

### Number Progression of Skills

	Number Concepts				
	Counting	Comparison & Ordering	Recognising Number & Subitising	Change	Composition
<b>Description</b>	<ul style="list-style-type: none"> <li>Stable order principle</li> <li>1:1 correspondence</li> <li>Cardinal principle</li> <li>Order irrelevance principle</li> <li>Abstract principle</li> </ul>	Comparing the numerosity of sets i.e.bigger, smaller, same/equal, more, less, fewer etc.	Perceptual subitising	<ul style="list-style-type: none"> <li>Addition</li> <li>Subtraction</li> <li>Multiplying</li> <li>Dividing</li> </ul>	<ul style="list-style-type: none"> <li>Partitioning numbers</li> <li>Knowing how numbers are made of other numbers</li> </ul>
<b>Typical Age (years)</b>					
<b>2</b>	<b>1- 2 Names</b> some number words in <b>no apparent order</b> or meaning.	<b>2</b> Puts objects into 1:1 correspondence but <b>not necessarily understanding</b> that there are the same number of items e.g. 3 eggs in 3 eggs cups, not stating that there are 3 of each.	<b>2</b> Can <b>name groups</b> of 1 to 2, sometimes 3, e.g. when shown a pair of shoes the child says "two shoes".		
	<b>1 - 2</b> Sings numbers often in some order through song and <b>without meaning</b> of quantity or counting.	<b>2</b> Can compare two set of objects which are <b>considerably different</b> in quantity and know that one set has more than the other.			
	<b>2</b> Verbally <b>recites</b> number names with the intention of counting but <b>does not</b> necessarily recite the correct order.	<b>2-3 Identifies</b> the <b>concept</b> of first and second. E.g. when racing toy cars, identifies who is the winner (came first).		<b>2</b> Gives out objects to other children although <b>not equally</b> e.g. has a box of cars, gives 1 to a friend and keeps the rest.	
<b>3</b>	<b>3</b> Verbally counts to ten with	<b>3</b> Can <b>compare</b> sets of 1-4		<b>3</b> Can add or subtract very	

	<p><b>some</b> correspondence with objects. May point to objects to count a few items but often loses track</p>	<p>items by subitising (recognising by sight)but the items in each set are the same or similar in size and type e.g. compare 3 bears and 2 bears.</p>		<p>small collections <b>non-verbally</b> e.g. when shown 2 objects then another under a napkin, the child identifies or makes a set of 3 to 'match'.</p>	
	<p><b>3 Keeps</b> 1:1 correspondence between counting words and objects at least for small groups of objects <b>laid in a line</b>. When asked how many, the child often recounts the objects starting with one each time.</p>	<p><b>3</b> Can match small, <b>same</b> size sets of dissimilar items such as comparing 4 bears and 4 chairs and show that they are the same amount.</p>	<p><b>3</b> Can <b>non-verbally</b> make a small collection (no more than 5), with the same number as another collection, e.g. when shown a collection of 3 they make another collection of 3.</p>	<p><b>3</b> Can share up to 4 objects between 2 people by dealing out <b>1 for 1</b> e.g. to share 4 blocks, the child gives each child a block, checks each has 1 then repeats.</p>	
<b>4</b>	<p><b>4 Begins</b> to count meaningfully. Accurately counts a given set of objects to 5 and answers the how many question with the last number counted <b>without</b> having to recount the objects.</p>	<p><b>4</b> Compares same and different sized sets of 1-6 objects by <b>matching</b> and can tell if the result is the same. If there are no unmatched items or more if there are extra items. For example, a child gives one bone to every toy dog and determines if there are the same number of dogs and bones or if there are extra dogs and bones.</p>	<p><b>4 Instantly</b> recognises collections up to 4 when <b>briefly</b> shown and verbally names the number of items, e.g. when shown 4 objects briefly says "4".</p>	<p><b>4</b> Can solve simple number problems by <b>adding</b> two numbers together (with a total of no more than 5) e.g. "you've got two balls and I give you one more. How many do you have now?" The child then counts "1, 2, 3, 3!"</p>	<p><b>4 Non-verbally</b> recognises parts and wholes e.g. at snack time knows that all of the fruit is made up of some apples and some pears.</p>
	<p><b>4</b> When asked to show a specific number of objects, a child can <b>accurately</b> produce or make a set of objects up to 5 (counting out from a larger set).</p>	<p><b>4</b> Begins to compare sets by <b>counting</b>. Can make <b>accurate</b> comparisons but only when the objects are similar in size and the sets are small in quantity (about 1-5 objects).</p>		<p><b>4</b> Can share <b>up to 6</b> objects between 2 or more people.</p>	
<b>5</b>	<p><b>4 - 5</b> Counts <b>structured</b></p>		<p><b>5 Instantly</b> recognises</p>		

