

## Foundation: Perceptual Development

The developing ability to become aware of the social and physical environment through the senses

8 months	18 months	36 months
At around eight months of age, children use the senses to explore objects and people in the environment. (8–9 mos.; Ruff and Kohler 1978)	At around 18 months of age, children use the information received from the senses to change the way they interact with the environment.	At around 36 months of age, children can quickly and easily combine the information received from the senses to inform the way they interact with the environment.
<b>For example, the child may:</b>	<b>For example, the child may:</b>	<b>For example, the child may:</b>
<ul style="list-style-type: none"> <li>Look at an object in her hand, mouth it, and then take it out to look at it again. (8–9 mos.; Ruff and Kohler 1978)</li> <li>Hear the infant care teacher's footsteps in the darkened nap room and turn his head to try to look for her. (8–9 mos.; Ruff and Kohler 1978)</li> <li>Show excitement upon recognizing the color of a favorite food that is offered on a spoon. (8–9 mos.; Roardon and Bushnell 1988)</li> </ul>	<ul style="list-style-type: none"> <li>Adjust the way he is walking depending on the type of surface; for example, walking slowly on rocks and faster on pavement. (12–18 mos.; Fogal 2001, 333)</li> <li>Choose to sit on her bottom and slide down a steep hill rather than walk down it. (12–18 mos.; Adolph, Eppler, and Gibson 1993)</li> <li>Sway back and forth to the beat of a song while standing up.</li> <li>Pull hands away from the sensory table, which is filled with an unfamiliar slimy substance.</li> <li>Spend a lot of time in the sandbox, burying a hand underneath a pile of sand.</li> <li>Stop pouring sand into a bucket that is already full.</li> </ul>	<ul style="list-style-type: none"> <li>Identify a blanket or other familiar objects just by touching them. (30–36 mo.; Parks 2004)</li> <li>Identify a truck when she feels it buried underneath the sand. (30–36 mos.; Parks 2004, 17)</li> <li>Watch the lines that she makes with a marker on the paper. (Froeman 1980)</li> <li>Climb more slowly as he reaches the top of the ladder.</li> <li>Press harder on a clump of clay than on play dough.</li> <li>Watch a family member draw a circle and then try to do it. (24–36 mos.; Stiles 1995)</li> <li>Walk more slowly and carefully when carrying an open cup of milk than when carrying a cup with a lid.</li> </ul>

