

EARLY VISUAL DEVELOPMENT

NB Age approximate only

Age	Visual development	Skills / behaviour	Interest
Birth	<p>Pupils not able to dilate fully Eyes not coordinated Limited visual fields Retina and optic nerve not fully formed Muscles controlling eye not fully developed Far sighted Two-dimensional vision Poor fixation ability</p>	<p>Can follow objects – jerky eye motion</p>	<p>Preference for black and white designs (especially checkerboards and designs with angles) Limited ability to discriminate colour Attracted to borders of objects</p>
3 months	<p>Eye control and head movements Eye movements mostly coordinated Can focus Three dimensional vision</p>	<p>Recognises object boundaries and object unity through surface type or contours Visual attention begins Visual searching begins Attention switching possible Able to see small targets – about 1 inch</p>	<p>Attraction to black/white, and yellow/red</p>
5-6 months	<p>Eye movement is smoother, though uncoordinated at times Can converge eyes Can fixate at 1m Hand-eye coordination usually achieved (reaching)</p>	<p>Visually examines an object in own hands Explores environment visually Shifts gaze from near to far easily</p>	<p>May be interested in watching falling objects Usually fixates on point of disappearance</p>
6-9 months	<p>Focusing improves to near mature levels</p>	<p>Explores visually (surroundings and object in hand) Can transfer objects from hand to hand</p>	<p>Maybe interested in geometric patterns</p>
9-12 months		<p>Visually spots 2-3 mm object nearby</p>	<p>Watches faces and tries to imitate expressions Searches for hidden objects after observing ‘hiding’ Visually alert to new people, objects surroundings Differentiates between familiar and unfamiliar people Vision motivates and monitors movement towards a desired object</p>
2 years	<p>Insulation of optic nerve completed Focusing is mature</p>	<p>Optical skills are smooth and well coordinated</p>	<p>Child imitates movements Matches same objects by single properties Points to specific pictures in book</p>
2-5 years	<p>Nearly mature basic sensory</p>		<p>Basic understanding of social</p>

	processing Brain mechanisms for analysing complex visual scenes, specific objects and faces will occur later		world – good Emerging ability to predict the intentions and goals of others
3 years	Retinal tissue is mature	Based on visual memory, can complete simple form board, do simple puzzles, draw a crude circle, put 1 inch pegs into holes	
5 or 6 years	Contrast, sensitivity, acuity are mature		
5-7 years	Early sensory areas of brain have completed development Functional development takes longer (involves nerve insulation and density)		

(Source: Farroni and Menon, 2008)