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Counting and Cardinality			
0–36 months	3–4 years	4–5 years	Kindergarten
Knows number names and the count sequence			
<ul style="list-style-type: none"> Imitates rote counting using some number names Counts verbally to 5; may be incorrect beyond 5 Counts verbally to 10 	<ul style="list-style-type: none"> Counts verbally to 10 or beyond 	<ul style="list-style-type: none"> Counts verbally to 20 or beyond 	<ul style="list-style-type: none"> Counts verbally to 100 by ones and by tens
		<ul style="list-style-type: none"> Gives the next number in the counting sequence for numbers 1–9, but likely starts over again at 1 to do so (When asked, “What comes after 6?” may say, “1, 2, 3, 4, 5, 6, 7...it’s seven.”) 	<ul style="list-style-type: none"> Counts forward beginning from a given number within the known sequence (instead of having to begin at 1)
		<ul style="list-style-type: none"> Begins to count backward from 10 with help 	<ul style="list-style-type: none"> Counts backward from 10 to 0
	<ul style="list-style-type: none"> Identifies numerals to 5 	<ul style="list-style-type: none"> Identifies numerals from 1 to 10, and writes some of them 	<ul style="list-style-type: none"> Identifies and writes numerals from 0 to 20
	<ul style="list-style-type: none"> Matches sets and numerals to 5 	<ul style="list-style-type: none"> Matches sets and numerals to 10 	<ul style="list-style-type: none"> Represents a number of objects with a written numeral 0–20
<ul style="list-style-type: none"> Identifies the <i>first</i>, and often the <i>second</i> object in a sequence 	<ul style="list-style-type: none"> Understands a few ordinal numbers (<i>first, second, third</i>) 	<ul style="list-style-type: none"> Identifies and uses numbers related to order or position from <i>first</i> to <i>third</i> or higher 	<ul style="list-style-type: none"> Uses ordinal numbers from <i>first</i> to <i>tenth</i>
Subitizes (recognizes small quantities without counting the objects 1 by 1)			
<ul style="list-style-type: none"> Demonstrates understanding of the concepts of <i>one, two, and more</i> 	<ul style="list-style-type: none"> Instantly recognizes and names the number of items in a set of 3 or 4 	<ul style="list-style-type: none"> Instantly recognizes and names the number of items in sets to 5 	<ul style="list-style-type: none"> Instantly recognizes and names the number of items in sets to 6
<ul style="list-style-type: none"> Makes a group of 1–3 to match another collection with the same number of objects (nonverbally) 	<ul style="list-style-type: none"> Makes a small collection that matches the number of objects in another collection 	<ul style="list-style-type: none"> Makes a collection that matches the number of objects in another collection to 10 	<ul style="list-style-type: none"> Determines the number of objects in groups to 10 by recognizing and combining smaller groups
Counts to tell the number of objects			
<ul style="list-style-type: none"> May count 3–5 objects in a line with 1-to-1 correspondence 	<ul style="list-style-type: none"> Counts structured arrangements of objects to 5 with 1-to-1 correspondence 	<ul style="list-style-type: none"> Counts structured arrangements of objects to 10 with 1-to-1 correspondence 	<ul style="list-style-type: none"> Accurately counts 20 or more objects with 1-to-1 correspondence
	<ul style="list-style-type: none"> Begins to understand that the last number they say tells how many objects there are in a small set of objects (cardinality) 	<ul style="list-style-type: none"> Has cardinality to 10 (understands that the last number they say tells how many objects there are in the set) 	<ul style="list-style-type: none"> Has cardinality to 20 or more (understands that the last number they say tells how many objects there are in the set)
		<ul style="list-style-type: none"> Understands that each successive number name refers to a quantity that is one larger 	<ul style="list-style-type: none"> Understands that each successive number name refers to a quantity that is one larger
	<ul style="list-style-type: none"> Counts out sets of objects to 5 	<ul style="list-style-type: none"> Counts out a set of 10 objects 	<ul style="list-style-type: none"> Counts out a set of 20 objects
Compares sets and numbers			
<ul style="list-style-type: none"> Understands the idea of “more” in contexts such as food or toys Knows more/less when comparing very small sets of similar objects or when there is a big difference between the quantity in each set Compares sets of 1–4 of the same objects 	<ul style="list-style-type: none"> Uses gestures or words to make comparisons When objects in each set are about the same size, compares sets of 1–6 by matching When shown two sets of objects that are equal in number but differ in size, may count correctly but say the collection of larger objects has more 	<ul style="list-style-type: none"> Compares sets of 1–10 by matching or counting using words such as more, less, same even when the objects in one set are smaller than the objects in the other set 	<ul style="list-style-type: none"> Identifies whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group for groups of up to 10 objects
