

Principles of Counting

Learning to count meaningfully requires children to understand the following 4 key principles or "rules."

1. **The one-to-one principle** means that each object to be counted must be assigned one and only one number name. Young children have a tendency to skip objects or to say two number words for the same object. Techniques for teaching this principle include reminding the child to count carefully and to touch each object with the finger. It is useful in the early stages for children to move an item out of the way as it is counted. A child develops an awareness of the importance of one-to-one correspondence by matching objects in everyday situations and realizing the importance of not omitting any item. For example, in setting the table the child provides a plate for mommy, a plate for daddy, a cup for mommy, a cup for daddy, etc.

2. **The stable order principle** means understanding that the counting sequence stays consistent. The number-name list must be used in a fixed order every time a group of objects is counted. It is always: 1, 2, 3, 4, 5, 6, 7, etc., not 1, 2, 4, 5, 8. Stable correct order is only meaningful if applied with one-to-one correspondence; it is not enough that it be memorized.

3. **The order irrelevance principle** means that the order in which the objects are counted doesn't matter, the total will stay the same. The child can start with any object, and count them in any order. The order in which the objects are counted is irrelevant but all the objects must be counted.

4. **The cardinality principle** consists of the child's realization that the last number word used represents how many objects are in the set. Regardless of which object is counted first or the order in which they are counted, the last object named always tells how many. A child who re-counts when asked how many candies are in the set that they just counted, does not understand the cardinality principle. To fully grasp this principle, a child needs to appreciate that the final number name is different from the earlier ones in that it not only 'names' the final object, signaling the end of the count, but also tells you how many objects have been counted: it indicates what we call the numerosity of the collection.

