Progression of Maths Skills EYFS

Area of Learning: Mathematics - Number							
Concept: Cardinality and Counting The cardinal value of a number refers to the quantity of things it represents, e.g. the numerosity, 'howmanyness', or 'threeness' of three. When children understand the cardinality of numbers, they know what the numbers mean in terms of knowing how many things they refer to. Counting is one way of establishing how many things are in a group, because the last number you say tells you how many there are. Children enjoy learning the sequence of counting numbers long before they understand the cardinal values of the numbers. Subitising is another way of recognising how many there are, without counting							
Typical progression with this concept	Counting: Saying number words in sequence	Counting: tagging each object with one number word or mark	Counting: knowing the last number counted gives the total so far	Subitising: recognising small quantities without needing to count them all	Numeral meanings	Conservation: knowing that the number does not change if things are rearranged (as long as none have been added or taken away)	ELG
	I can say number names in order to 20 starting at 1 I can say number names in order beyond 20	I can count a line of objects, tagging each object with a number word, to 10 I can count an irregular arrangement of 10 objects by tagging each object with a number word I can represent objects to 10 using my own marks I can count an objects or actions to 20 by tagging each object/action with a number word I can	I can count out 5 objects from a larger group I can count out 10 objects from a larger group	I can automatically recognise a group of 4 objects I can automatically recognise a group of 5 objects	I can match the number symbol with a group of up to 5 objects. I can say the correct number word when I see number symbols 6-10 in various contexts. I can match the number symbol with a group of up to 10 objects. I can use a tens frame to organise my counting I know that the numbers in	I know that a group of 5 objects is still a group of 5 objects even when rearranged. I know that a group of 10 objects is still a group of 10 objects even when rearranged.	ELG Number: Have a deep understanding of number to 10, including the composition of each number; Subitise up to 5 ELG Numerical Patterns: Verbally count beyond 20, recognising the pattern of the counting system

		count an objects or actions beyond 20 by tagging each object/action with a			the one's column increase in the same way (1-9) for each ten.		
Provision & Guidance from NCETM progression document	Children need to know number names, initially to five, then ten, and extending to larger numbers, including crossing boundaries 19/20 and 29/30. Counting back is a useful skill, but young children will find this harder because of the demand it places on the working memory.	Children need lots of opportunities to count things in irregular arrangements. For example, how many play people are in the sandpit? How many cars have we got in the garage? These opportunities can also include counting things that cannot be seen, touched or moved.	Children need the opportunity to count out or 'give' a number of things from a larger group, not just to count the number that are there. This is to support them in focusing on the 'stopping number' which gives the cardinal value.	Subitising is recognising how many things are in a group without having to count them one by one. Children need opportunities to see regular arrangements of small quantities, e.g. a dice face, structured manipulatives, etc., and be encouraged to say the quantity represented. Children also need opportunities to recognise small amounts (up to five) when they are not in the 'regular' arrangement, e.g. small handfuls of objects.	Children need to have the opportunity to match a number symbol with a number of things. Look for opportunities to have a range of number symbols available, e.g. wooden numerals, calculators, handwritten (include different examples of a number).	Children need the opportunity to recognise amounts that have been rearranged and to generalise that, if nothing has been added or taken away, then the amount is the same.	
Area of Learning: Mathematics - Number							
Concept: Comparison Comparing numbers involves knowing which numbers are worth more or less than each other. This depends both on understanding cardinal values of numbers and also knowing that the later counting numbers are worth more (because the next number is always one more). This understanding underpins the mental number line which children will develop later, which represents the relative value of numbers, i.e. how much bigger or smaller they are than each other							

