

Rote Counting

Key Maths Vocabulary	Key Questions
Counting, number, mathematics, maths, one-to-one correspondence, patterns, repeating, repetition, teen, digit, single digit, two-digit, zero, altogether, total, set, numeral, how many?, none, zero, more, less, fewer, same, point, move, small, smallest, bigger, biggest, estimate, next, before, cardinality, subitising, conservation of number, concrete, pictorial, abstract, consecutive, ordinal, quantification, irregular arrangement, rote counting, forwards, backwards.	• How many [insert object] are there? How do you know? • How many are in this group? • Can you count these objects without moving them? How will you know you have counted them all? • Can you count actions such as jumps or hops? • Is there still the same number if I move them? How could we find out? • Which group has more? Can you tell me without counting them? • Can you give me [insert number] cars/blocks/ teddies? • Can you show me five fingers? Can you show me five in a different way? • What does [insert number] look like? How many different ways can you represent it? • Who has more/less? • What is the total number in this group? • What happens if I add one more? • What happens if I take one away? • Can you count on from five? • Can you count forwards and backwards? • Can you start counting at ten and stop at six? • Can you estimate how many there are? • Can you find that number on a number line? • Can you count along the number line? What if I hide some of the numbers?

EYFS Skills Progression: Counting

Rote Counting Skills – Progressing from 0–5, 0–10, 0–20.

Progression of Skills	Possible Misconceptions	Pedagogical Guidance
Can say some counting words randomly.	Children may repeat the same number, such as one, two, two, three, or they may mix the order of numbers, such as one, three, four, two. They may also insert random words.	Encourage the children with specific praise, such as "That's right! I can hear you saying the number names!" Use a puppet to model counting correctly and get the child to check whether the puppet is right. Value and reward with praise any partial counting – to ensure children maintain their enthusiasm for the skill.
Can say the number names in order in an unbroken string forwards. Can say the number names backwards in an unbroken string.	Children may not yet understand the significance of the words – that they are individual words that can be used to count things.	Begin to break the string by inserting a word between each number, such as elephant! Even though the children are not counting objects at this stage, it will help to develop the counting words as individual words rather than a string. Over enunciate and use different voices to draw attention to the pattern of the counting word.
Understands that the order of numbers is fixed and will not change.	Children may think they are counting simply because they are saying counting words.	Model counting correctly. Use a puppet to make mistakes, such as "One, two, five..." for the children to spot.
Recognise the significance and value of zero.	Children may think that zero is simply "nothing", as they may have only experienced it in terms of objects.	Include zero when counting to increase children's awareness of its position within the number system. Talk about zero in terms of a label, a temperature, a floor in a lift, a score or an empty purse.

Progression of Skills	Possible Misconceptions	Pedagogical Guidance
Can say the number before or after a number, dropping back to one.	Children may not realise that counting can start from other numbers.	Model how to find a number by starting the count for them. If a child is dropping back to one to find what comes after six, start counting at four. Say "Four, five..." and see if the child can find six from there.
Can say the number before or after a number, without dropping back to one.	Children may confuse one more and one less.	When counting, refer to number lines and point to the numbers as you count. Talk about the numbers either side of a given number so that children can begin to visualise the number line for themselves.
Can stop and start in different places forwards. Can stop and start in different places backwards.	Children may forget to stop at their given point.	This is a key skill leading to calculating. You could ask the children to, "Start at two and count on to five." "Start at eight and count back to four." Remind the children to stop if they forget and ask them to count again now they know when to stop.
Can count on and keep track of how many they have counted on. Can count back and keep track of how many they have counted back.	Children may count the number they are on. For example, six count on three, "Six, seven, eight. It's eight."	Another key skill leading to calculating. Playing board games is really useful for counting movements rather than, "the one you are on." Ask children to stand on a number track of carpet tiles and take three steps back. What number are they on now? Model the count for them, "You were on six here. Five, four, three, you are now on three."
Can see the recurring pattern in our number system and use this to help them count higher.	Children may reveal their knowledge of the pattern through a misconception, such as eighteen, nineteen, tenteen or twenty-nine, twenty ten.	Understanding pattern is a very important skill for children to make progress with their counting and continue to count beyond ten. Children will begin to see a recurring pattern in which the digits rotate from zero to nine, before restarting at zero. Once children are aware of this pattern, they can apply it to their counting, allowing them to count to much higher numbers. Misconceptions, such as those listed, are actually evidence of understanding of the number pattern. Encourage the children that they are right but we use a different name, "Ten does come after nine, it just changes its name to twenty."
Can enunciate each number clearly.	Children often muddle teen numbers with multiples of ten, such as 18 and 80.	Rather than counting as a group or a class, count around the circle. Listen very closely to how they are pronouncing their teens and overemphasise the pronunciation yourself. Pay particular attention to EAL children, as they may struggle to hear the difference.