### Perceptual Development

Behaviors leading up to the foundation (4 to 7 months)	Behaviors leading up to the foundation (9 to 17 months)	Behaviors leading up to the foundation (19 to 35 months)
<p>During this period, the child may:</p> <ul style="list-style-type: none"> <li>Have a range of vision that is several feet. (By 4 mos.; American Academy of Pediatrics 2004, 207)</li> <li>Experience the sensation of being touched, and then search for the object or person. (4–6 mos.; Parks 2004, 11)</li> <li>Listen to the sounds that family members use while talking in the home language, and use those same sounds while babbling. (4–6 mos.; Parks 2004, 11)</li> <li>Startle when hearing a loud noise. (By 4 mos.; American Academy of Pediatrics 2004, 208)</li> <li>Kick feet while lying in the crib, feel the crib shake, and then kick feet again. (By 4 mos.; American Academy of Pediatrics 2004, 208)</li> <li>Recognize an object as something she has seen before, even while looking at it from a different perspective. (By 4 mos.; Fogal 2001, 252)</li> <li>Notice the difference between different songs that the infant care teacher sings. (By 6 mos.; Fogal 2001, 252)</li> <li>Look confused upon hearing sounds that do not fit with the motions observed (for example, hearing a squeaking noise while seeing a rattle move). (By 6 mos.; Fogal 2001, 252)</li> <li>Explore objects with the mouth. (By 7 mos.; American Academy of Pediatrics 2004, 208)</li> <li>See different colors. (By 7 mos.; American Academy of Pediatrics 2004, 208)</li> <li>See things from a distance. (By 7 mos.; American Academy of Pediatrics 2004, 208)</li> <li>Track moving objects with both eyes together. (By 7 mos.; American Academy of Pediatrics 2004, 208)</li> </ul>	<p>During this period, the child may:</p> <ul style="list-style-type: none"> <li>Nuzzle his face into a freshly washed blanket to smell it. (6–12 mos.; Parks 2004)</li> <li>Show recognition of sounds, such as the mother's footsteps, water running in the bathtub, or the refrigerator door being opened. (18 mos.; Meisels and others 2003, 38)</li> <li>Pat, push, mound, and squeeze play dough, experiencing all the ways it can be used. (18 mos.; Meisels and others 2003, 37)</li> <li>Explore pegboard holes with a finger, then look around for something to fit in the holes. (18 mos.; Meisels and others 2003, 37)</li> <li>Enjoy messy activities or show a dislike for messy activities. (12–18 mos.; Parks 2004, 14)</li> <li>React to various sensations, such as extremes in temperature and taste. (12–18 mos.; Parks 2004, 14–15)</li> <li>Crumple and tear paper. (7–9 mos.; Parks, 2004, 26)</li> <li>Stop crawling when he reaches the edge of the couch. (By the time most infants are crawling; Walk and Gibson 1981)</li> <li>Be able to remember where toys are stored in the classroom because she has crawled by them before. (By the time most infants are crawling; Bai and Bertonthal 1992; Campos and Bertonthal, 1989)</li> </ul>	<p>During this period, the child may:</p> <ul style="list-style-type: none"> <li>Enjoy rough-and-tumble play. (18–24 mos.; Parks 2004, 16)</li> <li>Handle fragile items carefully. (24–26 mos.; Parks 2004, 16)</li> <li>Enjoy tactile books, such as books with faux fuzzy animal fur. (24–29 mos.; Parks 2004, 17)</li> <li>Play with sand and water by filling up buckets, digging, and pouring water. (24–36 mos.; Parks 2004, 17)</li> </ul>

## Foundation: Gross Motor

### The developing ability to move the large muscles

8 months	18 months	36 months
At around eight months of age, children demonstrate the ability to maintain their posture in a sitting position and to shift between sitting and other positions.	Around 18 months of age, children move from one place to another by walking and running with basic control and coordination.	At around 36 months of age, children move with ease, coordinating movements and performing a variety of movements.
<b>For example, the child may:</b>	<b>For example, the child may:</b>	<b>For example, the child may:</b>
<ul style="list-style-type: none"> <li>• Sit on the floor, legs bent, with one leg closer to the body than the other. (8 mos.; Alexander, Boehma, and Cupps 1993, 134)</li> <li>• Use forearms to pull forward on the floor while on her tummy. (Scaled score of 9 for 7:16–8:15 mos.; Bayley 2006, 156)</li> <li>• Move from a sitting position onto hands and knees. (Scaled score of 10 for 7:16–8:15 mos.; Bayley 2006, 156)</li> </ul>	<ul style="list-style-type: none"> <li>• Stand on one foot, alone or with support. (Scaled score of 10 for 18:16–19:15 mos.; Bayley 2006, 163)</li> <li>• Walk sideways. (Scaled score of 10 for 18:16–19:15 mos.; Bayley 2006, 163)</li> <li>• Push a doll stroller or play shopping cart. (17–18.5 mos.; Parks 2004)</li> <li>• Climb onto an adult-sized couch. (By 18 mos.; Apfal and Provenoe 2001, 33)</li> <li>• Run. (Scaled score of 10 for 16:16–17:15 mos.; Bayley 2006, 162)</li> </ul>	<ul style="list-style-type: none"> <li>• Walk and run with skill, changing speed and direction. (36 mos.; Parks 2004; by 36 mos.; Davies 2004, 194).</li> <li>• Kick and throw a ball, but with little control of direction or speed. (36 mos.; Meisels and others 2003, 76)</li> <li>• Bend over to pick up a toy and stand up without trouble. (By 36 mos.; American Academy of Pediatrics 2004)</li> <li>• Pedal a tricycle. (32–36 mos.; Parks 2004; 36 mos.; Davies 2004, 194)</li> <li>• Climb up climbers and ladders. (34–36 mos.; Parks 2004)</li> <li>• Walk backward a few feet. (28–29.5 mos.; Parks 2004; scaled score of 10 for 34:16–35:15 mos.; Bayley 2006, #63, 167)</li> <li>• Jump up with both feet at the same time. (30–36 mos.; Parks 2004; by 30 mos.; Apfal and Provenoe 2001, 33)</li> <li>• Catch a medium-size ball. (35–36+ mos.; Parks 2004)</li> <li>• Walk up stairs, without holding on, placing one foot on each step. (30 mos.; Squires, Pottar, and Bricker 1999; by end of 24–36 mos., 34–36+ mos.; Parks 2004, 304; scaled score of 10 for 35:16–36:15 mos.; Bayley 2006, 64)</li> </ul>