	<p>arrangements of objects to 10. <b>May</b> be able to draw representations of objects up to 10. Can also find the number <b>just after</b> or <b>just before</b> a given number but only by starting from 1 every time.</p>		<p>collections up to 5 when briefly shown and <b>verbally</b> names the number of items, e.g. when shown 5 objects briefly says "5".</p>		
	<p><b>5 - 6 Accurately</b> counts and <b>produces</b> sets to 10 and beyond to 20, keeping track of objects that have and have not been counted. <b>Draws</b> representations to 10, then to 20 and 30, and can find the next number to 20 and 30. Recognises errors in others counting and can eliminate most errors in own counting.</p>	<p><b>5</b> Compares sets of up to 10 items <b>by counting</b>. The objects <b>do not</b> need to be similar in size.</p> <p>Next the child will be able to compare larger sets of items, even when the collections of objects are smaller.</p>	<p><b>5</b> Verbally labels <b>all</b> arrangements to 5 shown only briefly, e.g. "I saw 2 and 2 so I saw 4".</p>	<p><b>5</b> Addition: Can solve <b>simple</b> word problems using a <b>part-part-whole</b> method. When the total is 5 or less, the child applies subitising skills to work out the total without using physical counting aids. For totals over 5, the child can use counting aids.</p> <p>Subtraction: Can solve simple word problem using <b>physical counting aids</b> to remove quantities and find the total.</p>	<p><b>5 Knows</b> that the whole is <b>bigger</b> than parts but <b>does not</b> accurately quantify e.g. when shown 4 apples and 2 pears names a large number such as 5 or 10.</p>
	<p><b>5 - 6</b> Able to count <b>backwards</b> from 10</p>	<p><b>5 Identifies</b> and <b>uses</b> ordinal numbers from first to tenth e.g. can identify who is third in line.</p>	<p><b>5</b> Verbally labels <b>all</b> arrangements to 6 and then up to 10, shown only briefly, using groups e.g. "In my mind I made two groups of 3 and one more, so 7".</p>	<p><b>5</b> Addition: Can <b>practically</b> solve problems to find change in numbers e.g. "you have 5 apples but we need 7, how many more do you need?" The child count the 5 (starting from 1) then adds more, counting "6, 7" then counts the balls to find the answer, "2".</p> <p>Subtraction: Compares by <b>matching</b> in simple situations e.g. when asked "here are 6 dogs and four balls. If we give a ball to each dog, how many dogs won't get a ball?" A child at this level counts out 6 dogs, matches 4 balls to 4 of them</p>	<p><b>5 Begins</b> to know number combinations to 4 then 5 for example when shown 4 objects and then 1 is hidden and then shown the 3 remaining <b>quickly</b> knows that there is 1 hidden.</p>

