

COUNTING PRINCIPLES

“Many of the mathematical concepts that students learn in the first few years of school are closely tied to counting. The variety and accuracy of children’s counting strategies and the level of their skill development in counting are valuable indicators of their growth in mathematical understanding in the primary years”.

Guide to Effective Instruction: Number Sense and Numeration, 2016.

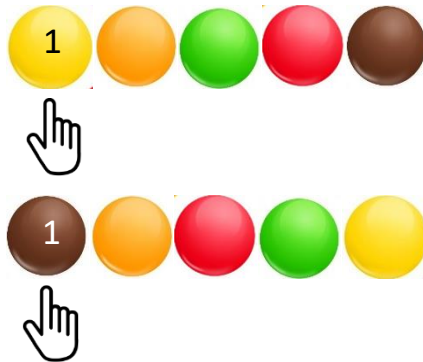
The following are basic concepts embedded in the early understanding of counting. Children will not learn these concepts in a linear fashion but will move back and forth through these concepts learning parts of some before moving on to another concept.

Stable Order: The counting sequence stays consistent or “stable”.

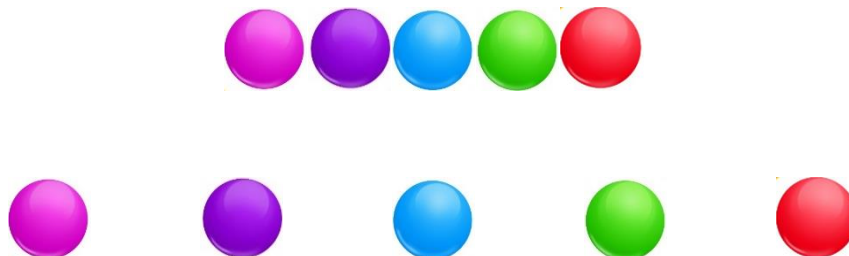


1 2 3 4 5 6 7 8 9 etc...

Order Irrelevance: Counting objects can begin with any object in the set and the total will be the same. The order in which items are counted is irrelevant.



Conservation: The count for a set group stays the same no matter whether the distance between the objects are spread out or close together.



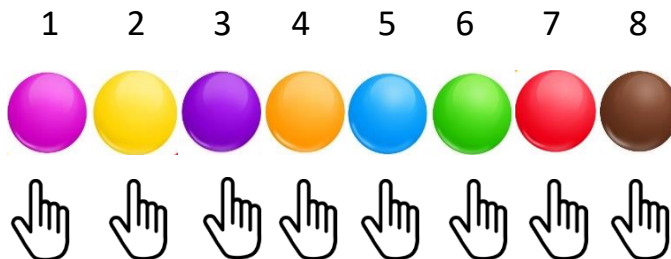
Counting Principles

Subitizing: The ability to see small amounts of objects without counting.

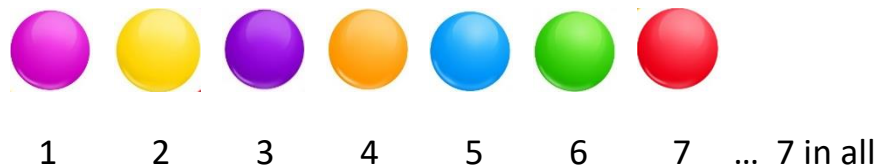
- Perceptual Subitizing: perceive objects without counting.
- Conceptual Subitizing: subitize two or more amounts perceptually and combine the amounts automatically.



One-to-One Correspondence: Each object being counted in a group can be counted once and only once.

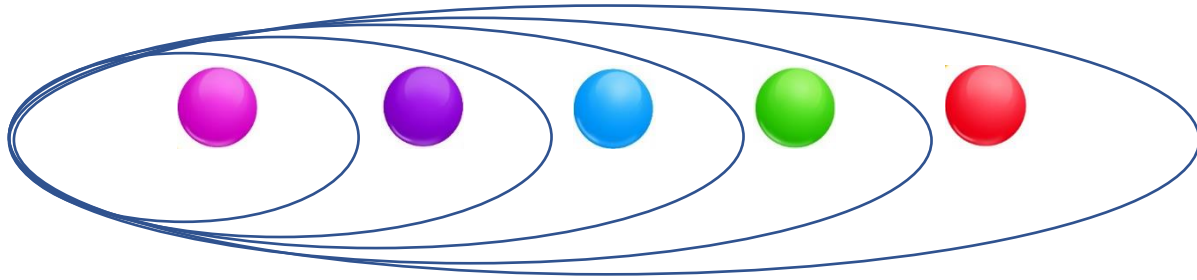


Cardinality: The last count of a group of objects represents the total number of objects in the group.

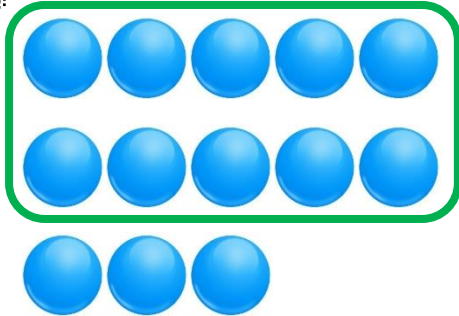


Counting Principles

Hierarchical Inclusion: The idea that smaller numbers are nested in bigger numbers. The notion that each number includes those that came before.



Unitizing: The idea that objects are grouped into certain units. You can count a large group of items by decomposing the group into smaller, equal groups of items and then count those.



<u>Tens</u>	<u>Ones</u>
3	2