

Number Recognition, Representation and Ordering

Key Maths Vocabulary	Key Questions
Number, numeral, number names, count, match, same, different, order, smallest, largest, biggest, more, less, before, after, recognise, read.	• What numbers can you see? • Which number is this? • Can you see the number five? • Can you see any other number threes? • Where have you seen that number before? • How many items are there? • Can you find the number card that tells me how many ... are in this group? • Can you find the number card that shows that amount of objects? • What number comes after...? How do you know? • What number comes before...? How do you know? • Why have you put the numbers in this order? • Can numbers be placed in any order? • Can you place these numbers in order from smallest to largest? How will you do it? • Where is number ... on the number line? • Can you help me put these numbers in order? • What number comes next?

EYFS Skills Progression: Number Recognition, Representation and Ordering

Progression of Skills	Possible Misconceptions	Pedagogical Guidance
Can distinguish numerals from letters. For example, by pointing to a numeral when sharing a familiar book with an adult.	Children may struggle to distinguish between numerals and letters.	Create a number rich environment. Add child-friendly maths books, which contain numerals, to your setting. Also, include numerals as part of your environment. For example, display number cards showing how many children can play in different areas of your setting. Discuss these numbers with the children and explain the difference between numbers and letters.
Can represent numbers using fingers, marks on paper or pictures.	Children may struggle to represent numbers accurately.	Provide children with opportunities to represent numbers in different ways. You could sing number rhymes, such as 1, 2, 3, 4, 5, Once I Caught a Fish Alive and encourage the children to represent the different numbers using their fingers. You could also add enhancements to your provision that encourage the children to represent numbers in different ways, for example hand painting or creating pictorial number lines.
Can pick out a matching numeral to a numeral that is shown to them.	Children may match a numeral to a numeral shown to them, matching the numerals by shape, rather than by reading them.	When matching numerals, say the number names to encourage children to use them and match them to the numerals. When counting, use a counting stick or number cards for the children to be exposed to the numbers as they are counting.
Can recognise a numeral from 1 to 3 and find the matching number of objects.	Children may not link numerals to a number of objects.	Model matching number cards to physical objects that the children can move, such as interlocking cubes, counters, buttons or small world animals. You could also rearrange the objects into different arrangements to emphasise that the total number of objects remains the same and the numeral card stays the same.
Can sometimes match numeral to quantity.	Children may be unsure of some numerals when matching numeral to quantity.	Initially, you could give children numeral cards and picture cards that show the matching quantities. Ask the children to match the numeral to the given quantity. You could also take opportunities to focus on recognising individual numerals through play and the environment. For example, you could ask children to match number cards to towers of building bricks with the matching amount of bricks. Then, you can progress to giving children a number card and asking them to count out the matching quantity of objects. Provide lots of fun and practical opportunities for matching numerals to objects, such as hiding shells and number cards in the sand or matching fish to floating numbers in the water tray. A puppet could also be used to make mistakes when matching numerals to objects and the children could correct the puppet by carefully counting the objects to check how many are in the group.
Can record using marks that they can interpret and explain.	Children may struggle to interpret and explain marks they have made to represent numbers.	Provide children with meaningful opportunities to choose how to represent numbers, such as choosing how to record a score when playing a game or recording how old they are for a birthday display. Ask the children to tell you what it is they have drawn and why they chose to represent the numbers in that way.

Can recognise numerals 0 to 5, then 0 to 10 when they are placed in order, such as reading along a number line.	Children may be working from rote learning when recognising numerals in order, they may be counting rather than reading the numerals.	When numerals are placed in order, to ensure the children are reading the numerals rather than rote counting, ask the children to begin reading from different numerals. For example, point to number three and ask them what that number is. Help children to recognise each number by focusing on the look of each individual number. For example, by singing number rhymes that focus on what a number looks like.
Can read a numeral from 0 to 5, then 0 to 10 and sometimes represent it correctly.	Children may be able to read numerals. They may make mistakes when representing the numeral.	Provide a variety of activities that encourage children to read a numeral and represent it in different ways. For example, you could hold up a number card or number tile and ask the children to show you that number using their fingers, by drawing pictures or by using objects.
Can order objects, such as towers of bricks or pictures on cards, visually ordering numbers by saying which number is the largest and which is the smallest.	Children may mix up vocabulary, such as smallest and largest, when ordering quantities.	Use opportunities to model the use of words, such as smallest and largest, when comparing groups of objects. For example, comparing bowls of fruit for snack or comparing two towers in the construction area. Use very different amounts of objects when introducing comparing, such as comparing three and eight pieces of snack rather than four and five.
Can recognise numerals 0 to 5, then 0 to 10 when placed out of order.	Children may find similar numbers more difficult to recognise, such as 2 and 5, 6 and 9.	Children may find similar numbers more difficult to recognise, such as 2 and 5, 6 and 9. When introducing numerals that look similar, such as 6 and 9, first introduce each numeral separately. Next, show the children the two numbers at the same time so that you can discuss the numbers and identify their differences. You can also help the children to identify the differences between numbers by singing number rhymes that focus on the look of each individual number.
Can order numerals 0 to 5.	Children may not understand that when ordering numbers, each number is bigger than the previous number.	Take time to ensure that children understand the cardinal aspect of number through activities that match numerals to quantities, allowing children to understand that as the numeral increases so does the quantity.
Can place consecutive numerals in order initially with numbers from 0 to 10, then progressing to numbers 0 to 20.	Children may find it difficult to read and order the two-digit numbers from 11 to 20.	Provide lots of number ordering opportunities, such as children holding number cards and get themselves into order, ordering numbers on a washing line or going on a number hunt in the outdoor area then working as a team to order the numbers. Particularly with numerals 11 to 20, provide children with opportunities to see and explore how these numbers are represented through the use of objects, such as ten-frames and number shapes. This will help the children to gain an understanding of how the numbers are made up.
Through a meaningful context, such as point scoring games, children can place their scores in order.	Children may muddle vocabulary, such as less and least or fewer and fewest.	Introduce new vocabulary alongside more familiar terms. For example, children may be more familiar with the term 'more' so use this term alongside the term 'fewer' to introduce new vocabulary.
Can place consecutive numbers in order starting from a number other than one.	Children may still start counting up from one to order numbers.	Encourage children to start counting on from numbers other than one. Use a number line as a visual guide. Model dropping back to a number closer to the number they need rather than back to one. For example, if they are starting at five, model counting 'three, four' to help them find five without dropping back to one.
Can place non-consecutive numbers in order. Initially with numbers from 0 to 10, then progressing to numbers 0 to 20.	Children may not appreciate that non-consecutive numbers are in order of size, as they might interpret 'order' as a consecutive line of numbers.	Initially, order non-consecutive numerals alongside an image showing the cardinal aspect of that number, such as a numeral three alongside three stars. Alternatively, introduce this as a game, where they order their scores to give it a meaningful context.
Can place numbers in order from smallest to greatest and from greatest to smallest.	Children may be confident ordering numbers from smallest to greatest, they may not appreciate that numbers can be ordered from greatest to smallest.	Take opportunities to practise counting backwards as well as forwards, such as counting back for 'blast-off'.