				then counts the 2 dogs which have no ball.	
		<p><b>5 Beginning</b> to compare by <b>ordering</b> lengths marked into units (1-6 then beyond). For example, given towers of cubes the child can put them in order 1-6. Later the child begins to order collections. For example, given cards with 1 to 6 dots on them, puts them in order to 6.</p>		<p><b>5</b> Can add on objects to make one number into another number <b>without</b> counting from 1 e.g. “the puppet has 4 balls but should have 6. Make it 6.” Puts 4 fingers up and immediately counts from 4 while putting up 2 fingers on the other hand saying “5, 6”.</p>	
		<p><b>5</b> Uses <b>internal images</b> and knowledge of number relationships to determine relative size and position e.g. determine whether 4 or 9 is closer to 6.</p>		<p><b>5</b> Can solve problems by <b>grouping</b> e.g. a child shares 20 objects by dealing out 2 at a time between 5 children. Then gives 1 to each person until all of the items are gone.</p>	
<b>6</b>	<p><b>6 Begins to count on</b> from numbers <b>other than 1</b> either in verbal counts or with objects. Can determine the number just before or after another number quickly without having to start back at 1.</p>	<p><b>6</b> Can compare sets by counting and is <b>not</b> influenced by the size of the objects, e.g. accurately counts 2 sets of 9 even if one set is larger in size.</p>	<p><b>6</b> Can <b>verbally label</b> structured arrangements up to 20, shown only briefly, using groups, e.g “I saw three 5s, so 5, 10, 15”</p>	<p><b>6</b> Can <b>count on</b> and use finger patterns to add groups together, e.g. how much is 4 and 3 more, the child answers “4, 5, 6, 7, it’s 7.” They can also compare problems by counting on, e.g. You have 6 apples, how many more do you need to have 8. The child says “6 (holds up one finger), 7 (holds up a second finger), 8, it’s 8.”</p>	<p><b>6</b> Knows number <b>combinations</b> of totals to 7 and can <b>double</b> numbers to 10.</p>

	<p>6 Can <b>count</b> in 10s to 100.</p>	<p>6 Compares sets by <b>counting</b> (up to 10). For example, Accurately counts two collections of 9 each, and says they have the same number, even if one collection has larger blocks.</p>		<p>6 Can solve <b>all</b> problem types using <b>flexible</b> strategies and some derived facts (for example, “5 + 5 is 10, so 5 + 6 is 11”) They can <b>sometimes</b> solve problems where the start is unknown (<math>\_ + 6 = 11</math>), but <b>only</b> by trial and error. When asked, “You had some conkers. Then you get 6 more. Now you have 11 conkers. How many did you start with?” they lay out 6, then 3 more, counts and gets 9. Puts 1 more with the 3, says 10, then puts 1 more. Counts up from 6 to 11, then recounts the group added, and says, “5!”</p>	<p>6 Knows number <b>combinations</b> of totals of 10. Can <b>quickly</b> name parts of any whole, or the whole when given the parts and can <b>double</b> numbers to 20.</p>
	<p>6 Can count in 1s <b>through</b> 100 including knowing the decade transitions from 39 to 40, 49 to 50 etc starting at any number.</p>	<p>6 Uses <b>mental</b> rather than physical images and knowledge of number relationships to determine relative size and position. E.g, answers which number is closer to 6, 4, or 9 without counting physical objects.</p>		<p>6 Can <b>recognise</b> that a number is part of a whole and can solve problems when the <b>start</b> is unknown (<math>\_ + 4 = 9</math>) with counting strategies. For example, when asked, “You have some balls, then you get 4 more balls, now you have 9. How many did you have to start with?” the child counts, putting up fingers, “5, 6, 7, 8, 9.” Looks at fingers, and says, “5!”</p>	
	<p>6 Keeps track of counting acts by using <b>numerical patterns</b> or movements such as tapping as they count.</p>	<p>6 Orders lengths marked into <b>units</b>. For example, given towers of cubes the child can put them in order (more than 6 cubes).</p>			
	<p>6 Can count in <b>5s and 2s</b> with understanding.</p>				

	<p>6 Can count <b>mental</b> images of hidden objects.</p>				
	<p>6 Can <b>keep track</b> of counting acts numerically by the ability to count on (1-4 counts) from a given number.</p>				
	<p>6 Can count <b>unusual</b> units such as wholes (when shown combinations of wholes and parts for example, when shown 3 whole plastic eggs and 4 halves, a child at this level will say there are 5 whole eggs).</p>				
	<p>6 Counts <b>accurately</b> to 200 and beyond, recognising the patterns of 1s, 10s and 100s.</p>				
	<p>6 Demonstrates the ability to <b>conserve</b> number, he or she understands that a number is unchanged even if a group of objects is <b>rearranged</b> e.g. if there is a row of 10 buttons, the child understands there are still 10 even if rearranged in a long row or a circle.</p>				