










Math is All Around Us! 9 Big Ideas of Math Quick Reference

	What Does This Mean?	What Does This Look & Sound Like?
 Sets	The concept of sets refers to collections or groups of items, object, or ideas, and the ways that children assign meaning to these groupings.	<ul style="list-style-type: none"> • sorting • creating categories • naming attributes
 Number Sense	Number sense speaks to the growing ability to associate the concept of quantity with a number/name.	<ul style="list-style-type: none"> • subitizing (understanding a quantity without counting each item) • understanding quantity as a distinct attribute of a set • assessing and comparing more/less
 Counting	Counting applies children's growing understanding of number sense to individual objects in a group.	<ul style="list-style-type: none"> • rote counting (saying numbers in ascending order without connecting to objects) • counting with one-to-one correspondence
 Operations	Mathematical operations name the method for manipulating quantities -- adding to, taking away, making duplicate sets (multiplying) or dividing.	<ul style="list-style-type: none"> • manipulating groups of items (sets) by adding or taking some away • comparing sets and using language such as <i>more than</i>, <i>less than</i>, and <i>equal to</i>.
 Pattern	Children experimenting with pattern are noticing and naming similarities that connect otherwise unrelated information, objects, or concepts. This is typically based on repeated sequence of identified attributes.	<ul style="list-style-type: none"> • noticing and naming visual patterns • noticing and naming conceptual cycles (seasons, daily meals, days of the week) • naming, repeating, and extending patterns (visual, auditory, physical, etc)
 Measurement	Measurement is the process of quantifying an attribute such as length, height, weight or temperature. Children often experiment with non-standard units of measurement before engaging with formal/standardized measurement units.	<ul style="list-style-type: none"> • ordering objects from smallest to largest, heaviest to lightest, etc. • engaging with non-standard units of measurement (ex., Lining up mini-pumpkins along the height of a child "Look, Rachel is 17 pumpkins tall!") • experimenting with standard measurement tools like scales, rulers and tape measures.
 Data Analysis	In early childhood, data analysis refers to the process of collecting quantifiable information and comparing the information collected.	<ul style="list-style-type: none"> • making lists and taking surveys • comparing quantities of collected information • voting on community decisions, tallying votes, and determining results
 Spatial Relationships	The concept of spatial relationships is the understanding and application of a child's visual understanding of one's self and physical/positional relationship to other objects in the world.	<ul style="list-style-type: none"> • growing understanding of positional language • reproducing a block structure from a model or photo • experimenting with symmetry
 Shape	Children begin to apply concepts of regular shapes to objects, photos, and pictures by refining their understanding of both two-dimensional (ex. circle, triangle, rectangle) and three-dimensional (ex. sphere, cube, cylinder) shapes.	<ul style="list-style-type: none"> • naming shapes • discussing attributes of shapes • using geometric language like <i>side</i>, <i>angle</i> or <i>corner</i>, and <i>face</i> • combining and separating shapes to make new shapes