hot dinner and how many are having packed lunch.</p>	 <p>Children use paper, pencils, whiteboards etc. They write numbers or make marks and can explain what they mean.</p>
<p><b>Language</b></p> <p>number names    symbols</p>		
<p><b>Examples:</b></p> <p>Ask child to tell you what they have written</p> <p>Provide children with mark making opportunities on a daily basis, during all lessons. E.g. Welly walk, paper, clipboard</p>		

**By the end of EYFS children should be able to achieve the Early Learning Goals for calculating (PSRN)**

**Count reliably from one to twenty**

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>All children stand in a circle - clap their hands as they count forwards and backwards</p>	 <p>Selection of objects on paper. Children to count them 1,2,3,4,5...</p>	 <p>Number stick with numbers 0-20. Children count forwards and backwards using the numbers as a visual clue and starting at different numbers.</p>

<b>Language</b>	Number names in order to 20 (forwards and back)
<b>Examples:</b>	Children pretend they are a rocket - crouch down - count 20 - 0 on 0 children blast off Teacher counts to 20 (forwards or back) children must be sat down and ready Children chant numbers in order to 20 from different numbers forwards or backwards

### Place the numbers 1-20 in order

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Numbers from 1-20 on cars. Children to put the cars in the correct numerical order.</p>	 <p>Washing line of picture number cards - children to order appropriately.</p>	 <p>Number cards to be placed in correct order by the child.</p>

<b>Language</b>	numbers to 20 order
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<b>Examples:</b>	'Can you help put the dinosaur number cards in the correct order?' 'Can you order the magnetic letters from 1 -20?'
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### Say what is one less or one more than a given number

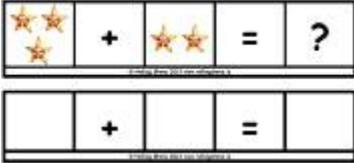
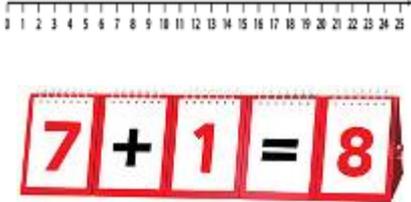
Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>There are 10 bears on the table - what is one less than 10? What is one more than 10?</p>	 <p>Reading a story - Jane has picked 15 strawberries and is about to pick one more - How many will she have? Jane has eaten a strawberry and has one less than 15. How many does she have?</p>	 <p>Show number on a flashcard. Children to tell you the number that is one more or one less than a given number</p>

<b>Language</b>	one more one less number names
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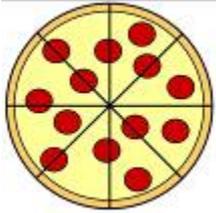
<b>Examples:</b>	Pickles the rabbit has 20 carrots - he gives one to a friend - 'What is one less than 20?'
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Number stick - point to a number and ask children what is one more? What is one less?

Using quantities and objects, add and subtract two single-digit numbers and count on or back to find the answer

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Hoops on the carpet. One hoop has 7 objects the other has 4. What is <math>7 + 4</math>? Children to count all objects together to find the answer.</p>	 <p>Match and make number puzzle - Pictorial number sentence to be matched with correct number sentence.</p>	 <p>Number lines on table - paired with number sentences for children to solve.</p>
<p><b>Language</b></p> <p>equals    add    subtract    number names    take away    plus    count</p>		
<p><b>Examples:</b></p> <p>Show children a number sentence: <math>4+2=</math> . Children count on from 4 to find the answer - 4,5,6. What is <math>8-2</math>? Children to use objects or number line to solve the problem</p>		

Solve problems including doubling, halving and sharing

Concrete (objects)	Pictorial (models and images)	Symbolic (numbers and symbols)
 <p>Children to be given a group of rubber dinosaurs - Ask child to share the dinosaurs so you have the same amount.</p>	 <p>Children to be given a picture of a pizza. Can you give half of the pizza to your friend?</p>	 <p>Ladybird drawn on a whiteboard. Teacher adds 2 spots on one wing. Ask the child to double the spots by adding them to the other wing. Double 2 is...?</p>
<p><b>Language</b></p> <p>double    half    share    number names</p>		

**Examples:**

Child has 8 dinosaurs can you give me half? How many do we have each?

Can you give half the marbles to Thomas?

Can you share the Lego with your group so you all have the same?

Can you help me to share the knives and forks so all the bears at the picnic have the same?

Play game with children- Show me 2 (fingers) now double 2 (2 on each hand) What is double 2?

Numbers on a bucket - throw in a beanbag - lands in number 4 - what is double 4?

Review Date: January 2019

Next Review Date Due: January 2020