

**DOMAIN 4: GENERAL KNOWLEDGE****SUB-DOMAIN: MATHEMATICS AND NUMERACY****NUMBER SENSE AND OPERATIONS****GOAL 39: CHILDREN DEMONSTRATE UNDERSTANDING OF NUMBERS, WAYS OF REPRESENTING NUMBERS, RELATIONSHIPS AMONG NUMBERS, AND NUMBER SYSTEMS.**

Age Range	Developmental Growth	Child Indicators	Caregiver Strategies
<p><b>36 to 60 Months</b></p>	<p>Uses number words and concepts to explore and manipulate quantity, size, and relationships.</p>	<ul style="list-style-type: none"> <li>▪ Uses counting concepts including recognizing and naming numerals for 1, 2, and 3, and counting up to ten in home language without assistance (e.g. rote counting, saying one, two, three, four).</li> <li>▪ Uses number to represent quantity (e.g. gets three apples out of the box).</li> <li>▪ Matches objects.</li> <li>▪ Sorts and groups objects, then uses number concepts to explain the effort (e.g. "These two tiny cats are the same and I put them in this little basket." "There are lots of red bears; I put them in the big purse." "The little dolls are in the cradle but the big dolls have to sit here. They are too big for the cradle.").</li> <li>▪ Counts objects without assigning number to object.</li> <li>▪ Counts quantities up to ten, recognizing that the last number counted represents the "total objects" and that counting is cumulative.</li> <li>▪ Counts objects matching number and object in daily activities (e.g. one shoe and one foot, one for you and one for me, three boys need a biscuit so we need three in the basket).</li> <li>▪ When counting, assigns number to each item, leaving none out, and counts the item only once.</li> <li>▪ Applies counting to varied situations (e.g. counting objects, counting groups, counting people).</li> <li>▪ Uses quantity comparison concepts (more, less, some, many, all, a few, none, huge, tiny, small, smaller, large, larger).</li> </ul>	<ul style="list-style-type: none"> <li>▪ During daily routines, talk aloud about number, using number words and concepts to engage child in meaningful counting and activities that incorporate simple math computations (e.g. number of snacks needed for the number of children, number of containers at the sand table, number of teachers in the room, or how many more paint brushes we need for everyone at the art table).</li> <li>▪ Have child divide objects equally among a group of people (e.g. each child gets three crackers or two different colors for crayons).</li> <li>▪ Pose math questions relevant to daily life (e.g. "How many days until your birthday? How many days until the field trip?").</li> <li>▪ Estimate how many objects you have or will see and then count out loud (e.g. "How many children are here? Who is not?").</li> <li>▪ Offer small group activities where child uses pricing, money exchange, and recording of inventory and sales.</li> <li>▪ Play culturally-appropriate card and board games using counting and number concepts with children.</li> <li>▪ Make available daily puzzles and manipulative materials such as lotto games that link numerals to pictures to represent quantity.</li> <li>▪ Post numerals and icons (simple pictures) at child level to indicate group size limits for each learning center.</li> <li>▪ Describe and explain how printed numbers have different meanings (speed limits, temperature, clock, prices).</li> </ul>

		<ul style="list-style-type: none"> <li>▪ May rote count backwards from ten.</li> <li>▪ Differentiates numerals from letters.</li> <li>▪ Recognizes and names numerals (pointing to written numerals as they are named by adult).</li> <li>▪ Writes and identifies some numerals named by adult.</li> <li>▪ Uses meanings of numbers to create strategies for solving problems and responding to practical situations, with assistance (e.g. "Jimmy took two crackers and I didn't get any.").</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use pictures to represent real life situations involving mathematical concepts (such as simple addition used in cooking recipes).</li> <li>▪ Provide a variety of objects for the child to collect, handle, and sort into groups (buttons, stones, pine cones).</li> <li>▪ Provide cooking activities with recipes that link numerals to pictures to represent quantity.</li> <li>▪ Count down as you start an activity (e.g. running a race, jumping and counting game).</li> <li>▪ Repeat finger-plays, songs, and rhymes that use numbers.</li> <li>▪ Tell and retell stories and read books about number concepts, counting, and with numerals.</li> <li>▪ Point out numerals that represent page numbers, as you read.</li> </ul>
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