The Five Principles of Counting Guidance

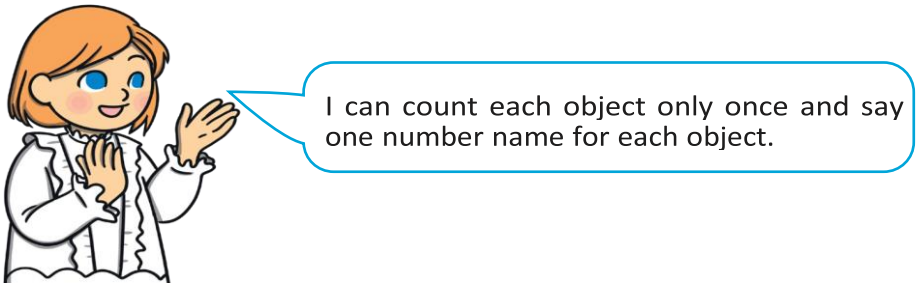
Accurate counting is an essential skill for children to learn from an early age. Although this may seem straightforward, there are many counting concepts that young children need to master in order to become effective lifelong mathematicians.

When a young child begins counting, they count by rote, meaning they will be able to say the number names in order simply because they have remembered the words and the order they go in. From this starting point, children then need to begin to master five counting principles.

Remembering the names of the principles is not essential. The important part is understanding what the 5 different skills are and supporting your child to master each of them. As always, we are here to help so please do get in touch if you would like any ideas or guidance.

The Nursery Team ☺

The One-One Principle



The **one-one principle** refers to the need to count each object in a group once, and only once. Children can be helped to do this by touching each object as they say the number name, this can help children to keep track of the objects that have been counted and ensure that they only count each object once.

Skills needed for the one-one principle:

- Children need to be able to say number names in order. The number of objects a child can count will be limited to the number that they can correctly count to. E.g. if a child counts 1,2,3,4,5,7 then they will only be able to accurately count 5 objects as they have not yet mastered the correct order beyond 5.
- Children need to be able to keep track of the objects that have been counted and those that need to be counted. Children could line up objects in a row and touch each one as they say the number name. or they could move the objects from one spot to another as they count. Encourage children not to rush.

The Stable Order Principle

The **stable order principle** refers to number names being said in the correct order, knowing that the order of the numbers will not change and will always be said in the same order. As number names have no recognisable pattern until we reach the number fourteen, this can be a challenge for children. Young children will begin by rote counting numbers without meaning, often by memorising numbers from songs and rhymes. The order of these numbers will then begin to develop meaning as children begin to recognise why numbers names are said in this order.

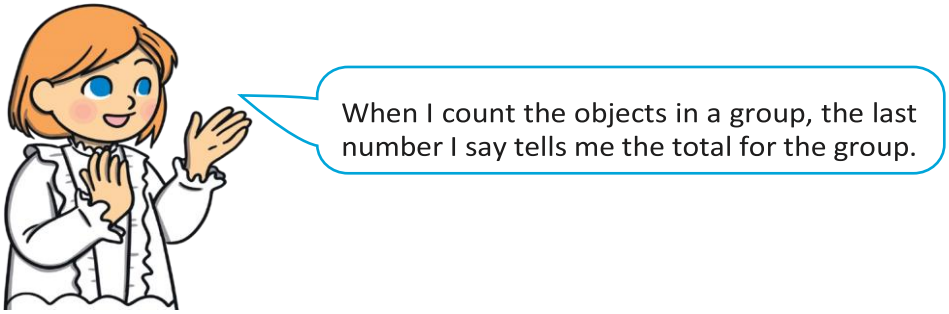
Skills needed for the stable order principle:

- Know the names of numbers in order.
- Understand that these numbers are always said in the same order.

Possible activities:

- Model counting at any appropriate opportunity, such as lining toys up, counting the number of snacks or counting the number of bricks used in a tower.
- Read number stories and sing number songs and rhymes.

The Cardinal Principle



The **cardinal principle** refers to children recognising that the final number said, when counting a group, is special because this number tells them how many objects are in the group. Children must first have a good understanding of both the one-one principle (saying only one number name for each object counted) and the stable order principle (saying numbers in the correct order). When children have understood the cardinal principle, they will be able to count a group of objects and then answer the question 'How many?' by recalling the last number and not having to recount the objects.