			<ul style="list-style-type: none"> Compares two written numbers between 1 and 10

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Operations and Algebraic Thinking			
0–36 months	3–4 years	4–5 years	Kindergarten
Understands addition as putting together and adding to, and understands subtraction as taking apart and taking from			
<ul style="list-style-type: none"> • Uses gestures to ask for more • Understands the idea of getting more or having less 	<ul style="list-style-type: none"> • May intuitively understand that the whole is bigger than the parts, but may not identify the total correctly 	<ul style="list-style-type: none"> • Knows that a whole is bigger than its parts 	<ul style="list-style-type: none"> • Represents addition and subtraction within 10 with objects, fingers, mental images, drawings, acting out situations, expressions, or equations
<ul style="list-style-type: none"> • Adds and subtracts collections of up to 3 objects nonverbally 	<ul style="list-style-type: none"> • Adds within 5 by counting with objects 	<ul style="list-style-type: none"> • Adds and subtracts small quantities by using concrete objects and counting all 	<ul style="list-style-type: none"> • Solves addition and subtraction word problems, and adds and subtracts within 10
		<ul style="list-style-type: none"> • Decomposes quantities to 5 or more into pairs in more than one way, e.g., shows 4 as 2 red and 2 blue cubes or 1 red and 3 blue cubes 	<ul style="list-style-type: none"> • Decomposes quantities to 10 into pairs in more than one way, e.g., $7 = 3 + 4$ and $7 = 6 + 1$
		<ul style="list-style-type: none"> • Names the parts of a whole, or the whole when given the parts, for quantities to 4 or 5 	<ul style="list-style-type: none"> • For any number 1 to 9, shows or tells how many more are needed to make 10 in all
			<ul style="list-style-type: none"> • Fluently adds and subtracts within 5
Demonstrates understanding of patterns			
<ul style="list-style-type: none"> • Notices and may comment on simple patterns in songs, poems, pictures, and in the environment 	<ul style="list-style-type: none"> • Fills in missing elements of ABAB patterns • Copies an ABAB pattern 	<ul style="list-style-type: none"> • Fills in missing elements of simple patterns • Copies, extends, and creates simple repeating patterns with two elements (ABAB, ABBABB, AABAAB, AABBAABB, and so on) 	<ul style="list-style-type: none"> • Copies, extends, describes, and creates simple patterns with two or three elements (ABAB, ABBABB, ABCABC, and so on) • Copies and extends simple growing patterns (e.g., 1 block, 2 blocks, 3 blocks, 4 blocks)

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Measurement and Data			
0–36 months	3–4 years	4–5 years	Kindergarten
Describes and compares measurable attributes			
			<ul style="list-style-type: none"> Describes measurable attributes of objects; describes several measurable attributes of a single object
<ul style="list-style-type: none"> Attends to overall appearance of size, labeling objects as <i>big</i> or <i>little</i> 	<ul style="list-style-type: none"> Compares size by sight, feel, and comparing to hands, feet, etc. Compares objects according to size, length, weight, area, capacity 	<ul style="list-style-type: none"> Places two objects side by side to determine whether one is longer Compares and orders two or more objects according to size, length, weight, area, capacity 	<ul style="list-style-type: none"> Directly compares two objects with a measurable attribute in common, to see which objects has “more of”/“less of” the attribute, and describes the difference
Classifies objects and counts the number of objects in each category			
<ul style="list-style-type: none"> Intuitively recognizes the similarity between two objects Groups objects that are alike in some way, but switches criteria Names attributes and groups objects that share a particular attribute (“These are both green.”) 	<ul style="list-style-type: none"> Sorts objects by a given attribute—color, size, shape—but may switch attributes while sorting, e.g., finds and groups the blue shapes, but changes midway to finding and grouping the circles 	<ul style="list-style-type: none"> Sorts objects by one attribute, e.g., color, size, shape, without switching to a different attribute partway through the process Once a sort has been completed, may be able to sort the same collection of objects by a second attribute, e.g., sorts a small set of buttons first by color and then by size 	<ul style="list-style-type: none"> Classifies objects into given categories
			<ul style="list-style-type: none"> Counts the numbers of objects in each category and sorts the categories by count
			<ul style="list-style-type: none"> Sorts the same set of objects in more than one way, e.g., by color, by shape, by size, etc.
