

G. Number and Sense Operations: Children demonstrate knowledge of numbers and counting

Birth to 18 months	18 to 36 months	36 to 60 months
Some Indicators for Children:	Some Indicators for Children:	Some Indicators for Children:
<ol style="list-style-type: none"> 1. Understands the concept of “more” in reference to food or play 2. Uses gestures to request “more” 3. Imitates rote counting using some names of numbers 	<ol style="list-style-type: none"> 1. Counts to at least five from memory (e.g., recites, “one, two, three...”) 2. Imitates counting rhymes or songs (e.g., “Three Little Monkeys”) 3. Recognizes some quantities (e.g., sees 2 blocks and says “two”) 4. Begins to quantify and make comparisons of quantity (e.g., all, some, none, more, less) 	<ol style="list-style-type: none"> 1. Names some numerals 2. Recognizes that a single object is “one” regardless of size, shape, or other attributes 3. Understands that numbers represent quantity (e.g., gets three apples out of the box) 4. Applies numbers and counting concepts to daily life (e.g., counts number of children who have raised their hand) 5. Differentiates some letters from numerals 6. Recognizes, names, and writes some numerals 7. Counts to at least 20 from memory 8. Counts at least five objects in one-to-one correspondence, without assistance (e.g., places one plate at each chair when setting table) 9. Increasing understanding of duration of time (e.g., “all the time,” “all day”) 10. Begins to recognize and identify coins to count money (e.g., penny, nickel, dime, quarter) 11. Uses numbers to predict and make realistic guesses (e.g., “I think there are about 20 marbles in that jar.”) 12. Tells what number comes before or after a given number up to ten



Sample Strategies to Promote Development and Learning:

- Count “out loud” objects in child’s environment.
- Demonstrate, explain, and engage child in activities that show “more” versus “less.”
- Sing songs and read books with numbers and counting.

Sample Strategies to Promote Development and Learning:

- Use numerical concepts in everyday routines (e.g., ask child if he/she would like “One more or two more pieces of something.”).
- Pair objects during daily activities (e.g., “One child gets one snack.”).
- Provide child with math-related toys and objects from own and other cultural backgrounds.

Sample Strategies to Promote Development and Learning:

- Talk aloud while doing simple math computations (e.g., number of snacks for the number of children).
- Provide opportunities for child to count objects during daily routines.
- Demonstrate to child that numbers have meaning (e.g., speed limits, temperature).

H. Measurement: Children demonstrate knowledge of size, volume, height, weight, and length

Birth to 18 months	18 to 36 months	36 to 60 months
Some Indicators for Children:	Some Indicators for Children:	Some Indicators for Children:
<ol style="list-style-type: none"> 1. Plays with toys and objects with different sizes and shapes 2. Nests smaller object inside larger one (e.g., puts block in cup) 3. Orders a few objects by size, with assistance 	<ol style="list-style-type: none"> 1. Uses size words, such as “many,” “big,” and “little,” appropriately 2. Fills and empties containers (e.g., with sand or water) 3. Compares the size of various everyday objects (e.g., puts different people’s shoes side by side to see which is longest) 4. Identifies things that are big or small, heavy or light, and tall or short, with assistance 5. Looks at two objects and identifies which one is bigger or smaller 6. Explores measuring tools (e.g., measuring cup, ruler) 7. Nests up to five cups 	<ol style="list-style-type: none"> 1. Uses activities that explore and develop vocabulary for length and weight 2. Uses measuring tools in play activities (e.g., measuring tape, measuring cups) 3. Estimates size (e.g., “I’m as tall as the yellow bookshelf.”) 4. Labels objects using size words

Sample Strategies to Promote Development and Learning:

- Provide opportunities to develop an understanding of volume (e.g., filling, emptying).
- Describe the size, volume, weight, and length of people, toys, and objects.
- Provide child with toys that have incremental sizes (e.g., nesting cups, stackable rings) from own and other cultural backgrounds.

Sample Strategies to Promote Development and Learning:

- Provide sand and water play, giving child opportunities to pour, fill, scoop, weigh, and dump.
- Provide opportunities for child to measure (e.g., during cooking, art projects, grocery shopping).
- Help child to arrange blocks, toys, or objects from smallest to largest or longest to shortest.