### Gross Motor

Behaviors leading up to the foundation (4 to 7 months)	Behaviors leading up to the foundation (9 to 17 months)	Behaviors leading up to the foundation (19 to 35 months)
During this period, the child may:	During this period, the child may:	During this period, the child may:
<ul style="list-style-type: none"> <li>• Hold onto a foot while lying on her back. (Scaled score of 10 for 5:16–6:15 mos.; Bayley 2006, 153)</li> <li>• Roll from back to stomach (4–6 mos.; Lerner and Ciarvo 2003)</li> <li>• Roll from stomach to back. (4–6 mos.; Lerner and Ciarvo 2003; Bayley 2006, 25; 5:36–7:5 mos.; Parks 2004)</li> <li>• Bring both hands to the midline while lying on his back. (16 weeks; Squires, Pottar, and Bricker 1999)</li> <li>• Sit without support and turn to the left or right to reach an object. (Scaled score of 7 for 7:16–8:15 mos.; Bayley 2006, 154; 7 mos.; Marcor 1998, 243)</li> <li>• Balance on one side, bearing weight on the lower hip, arm, and leg, leaving the upper arm and leg free to move and to manipulate objects. (7 mos.; Alexander, Boehma, and Cupps 1993, 131–132).</li> <li>• Move from hands and knees into a sitting position. (7 mos.; Alexander, Boehma, and Cupps 1993, 135)</li> <li>• Rock on hands and knees, sometimes losing balance. (7 mos.; Alexander, Boehma, and Cupps 1993, 138)</li> </ul>	<ul style="list-style-type: none"> <li>• Creep on hands and knees or hands and feet. (By 9 mos.; Apfal and Provenoe 2001, 31)</li> <li>• Pull to a stand, using furniture for support. (Scaled score of 10 for 8:16–9:15 mos.; Bayley 2006, 157)</li> <li>• Cruise while holding onto furniture. (9.61–13 mos.; Parks 2004; scaled score of 10 for 9:16–10:15 mos.; Bayley 2006, 158)</li> <li>• Sit down from a standing position. (Scaled score of 9 for 10:16–11:15 mos.; Bayley 2006, 158)</li> <li>• Walk without support. (Scaled score of 9 for 12:16–13:15 mos.; Bayley 2006, 160; by 15 mos.; Apfal and Provenoe 2001, 33)</li> <li>• Throw a ball, underhand or overhand, to the infant care teacher. (Scaled score of 10 for 12:16–13:15 mos.; Bayley 2006, 160)</li> <li>• Squat to explore a toy on the ground and then stand up. (Scaled score of 10 for 13:16–14:15 mos.; Bayley 2006, 160)</li> <li>• Walk up or down stairs by stepping with both feet on each step while holding a parent's hand or the handrail. (Scaled score of 10 for up for 14:16–15:15 mos.; Bayley 2006, 161; for down for 15:16–16:15 mos.; Bayley 2006, 162)</li> <li>• Get into a standing position without support. (Around 11:15 mos.; Bayley 2006, 159)</li> <li>• Crawl or creep up or down a few steps.</li> </ul>	<ul style="list-style-type: none"> <li>• Jump off the bottom step. (24–26.5 mos.; Parks 2004; scaled score of 10 for 19:16–20:15 mos.; Bayley 2006, 164)</li> <li>• Kick a ball. (Scaled score of 10 for 20:16–21:15 mos.; Bayley 2006, 164; by 21 mos.; Apfal and Provenoe 2001, 33)</li> <li>• Ride a ride-on toy without pedals, pushing her feet on the ground to move. (18–24 mos.; Parks 2004)</li> <li>• Walk up or down stairs by stepping with both feet on each step, without holding on. (Scaled score of 10 for up for 24:16–25:15 mos.; Bayley 2006, 165)</li> <li>• Catch a big ball using two arms. (24–26+ mos.; Parks 2004)</li> <li>• Jump forward a few inches. (Scaled score of 10 for 27:16–28:15 mos.; Bayley 2006, 166)</li> <li>• Walk on tiptoes. (Scaled score of 10 for 32:16–33:15 mos.; Bayley 2006, 167; 36 mos.; Meisels and others 2003, 75)</li> </ul>

