Early Years Typical Progression in Maths

Mastering Number

National Centre for Excellence in the Teaching of Mathematics

Term	Subitising – seeing groups and combining to a total	Cardinality, ordinality and counting	Composition	Comparison
Autumn 1	• perceptually subitise within 3 • identify sub-groups in larger arrangements • create their own patterns for numbers within 4 • practise using their fingers to represent quantities which they can subitise • experience subitising in a range of contexts, including temporal patterns made by sounds.	• relate the counting sequence to cardinality, seeing that the last number spoken gives the number in the entire set • have a wide range of opportunities to develop their knowledge of the counting sequence, including through rhyme and song • have a wide range of opportunities to develop 1:1 correspondence, including by coordinating movement and counting • have opportunities to develop an understanding that anything can be counted, including actions and sounds • explore a range of strategies which support accurate counting.	• see that all numbers can be made of 1s • compose their own collections within 4.	• understand that sets can be compared according to a range of attributes, including by their numerosity • use the language of comparison, including 'more than' and 'fewer than' • compare sets 'just by looking'.

Autumn 2	• continue from first half-term • subitise within 5, perceptually and conceptually, depending on the arrangements.	• continue to develop their counting skills • explore the cardinality of 5, linking this to dice patterns and 5 fingers on 1 hand • begin to count beyond 5 • begin to recognise numerals, relating these to quantities they can subitise and count.	• explore the concept of 'wholes' and 'parts' by looking at a range of objects that are composed of parts, some of which can be taken apart and some of which cannot • explore the composition of numbers within 5.	• compare sets using a variety of strategies, including 'just by looking', by subitising and by matching • compare sets by matching, seeing that when every object in a set can be matched to one in the other set, they contain the same number and are equal amounts.
Spring 1	• increase confidence in subitising by continuing to explore patterns within 5, including structured and random arrangements • explore a range of patterns made by some numbers greater than 5, including structured patterns in which 5 is a clear part • experience patterns which show a small group and '1 more' • continue to match arrangements to finger patterns.	• continue to develop verbal counting to 20 and beyond • continue to develop object counting skills, using a range of strategies to develop accuracy • continue to link counting to cardinality, including using their fingers to represent quantities between 5 and 10 • order numbers, linking cardinal and ordinal representations of number.	• continue to explore the composition of 5 and practise recalling 'missing' or 'hidden' parts for 5 • explore the composition of 6, linking this to familiar patterns, including symmetrical patterns • begin to see that numbers within 10 can be composed of '5 and a bit'.	• continue to compare sets using the language of comparison, and play games which involve comparing sets • continue to compare sets by matching, identifying when sets are equal • explore ways of making unequal sets equal.
Spring 2	• explore symmetrical patterns, in which each side is a familiar pattern, linking this to 'doubles'.	• continue to consolidate their understanding of cardinality, working with larger numbers within 10 • become more familiar with the counting pattern beyond 20.	• explore the composition of odd and even numbers, looking at the 'shape' of these numbers • begin to link even numbers to doubles • begin to explore the composition of numbers within 10.	• compare numbers, reasoning about which is more, using both an understanding of the 'howmanyness' of a number, and its position in the number system.

Summer 1	• continue to practise increasingly familiar subitising arrangements, including those which expose '1 more' or 'doubles' patterns • use subitising skills to enable them to identify when patterns show the same number but in a different arrangement, or when patterns are similar but have a different number • subitise structured and unstructured patterns, including those which show numbers within 10, in relation to 5 and 10 • be encouraged to identify when it is appropriate to count and when groups can be subitised.	• continue to develop verbal counting to 20 and beyond, including counting from different starting numbers • continue to develop confidence and accuracy in both verbal and object counting.	• explore the composition of 10.	• order sets of objects, linking this to their understanding of the ordinal number system.
Summer 2	In this half-term, the children will consolidate their understanding of concepts previously taught through working in a variety of contexts and with different numbers.			

Common errors

Cardinality, ordinality and counting	
Common errors in this area may include: • missing out an object or counting an object twice • when asked how many cars are in a group of four, simply recounting '1, 2, 3, 4,' without concluding that 'there are four cars in the group' • when asked to 'get five oranges' from a tray, a child just grabs some, or carries on counting past five • when objects in a group are rearranged, the child (unnecessarily) recounts them to find how many there are • difficulties in counting back • confusion over the 'teen' numbers – they are hard to learn • missing a number like 15 (13 or 15 are commonly missed out) or confusing 'thirteen' and 'thirty'.	**What to look for** Can a child: • consistently recite the correct sequence of numbers and cross decade boundaries? • collect nine from a large pile, e.g. nine pencils from a pot? • subitise (instantly recognise) a group that contains up to four, then five, in a range of ways, e.g. fingers, dice, random arrangement? • select a numeral to represent a quantity in a range of fonts, e.g. , 4 4 4 • correct a puppet who thinks the amount has changed when their collection has been rearranged?
Composition	
Common errors in this area may include: • children suggesting that a larger number than the total are hidden	**What to look for** Can a child: • subitise small groups within a larger number? • make a reasonable guess at a hidden number? • in context, state two groups that make a larger amount? For example, how might the (six) bean bags land? You could have three with stripes up and three with spots up.
Comparison	
Common errors in this area may include: • children not comparing the numerosity of the group and considering more in terms of size • children giving a response that does not match the context when estimating a number; e.g. when adding, giving as an answer a number that is smaller than the numbers given. Example: 'There are 7 cars in a garage and then 2 more go in.' The child guesses there are 4 cars in total inside	**What to look for** • Can a child: • state which group of objects has more? Can they do this with a large or small visual difference? • compare two numbers and say which is the larger? • predict how many there will be if you add or take away one?