Sample Strategies to Promote Development and Learning:

- Engage child in measuring tasks (e.g., measuring ingredients, weighing a pet).
- Model use of conventional measuring tools and methods in everyday situations.
- Demonstrate, explain, and engage child in activities that use nonstandard measurement (e.g., using handfuls to measure rice; using footsteps to measure distance).

I. Properties of Ordering: Children identify and label shapes

Birth to 18 months	18 to 36 months	36 to 60 months
Some Indicators for Children:	Some Indicators for Children:	Some Indicators for Children:
<ol style="list-style-type: none"> Plays with shape toys, though often does not match correctly (e.g., the round beanbag goes in the round hole; the square beanbag goes in the square hole) 	<ol style="list-style-type: none"> Matches simple two-dimensional shapes in form boards and puzzles (e.g., circles, squares, triangles) Identifies two geometric shapes (e.g., circle, square) Creates and copies simple shapes made by others 	<ol style="list-style-type: none"> Identifies and labels different kinds of two-dimensional shapes (e.g., circle, rectangle, triangle) Compares shape and size of objects Creates, builds, or draws shapes Recognizes non-geometrical shapes in nature (e.g., clouds or other things that are not circles, squares, triangles) Orders shapes from smallest to largest (e.g., orders various circle sizes)

Sample Strategies to Promote Development and Learning:

- Provide child with toys that involve shapes (e.g., blocks and play dough).
- Sing songs and read books with child about shapes.
- Identify different shapes in child's environment.

Sample Strategies to Promote Development and Learning:

- Use shape words in daily life (e.g., "Let's cut the cornbread into squares.>").
- Identify the features of shapes when child plays with them.
- Provide opportunities for child to look for shapes during daily activities (e.g., "Where do you see circles?").

Sample Strategies to Promote Development and Learning:

- Provide opportunities for child to recognize shapes in the environment (e.g., octagonal stop sign).
- Provide materials that can be connected and combined to create new shapes.
- Take child to observe murals or other community artwork, exploring together the variety of shapes used.



J. Properties of ordering: Children sort, classify, and organize objects

Birth to 18 months	18 to 36 months	36 to 60 months
Some Indicators for Children:	Some Indicators for Children:	Some Indicators for Children:
<ol style="list-style-type: none"> 1. Groups a few objects by color, shape, or size, with assistance 2. Helps clean up environment by putting materials away (e.g., puts books in basket, blanket in cubby) 	<ol style="list-style-type: none"> 1. Collects items that have common characteristics (e.g., red blocks, shells, leaves) 2. Arranges objects in lines (e.g., makes a row of blocks) 3. Sorts objects by one characteristic (e.g., color) 4. Recognizes objects arranged in series (e.g., small, medium, large) 5. Identifies categories of objects (e.g., dogs, cats, and cows are all animals), with assistance 	<ol style="list-style-type: none"> 1. Orders several objects on the basis of one or more characteristics through trial and error (e.g., puts 4 blocks of same color in a row from smallest to largest) 2. Creates own patterns with a variety of materials 3. Classifies everyday objects that go together (e.g., shoe/sock, pencil/paper, comb/brush) 4. Places objects in specific position (e.g., first, second, third)

Sample Strategies to Promote Development and Learning:

- Sing songs and read books that name colors or identify shapes and objects with similarities.
- Demonstrate, explain, and provide opportunities for child to sort and classify (e.g., “Pick up all of the toys that are animals.”).
- Provide child with objects in a variety of shapes, colors, and sizes (e.g., plastic containers, jar lids).

Sample Strategies to Promote Development and Learning:

- Provide different materials and objects of the same shape and color (e.g., blocks, crayons).
- Provide opportunities for child to notice patterns in nature (e.g., types of leaves).
- Play matching games with child, incorporating familiar patterns from child’s cultural background, neighborhood, and community (e.g., artwork, murals, clothing, utensils).

Sample Strategies to Promote Development and Learning:

- Demonstrate and explain examples of patterns for child to create and recreate.
- Provide opportunities for child to look for patterns in the house, classroom, or nature.
- Play classification games with child (e.g., gather a group of items that include pairs of objects that go together – shoe/sock, flower/ vase – find the items that go together).