Money			
		<ul style="list-style-type: none"> Sorts coins by physical attributes such as color or size 	<ul style="list-style-type: none"> Identifies coins by name and value: penny, nickel, dime, and quarter
Time			
	<ul style="list-style-type: none"> Knows usual sequence of basic daily events 	<ul style="list-style-type: none"> Describes the order of common events Begins to understand common words for parts of the day (<i>morning, afternoon, night</i>) and parts of the week (<i>yesterday, today, tomorrow</i>) 	<ul style="list-style-type: none"> Knows the names of the days of the week With help, reads time to the hour on an analog clock

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Geometry			
0–36 months	3–4 years	4–5 years	Kindergarten
Identifies and describes shapes			
<ul style="list-style-type: none"> Matches familiar shapes (circle, star, square, equilateral triangle) with shapes of the same size and orientation Recognizes and names circles and squares, maybe triangles Matches shapes by rotating to prototype 	<ul style="list-style-type: none"> Recognizes more shapes in the environment, including squares that are “tipped,” some non-equilateral triangles, and some rectangles Correctly recognizes some shapes that differ in orientation and size 	<ul style="list-style-type: none"> Identifies circles, triangles, rectangles, and squares in the environment and in isolation Names basic shapes (circles, triangles, rectangles, and squares) regardless of size or orientation Recognizes at least some 3-D shapes (cubes, cones, spheres) 	<ul style="list-style-type: none"> Describes 2-D objects in the environment and in isolation using names of shapes (squares, circles, triangles, rectangles, and hexagons) Correctly names shapes regardless of their orientation or overall size Describes 3-D objects in the environment using names of shapes (cubes, cones, cylinders, and spheres) Identifies shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”)
Analyzes, compares, creates, and composes shapes			
<ul style="list-style-type: none"> If two shapes have more similarities than differences (e.g., a circle and an oval), may say they’re the same shape 	<ul style="list-style-type: none"> When comparing two shapes, often attends to just one feature, so may conclude that a quadrilateral shaped like an arrowhead is the same as a triangle because they both have pointy tops 	<ul style="list-style-type: none"> When comparing two shapes, looks at each as a whole but doesn’t necessarily take everything into account, e.g., may say that two triangles of the same height are the same even though one is equilateral, with 3 sides of equal length, while the other is isosceles, with only 2 sides of equal length Recognizes sides and vertices (“corners”) as distinct objects in their own right 	<ul style="list-style-type: none"> Analyzes and compares two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length)
<ul style="list-style-type: none"> Puts things together, such as simple matching puzzles, nesting cups, blocks 	<ul style="list-style-type: none"> Builds and describes structures with 3-D shapes, e.g., blocks 	<ul style="list-style-type: none"> Builds and describes structures with 3-D shapes, e.g., blocks 	<ul style="list-style-type: none"> Models shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes
<ul style="list-style-type: none"> Works with individual shapes but does not combine them to make pictures or larger shapes 	<ul style="list-style-type: none"> Begins to make pictures in which each shape represents one part, e.g., circle for the head, square for the body, a triangle for each leg Completes simple shape puzzles by trial and error 	<ul style="list-style-type: none"> Puts 2 or more shapes together to make one part of a picture, e.g., a hexagon and 2 triangles for the head, 3 squares for the body, 2 rhombuses and a triangle for each leg Composes simple shapes to form pictures, designs, or larger shapes Begins to turn and flip shapes to fill puzzles 	<ul style="list-style-type: none"> Composes simple shapes to make larger shapes
Describes the relative positions of objects in the environment			
<ul style="list-style-type: none"> Follows simple directions related to position (<i>in, on, up, down</i>) 	<ul style="list-style-type: none"> Follows simple directions related to proximity (<i>behind, under, beside, next to, between</i>) 	<ul style="list-style-type: none"> Identifies positions of objects by using words such as <i>beside, inside, next to, above, below, under</i> Uses and responds to positional words 	<ul style="list-style-type: none"> Describes the relative positions of objects in the environment using terms such as <i>above, below, beside, in front of, behind, and next to</i>

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