## Foundation: Fine Motor

### The developing ability to move the small muscles

8 months	18 months	36 months
<p>At around eight months of age, children easily reach for and grasp things and use eyes and hands to explore objects actively. (6 mos.; Alexander, Boehma, and Cupps 1993, 112)</p>	<p>At around 18 months of age, children are able to hold small objects in one hand and sometimes use both hands together to manipulate objects. (18 mos.; Meisels and others 2003, 40)</p>	<p>At around 36 months of age, children coordinate the fine movements of the fingers, wrists, and hands to skillfully manipulate a wide range of objects and materials in intricate ways. Children often use one hand to stabilize an object while manipulating it.</p>
<p><b>For example, the child may:</b></p> <ul style="list-style-type: none"> <li>Reach for and grasp an object, using one hand. (5–6 mos.; <i>Introduction to Infant Development</i>, 2002, 62; by end of 7 mos.; American Academy of Pediatrics 2004, 200; 7–8 1/2 mos.; Parks 2004)</li> <li>Use hand in a raking or sweeping motion to bring a toy closer. (7–8 mos.; Parks 2004; by end of 7 mos.; American Academy of Pediatrics 2004, 200; 7–8 mos.; Frankenburg and Dodds 1990)</li> <li>Hold a small block using the thumb and fingertips. (Item right before scaled score of 10 for 7:16–8:15 mos.; Bayley 2006, 127)</li> <li>Hold a small block in each hand and bang the blocks together. (Scaled score of 10 for 7:16–8:15 mos.; Bayley 2006, 127)</li> </ul>	<p><b>For example, the child may:</b></p> <ul style="list-style-type: none"> <li>Hold a crayon between fingers and thumb. (13–18 mos.; Slaton and Lewis 2002, 62; scaled score of 10 for 17:16–18:15 mos.; Bayley 2006, 131)</li> <li>Scribble with big arm movements. (13–18 mos.; <i>Introduction to Infant Development</i>, 2002, 62)</li> <li>Place pegs into a pegboard. (16–19 mos.; Parks 2004)</li> <li>Hold a toy with one hand and use the fingers of the other hand to explore it. (By 18 mos.; Meisels and others 2003, 40)</li> <li>Point to the pictures of a book. (By 18 mos.; Meisels and others 2003, 40)</li> <li>Place a stacking ring on the post. (By 18 mos.; Meisels and others 2003, 40)</li> <li>Use two hands to pick up a big truck, but only one hand to pick up a small one. (12–18 mos.; Parks 2004, 81)</li> <li>Use the wrists to rotate objects in order to explore all sides. (18 mos.; Meisels and others 2003, 40)</li> <li>Use one hand in opposition to the other. (18 mos.; Meisels and others 2003, 40)</li> </ul>	<p><b>For example, the child may:</b></p> <ul style="list-style-type: none"> <li>Use child-safe scissors in one hand to make snips in a piece of paper. (Scaled score of 10 for 34:16–35:15 mos.; Bayley 2006, 130; 28–35 mos.; Parks 2004)</li> <li>String large wooden beads onto a shoelace. (33–36 mos.; Parks 2004)</li> <li>Build a tall tower with six or more blocks. (28–31 mos.; Parks 2004; by the end of 24–36 mos.; American Academy of Pediatrics 2004, 305)</li> <li>Turn the pages of a paper book, one at a time. (By end of 24–36 mos.; American Academy of Pediatrics 2004, 305)</li> <li>Twist toy nuts and bolts on and off. (By end of 24–36 mos.; American Academy of Pediatrics 2004, 305)</li> <li>Open a door by turning the round handle. (By end of 24–36 mos.; American Academy of Pediatrics 2004, 305)</li> <li>Use one hand to hold and drink from a cup. (By 36 mos.; Meisels and others 2003, 77)</li> <li>Place a wooden puzzle piece in the correct place in the puzzle.</li> <li>Use thumb, index, and middle fingers to draw or write with a crayon, marker, or pencil. (Scaled score of 10 for 21:15–22:15 and 35:16–36:15 mos.; Bayley 2006, 130; by 36 mos.; Apfel and Provenca 2001, 33)</li> </ul>

