

## Their Developing Brain

Everything your baby does shows how well their brain is developing. Researchers have discovered that a newborn's brain grows about 1 percent EACH DAY in the first three months after birth. That's a lot of growth in so short a time! They've also discovered that a baby's brain doubles in size by their first year! By the time they're three, their brain is 80 percent the size of yours! Their brain really is the command center! It controls big and small movements, language and communication, emotions—EVERYTHING, really. But how does the brain grow? The answer—it grows by all of the connections made in it as your child develops. Your baby was born with all of the brain cells they'll have for their entire life, but they have to form connections between these cells to make their brains work. The best time for new connections to form and grow is when your child is young, so invest your time wisely. With your help in supporting their brain health, they will be better able to regulate their emotions and reactions, solve problems, communicate, understand the nuances of language, and respond appropriately.

## Movement Milestones

Researchers believe that different areas of the brain develop in the order of what is most important. And when you think about it, motor development really is pretty important for a helpless newborn to survive! You encourage it when you give your baby room to move and explore, and when you get down on your hands and knees and play with them. You'll likely see them beginning to pull themselves up into a standing position and stay standing by holding on to something. Balance and coordination created by the alternate use of arms and legs make it possible for them to crawl and then eventually to walk. That and their natural curiosity give them all the motivation they need to get moving! Now you'll have to keep an extra eye on them to keep them out of trouble! While your baby's big movement skills are developing quickly, so are their fine motor skills. Your baby may also be starting to develop their pincer grip—the grip between their thumb and fingers, which allows them to pick up smaller things. But they won't be perfect until they are closer to a year old.

## Language and Communication Milestones

Just a few months ago, your baby was learning to make sounds, which are the foundation to forming words. And those sounds are likely becoming more mature. Vowels that were strung together to make "ah," "eh" and "oh" are now paired with consonants to make "mamamama" and "babababa." That's right, you heard the word "mama"! But not only is your baby beginning to make some simple words, they are also beginning to understand the meanings to words. For example, the word "no" means, well, "no"! Now that your baby can form sounds, watch as they try to copy the sounds and gestures you make.

## Social and Emotional Milestones

The familiar people in their lives make them feel safe and secure. If you remember, they were also becoming aware of who is a stranger to them. Depending on your baby's personality, they may begin showing a fear of strangers. This means that when you hand them to an unfamiliar person, they may fuss or cry but then stop when they are back in your arms. They may even become clingy with you or other familiar people. Watch how your baby reacts to new people and situations so you can encourage them and make them more comfortable. Your child will also start to show a preference for a certain toy or toys by nine months.

**FACT SHEET****Cognitive Milestones**

All the things you see your baby doing are evidence that their smart brains are growing, developing, and figuring stuff out. Whereas before they thought an object vanished when it was out of their sight, they now understand it's still around—somewhere! Watch as they search for the teddy or binky you hide under a blanket. That's called object permanence. They've also mastered the ability to pass objects from one hand to the other. This is proof that both halves of their brain are working well together. Crawling is another sign of that. Roll a ball to them and encourage them to roll it back to you to help teach them cause-and-effect. Put blocks in a container and encourage them to take them out and put them back in. Encourage your child in a positive way to do the things you ask of them. For example, instead of saying, "Don't stand," say, "It's time to sit." Then praise them in a big way when they do it.

**When to Call Your Provider**

Call your provider if your baby:

- Doesn't bear weight on legs with support
- Doesn't sit with help
- Doesn't babble ("mama," "baba," or "dada")
- Doesn't play any games involving back-and-forth play, like peek-a-boo
- Doesn't respond to their name
- Doesn't seem to recognize familiar people
- Doesn't look to where you point
- Doesn't transfer toys from one hand to the other

**Movement Milestones**

- Stands, holding on to something
- Can get into a sitting position
- Sits without support
- Pulls up to a stand
- Crawls
- Is learning to use pincer grasp

**Cognitive Milestones**

- Watches the path of something as it falls
- Looks for things they see you hide
- Plays peek-a-boo
- Puts things in their mouth
- Moves things smoothly from one hand to the other
- Picks up things like small pieces of cereal between their thumb and index finger

**Language and Communication Milestones**

- Imitates sounds
- Participates in two-way communication
- Understands after "no"
- Makes a lot of different sounds like "mamamama" and "bababababa"
- Copies sounds and gestures of others
- Uses fingers to point

**Social and Emotional Milestones**

- May be afraid of strangers
- May be clingy with familiar adults
- Has favorite toys

"Your Baby at 9 Months": [www.cdc.gov/ncbddd/actearly/pdf/checklists/CDC\\_LTSAE-Checklists-with-Tips-9month-P.pdf](http://www.cdc.gov/ncbddd/actearly/pdf/checklists/CDC_LTSAE-Checklists-with-Tips-9month-P.pdf)

"Novel study maps infant brain growth in first 3 months of life using MRI technology" by the University of California – San Diego": [www.eurekalert.org/pub\\_releases/2014-08/uoc--nsm080714.php](http://www.eurekalert.org/pub_releases/2014-08/uoc--nsm080714.php)

"Brain Development": [www.firstthingsfirst.org/early-childhood-matters/brain-development](http://www.firstthingsfirst.org/early-childhood-matters/brain-development)

"First Year Development: Infant Development": <https://americanpregnancy.org/first-year-of-life/first-year-development/>

"Important Milestones: Your Baby by Nine Months": [www.cdc.gov/ncbddd/actearly/milestones/milestones-9mo.html](http://www.cdc.gov/ncbddd/actearly/milestones/milestones-9mo.html)

"Milestones Checklist": [https://pathways.org/wp-content/uploads/2019/07/milestoneschecklist\\_updated.pdf](https://pathways.org/wp-content/uploads/2019/07/milestoneschecklist_updated.pdf)