

## 5. Mathematics

The tables below set out what you should be observing a child doing at each stage, if they are developing typically for their age.

### Numbers

Age	Typical behaviour
Birth to 11 months	<ul style="list-style-type: none"><li>• Notices changes in number of objects/images or sounds in group of up to 3.</li></ul>
8 to 20 months	<ul style="list-style-type: none"><li>• Develops an awareness of number names through their enjoyment of action rhymes and songs that relate to their experience of numbers.</li><li>• Has some understanding that things exist, even when out of sight.</li></ul>
16 to 26 months	<ul style="list-style-type: none"><li>• Knows that things exist, even when out of sight.</li><li>• Beginning to organise and categorise objects, e.g. putting all the teddy bears together or teddies and cars in separate piles.</li><li>• Says some counting words randomly.</li></ul>
22 to 36 months	<ul style="list-style-type: none"><li>• Selects a small number of objects from a group when asked, for example, <i>'please give me one'</i>, <i>'please give me two'</i>.</li><li>• Recites some number names in sequence.</li><li>• Creates and experiments with symbols and marks representing ideas of number.</li><li>• Begins to make comparisons between quantities.</li><li>• Uses some language of quantities, such as <i>'more'</i> and <i>'a lot'</i>.</li><li>• Knows that a group of things changes in quantity when something is added or taken away.</li></ul>
30 to 50 months	<ul style="list-style-type: none"><li>• Uses some number names and number language spontaneously.</li><li>• Uses some number names accurately in play.</li><li>• Recites numbers in order to 10.</li></ul>

	<ul style="list-style-type: none"> <li>• Knows that numbers identify how many objects are in a set.</li> <li>• Beginning to represent numbers using fingers, marks on paper or pictures.</li> <li>• Sometimes matches numeral and quantity correctly.</li> <li>• Shows curiosity about numbers by offering comments or asking questions.</li> <li>• Compares two groups of objects, saying when they have the same number.</li> <li>• Shows an interest in number problems.</li> <li>• Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same.</li> <li>• Shows an interest in numerals in the environment.</li> <li>• Shows an interest in representing numbers.</li> <li>• Realises not only objects, but anything can be counted, including steps, claps or jumps.</li> </ul>
<b>40 to 60+ months</b>	<ul style="list-style-type: none"> <li>• Recognise some numerals of personal significance.</li> <li>• Recognises numerals 1 to 5.</li> <li>• Counts up to three or four objects by saying one number name for each item.</li> <li>• Counts actions or objects which cannot be moved.</li> <li>• Counts objects to 10, and beginning to count beyond 10.</li> <li>• Counts out up to six objects from a larger group.</li> <li>• Selects the correct numeral to represent 1 to 5, then 1 to 10 objects.</li> <li>• Counts an irregular arrangement of up to ten objects.</li> <li>• Estimates how many objects they can see and checks by counting them.</li> <li>• Uses the language of 'more' and 'fewer' to compare two sets of objects.</li> <li>• Finds the total number of items in two groups by counting all of them.</li> <li>• Says the number that is one more than a given number.</li> <li>• Finds one more or one less from a group of up to five objects, then ten objects.</li> <li>• In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting.</li> <li>• Records, using marks that they can interpret and explain.</li> <li>• Begins to identify own mathematical problems based on own interests and fascinations.</li> </ul>

## Early learning goal – numbers

Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

## Shape, space and measures

Age	Typical behaviour
Birth to 11 months	<ul style="list-style-type: none"><li>• Babies' early awareness of shape, space and measure grows from their sensory awareness and opportunities to observe objects and their movements, and to play and explore.</li></ul>
8 to 20 months	<ul style="list-style-type: none"><li>• Recognises big things and small things in meaningful contexts.</li><li>• Gets to know and enjoy daily routines, such as getting-up time, mealtimes, nappy time, and bedtime.</li></ul>
16 to 26 months	<ul style="list-style-type: none"><li>• Attempts, sometimes successfully, to fit shapes into spaces on inset boards or jigsaw puzzles.</li><li>• Uses blocks to create their own simple structures and arrangements.</li><li>• Enjoys filling and emptying containers.</li><li>• Associates a sequence of actions with daily routines.</li><li>• Beginning to understand that things might happen 'now'.</li></ul>
22 to 36 months	<ul style="list-style-type: none"><li>• Notices simple shapes and patterns in pictures.</li><li>• Beginning to categorise objects according to properties such as shape or size.</li><li>• Begins to use the language of size.</li><li>• Understands some talk about immediate past and future, e.g. 'before', 'later' or 'soon'.</li><li>• Anticipates specific time-based events such as mealtimes or home time.</li></ul>

<b>30 to 50 months</b>	<ul style="list-style-type: none"> <li>• Shows an interest in shape and space by playing with shapes or making arrangements with objects.</li> <li>• Shows awareness of similarities of shapes in the environment.</li> <li>• Uses positional language.</li> <li>• Shows interest in shape by sustained construction activity or by talking about shapes or arrangements.</li> <li>• Shows interest in shapes in the environment.</li> <li>• Uses shapes appropriately for tasks.</li> <li>• Beginning to talk about the shapes of everyday objects, e.g. 'round' and 'tall'.</li> </ul>
<b>40 to 60+ months</b>	<ul style="list-style-type: none"> <li>• Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2-D shapes, and mathematical terms to describe shapes.</li> <li>• Selects a particular named shape.</li> <li>• Can describe their relative position such as '<i>behind</i>' or '<i>next to</i>'.</li> <li>• Orders two or three items by length or height.</li> <li>• Orders two items by weight or capacity.</li> <li>• Uses familiar objects and common shapes to create and recreate patterns and build models.</li> <li>• Uses everyday language related to time.</li> <li>• Beginning to use everyday language related to money.</li> <li>• Orders and sequences familiar events.</li> <li>• Measures short periods of time in simple ways.</li> </ul>

### Early learning goal – shape, space and measures

Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.