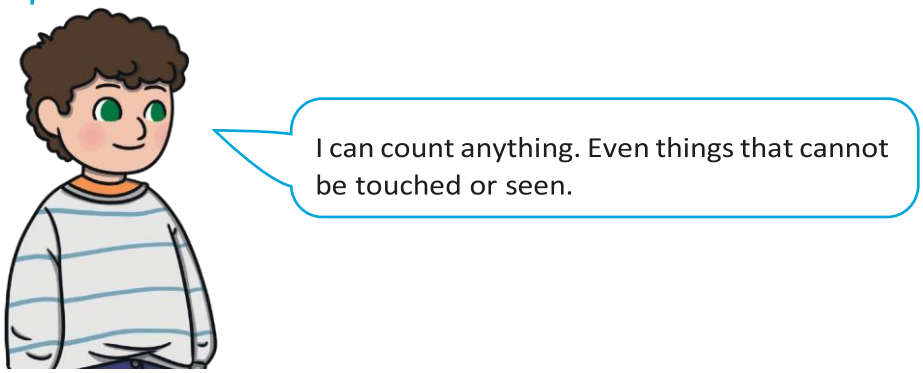
Skills needed for the cardinal principle:

- Have a good understanding of both the one-one principle and the stable order principle.
- Be able to recall the final number that they counted.
- Understand that this final number tells us 'How many?'

Possible activities:

- Provide plenty of opportunities for counting groups of objects, following this with the question 'How many?' You could model counting and saying "One, two, three, four. There are four cars" for example.

The Abstraction Principle



The **abstraction principle** refers to the understanding that anything can be counted, even things that cannot be touched, moved or seen. When children are first learning to count, it is easier for them to count physical objects that can be seen, touched and moved. As children begin to develop their counting skills, they begin to understand that they can also count non-physical things, such as sounds, movements and even imaginary objects.

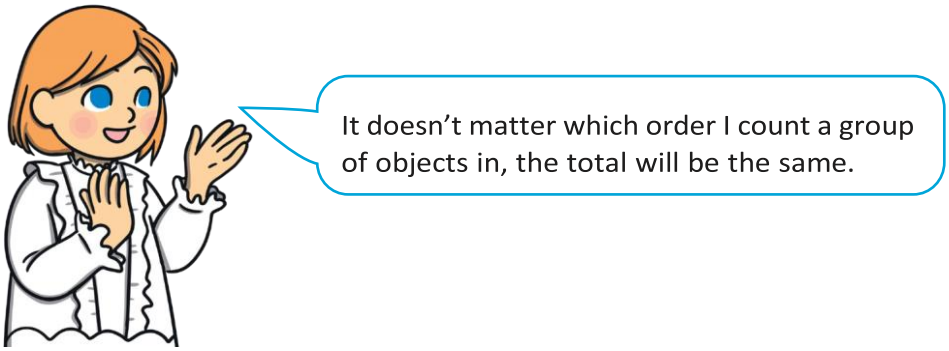
Skills needed for the abstraction principle:

- Have a good understanding of the previous three principles.
- Able to keep track of their counting without being able to see or touch each item being counted.
- Understands that objects in a set can be different sizes, colours and shapes.

Possible activities:

- Count groups of objects that contain different coloured, sized and shaped objects.
- Roll a ball to each other and count each time the ball is rolled.
- Drop coins into a jar and count each sound as they are dropped.
- Count objects that cannot be touched, such as pictures on the wall.

The Order-Irrelevance Principle



The **order-irrelevance principle** refers to the understanding that the order in which objects are counted is not important. Objects within a group can be counted from left to right, right to left or from somewhere else. As long as every object is counted, and only counted once, then the total will always be the same. This may seem like a simple principle but children that do not understand this principle may need to recount a group if the objects are moved.

Skills needed for the order-irrelevance principle:

- Have a good understanding of the one-one (one number name per object), stable order (order that I say numbers in stays the same) and cardinal principles (the last number said when counting tells me the total of the group).

Possible activities:

- Encourage counting objects in different ways, left to right, right to left and from other starting points.
- Count a group of objects and then move the objects and count again.