#### Fine Motor

Behaviors leading up to the foundation (4 to 7 months)	Behaviors leading up to the foundation (9 to 17 months)	Behaviors leading up to the foundation (19 to 35 months)
<p>During this period, the child may:</p> <ul style="list-style-type: none"> <li>Transfer a cloth from one hand to another. (6 mos.; Alexander, Boehma, and Cupps 1993, 110; scaled score of 10 for 5:16–6:15 mos.; Bayley 2006)</li> <li>Pull the spoon out of her mouth. (6 mos.; Alexander, Boehma, and Cupps 1993, 111)</li> <li>Reach toward a toy and make grasping motions with the hand. (4–6 mos.; Lamer and Ciarvo 2003)</li> <li>Reach for a second toy when already holding one in the other hand. (5–6.5 mos.; Parks 2004, 49)</li> <li>Hold one block in each hand, then drop one of them when the infant care teacher holds out a third block. (6.5–7.5 mos.; Parks 2004, 50)</li> <li>Have the hands in an open position when relaxed. (4 mos.; Meisels and others 2003, 14)</li> </ul>	<p>During this period, the child may:</p> <ul style="list-style-type: none"> <li>Hold on to two blocks while reaching for another block. (8–10 mos.; Parks 2004, 50)</li> <li>Use thumb and index finger to pick up a piece of cereal. (Scaled score of 10 for 9:16–10:15 mos.; Bayley 2006, 128)</li> <li>Drop a block into the wide opening of a large container. (9 mos.; Alexander, Boehma, and Cupps 1993, 157)</li> <li>Turn the pages of a board book. (Scaled score of 10 for 9:16–10:15 mos.; Bayley 2006, 128)</li> <li>Use hands to follow along with some motions of a song, chant, or finger play. (Scaled score of 10 for 9:16–10:15 mos.; Bayley 2006, 87)</li> <li>Grasp onto and pull the string of a pull toy. (9–12 mos.; Parks 2004, 51)</li> <li>Point with the index finger. (12 mos.; Coplan 1993, 3; scaled score of 10 for 11:16–12:15 mos.; Bayley 2006, 129)</li> <li>Stack two to three small blocks into a tower. (Scaled score of 10 for 13:16–15:15 mos.; Bayley 2006, 130)</li> <li>Unscrew the lid of a plastic jar. (Scaled score of 10 for 14:16–15:15 mos.; Bayley 2006, 62)</li> <li>Put pieces of cereal inside a container with a small opening. (Scaled score of 10 for 16:16–17:15 mos.; Bayley 2006, 130)</li> </ul>	<p>During this period, the child may:</p> <ul style="list-style-type: none"> <li>Fold a piece of paper. (21–24 mos.; Parks 2004)</li> <li>Dump a container by turning it over. (By 24 mos.; American Academy of Pediatrics 2004)</li> <li>Use a crayon to draw lines and circles on a piece of paper. (Scaled score of 10 for 27:16–28:15 mos.; Bayley 2006, 134; 30 mos.; Squires, Potter, and Brickner 1999; by 30 mos.; Apfel and Provenca 2001, 33)</li> </ul>