	More than/less than	Identifying groups with the same number of things	Comparing numbers and reasoning	Knowing the 'one more than/one less than' relationship between counting numbers	
	I can compare two groups (when the amounts are less obviously different and the objects are not of a similar size) saying where there is more and where there is less.	I can say that groups are equal by counting them and reaching the same number.	I can explain why a number is more or less than another number. I can describe a number as a lot bigger or a little bigger by looking at their positions on a number line. I can describe a number as a lot smaller or a little smaller by looking at their positions on a number line.	I know what one more than and one than a number from 1-5 is. I know what one more than and one than a number from 1- 10 is. I can explain how I know what one more and one less than a number is.	ELG: Numerical Patterns compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity
Provision & Guidance from NCETM progression document	Children need progressive experiences where they can compare collections and begin to talk about which group has more things. Initially, the groups need to be very obviously different, with one group having a widely different number of things. Collections should also offer challenges, such as including more small things and fewer large things, to draw attention to the numerosity of the comparison, i.e. the number of things, not the size of them	Children need the opportunity to see that groups could consist of equal numbers of things. Children can check that groups are equal, by matching objects on a one-to-one basis.	Children need opportunities to apply their understanding by comparing actual numbers and explaining which is more. For example, a child is shown two boxes and told one has 5 sweets in and the other has 3 sweets in. Which box would they pick to keep and why? Look for the reasoning in the response they give, i.e. 'I would pick the 5 box because 5 is more than 3 and I want more.' If shown two numerals, children can say which is larger by counting or matching one to-one. Children can compare numbers that are far apart, near to and next to each other. For example, 8 is a lot bigger than 2 but 3 is only a little bit bigger than 2.	Children need opportunities to see and begin to generalise the 'one more than/one less than' relationship between sequential numbers. They can apply this understanding by recognising when the quantity does not match the number, i.e. if a pack is labelled as 5 but contains only 4, the children can identify that this is not right. Support children in recognising that if they add one, they will get the next number, or if one is taken away, they will have the previous number. For example: 'There are 4 frogs on the log, 1 frog jumps off. How many will be left? How do you know?	
Area of Learning: Mathematics - Number					
Concept: Composition Knowing numbers are made up of two or more other smaller numbers involves 'part–whole' understanding. Learning to 'see'					

a whole number and its parts at the same time is a key development in children's number understanding. Partitioning numbers into other numbers and putting them back together again underpins understanding of addition and subtraction as inverse operations						
Typical progression within this concept	Part- whole: identifying smaller numbers within a number (conceptual subitising – seeing groups and combining to a total)	Inverse operations	A number can be partitioned into different pairs of numbers	A number can be partitioned into more than two numbers	Number bonds: knowing which pairs make a given number.	
	I can split 10 objects into different groups	I know when I have split a set of 10 objects into groups, if I collect them back together there will still be 10.	I can partition 3 objects into different pairs of numbers I can partition 5 objects into different pairs of numbers I can partition 10 objects into different pairs of numbers	I can partition 5 objects into different amounts of numbers (e.g. 1, 1, 1, 1, 1; 2, 1, 1, 1;…) I can partition 10 objects into different amounts of numbers (e.g. 1, 1, 1, 1, 1; 2, 1, 1, 1;…)	I can remember the number bonds that total 2. I can remember the number bonds that total 3. I can remember the number bonds that total 4. I can remember the number bonds that total 5. I can remember some of the number bonds that total numbers 6-10. I know what the word double means. I know the doubles for numbers 0-5	ELG: Number atomically recall number bonds to 5 (including subtraction facts) and some number bonds to 10, including double facts
Provision & Guidance from NCETM progression document	Children need opportunities to see small numbers within a larger collection. 'Number talks' allow children to discuss what they	Children need opportunities to partition a number of things into two groups, and to recognise that those groups can be recombined to make the same total.	Children need opportunities to explore a range of ways to partition a whole number. The emphasis here is on the pairs of numbers that make a total. Children can	Children need opportunities to explore the different ways that numbers can be partitioned, i.e. into more than two	Children need opportunities to say how many are hidden in a	

	see. For instance, with giant ladybirds: 'There are 5 spots altogether. I can see 4 and 1, I can see 3 and 2, and I can see 1 and 1 and 1 and 1 and 1.' Encourage exploration of all the ways that 'five' can be and look. Children are encouraged to look closely at numbers to see what else they can see. This reinforces the concept of conservation.	Encourage children to say the whole number that the 'parts' make altogether.	do this in two ways – physically separating a group or constructing a group from two kinds of things.	groups. Situations to promote this include increasing the number of pots to put a given amount into, e.g. planting ten seeds into three or more pots.	known number of things. For example: 'Five toys go into a tent, then two come out. How many are left in the tent?' The child should respond that there are still three toys in the tent.	