

Development of Math Concepts

Here's a look at the math concepts that young children may develop, age by age:

Skills	3 years	4 years	5 years
Verbal Counting	Count out loud from 1 to 10	Count out loud from 1 to about 30, seeing that "21, 22 ..." parallels "1, 2 ..."	Count out loud from 1 to 100, recognizing that "60, 70 ..." parallels "6, 7..."
Object Counting	Accurately count up to 4 items	Count 1 to 10 items, recognizing that the last counting word tells "how many" (for instance, the dropped "blueberries")	Count up to 20 items
Recognizing Numbers Quickly	1 to 3	1 to 5	1 to 6; domino patterns up to 10
Comparing Numbers	Identify whether collections contain the same number of items	Use counting or matching to compare 2 collections of 1 to 5 items	Use counting to compare two collections of 1 to 10 items or 2 abstract numbers, such as comparing sisters' ages
Adding and Subtracting	Add very small numbers of objects	Solve word problems using items with sums up to 5, often by counting all objects	Solve problems using counting-based strategies, such as counting on, with sums up to 10
Locations and Spatial Sense	Understand and use ideas such as <i>over</i> , <i>under</i> , <i>above</i> , <i>on</i>	Copy shapes or arrangements from memory	Visualize objects in motion, including geometric shapes
Recognizing and Identifying Shapes	Match shapes	Name <i>circle</i> , <i>square</i> , <i>triangle</i> , <i>rectangle</i> , including turned, atypical examples, such as in a Mondrian painting	Name and identify a variety of shapes, such as hexagon or trapezoid
Putting Shapes Together	Use shapes in isolation to make a picture	Complete a shapes puzzle	Combine shapes to create other shapes
Symmetry	Show awareness of symmetry in block buildings	Informally create 2-D shapes and 3-D buildings that have line or rotational symmetry	Identify and create shapes that have line or rotational symmetry
Measurement	Develop language such as <i>bigger</i> , <i>longer</i> , and <i>taller</i>	Discuss and compare attributes informally, including comparing gross differences	Name, discuss, and compare objects according to attributes in solving problems
Recognizing Patterns	Notice simple repeating patterns	Copy or extend simple repeating patterns	Notice and discuss number patterns (for example, adding 1 is counting 1 more)