

*The Early Years (birth to 6): Building a Better Brain**

What's Most Important?

- warmth, love, affection
- safety, stability, predictability, calm
- meaningful interaction with adults: respectful listening and response
- variety and complexity of cognitive and sensory stimulation
- lots of opportunities for playful engagement and exploration

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The Ultimate Construction Project

The nine months of pregnancy and the first few years of life are times of intensive brain-building. The central nervous system is made up of about 100 billion brain cells, called neurons. As neurons make connections (called synapses) with other neurons, they create pathways of connection throughout the brain. Across the life span, but especially during the early years, synapses and neural pathways are being built in response to a person's sensory experiences. The synapses and pathways that are used often are strengthened, and those that are not used are pruned out. During this active building and pruning process, the brain is being sculpted by the child's experiences. Although neural sculpting begins before birth and continues across the life span, it is most active in the first days, weeks, and years of life.

A child's early environment weaves itself into his or her brain, changing both the neural structure and the functional pathways. Experiences in the early years influence the person the child will become, shaping what he will find interesting, and what he will be able to do easily and well. And, perhaps surprisingly, as the brain changes, it changes the nature of the child's experiences of the environment, in a never-ending loop of interaction between the brain and experience. When a child is awake, each of the five senses— sight, smell, touch, hearing, and taste—is sending information to the brain. The brain files that information away, in order to make easier sense of the next similar or related experience.

Wide Exposure to Different Kinds of Stimulation

Given that their brains are so dynamic and absorbent, young children benefit from exposure to as many kinds of experiences as possible. It's best when this happens in a spirit of playful exploration, preferably in the company of a kind, patient, and enthusiastic adult who welcomed and responds to questions at a level that makes sense to the child. It's even better if the adult asks questions, too, and engages the child in conversation about the activity and its connection to their lives.

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We've started a list of places and activities that can help teachers and parents provide a broad exposure to brain-building experiences. These activities should be tailored to age (younger = simpler), interests, energy level, and adults' interests, too. This list is just a beginning, designed to stimulate thinking about the kinds of things that can help young children develop their abilities:

- books, books, and more books—all kinds of books, read aloud with expression and pleasure, and accompanied by questions and discussion that aim to engage the child's interest ("Did you notice how scared that rabbit looked? I wonder what's going to happen next!")
- interactive science museums
- traditional 'look-only' museums of all kinds – stamps, sports, war, etc.—, where parents or others provide the interactive component by engaging children in conversations about what they are seeing
- musical performances of every description, from impromptu sing-alongs, to sidewalk buskers, to karaoke, to symphony orchestras
- art experiences of all sorts, from looking carefully at the illustrations in children's books, through visits to serious galleries, and everything in between
- puppet shows, improvisation, and other theatrical experiences designed for children
- shops—food, clothing, chemists, etc.—, accompanied by discussions of where things come from, who might use them, what they're used for, and why
- walks in different neighborhoods, discussing architecture, elements of urban design, and human activity
- walks in nature, from the local park to a nature reserve, discussing details of plant and animal life
- television and videos, any appropriate show watched together, but especially shows about people, nature, history, ideas, faraway places, expansions of the child's world
- zoos
- farms, ponds, orchards, beaches, and other places where there is lots to touch and explore (especially if there are samples and artifacts to bring home)
- kitchens or play kitchens: cooking activities, eating together (and cleaning up, too)
- anywhere else in the home, or playroom: organizing closets, bookshelves, cupboards, and other places where categorising and sorting might be needed
- photo albums: taking, arranging, sorting, and displaying photos

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- athletic and sporting activities, both watching and age-appropriately participating
- travel of any sort, from around the block, to an ethnic neighborhood in another part of town, to a country village not too far away, to a virtual vista or online venue
- whatever, whoever, and wherever else interests you and the children in your life

But Don't Overdo It!

Optimally, stimulation in the early years is lively and fun, and also gentle and calm. The right balance is intellectually stimulating, and it also respects a child's need for time and space to process and digest information. Experts on the brain and early childhood development emphasize the need to find this balance, in the interest of supporting healthy long-term development. Yes, you can force a plant to bloom big and early in a greenhouse, but you might regret having done that when you transplant it to the harsher realities of outdoor conditions. Greenhouse plants haven't had a chance to strengthen and toughen, and develop the hardiness that is needed over the long haul.

Similarly, it's best if a child has enough time on his own to consolidate what he's learning, connect it to what he already knows, and figure out what he wants to learn next. So, give lots of different kinds of stimulation, but don't overdo it. If you watch and listen closely, you'll find that children are the best guide to what they need next, whether it's a nap, a conversation, or a new adventure.

*Adapted from *Raising Smarter Kids*, by Dona Matthews and Joanne Foster, an upcoming book for parents and teachers; see www.raising smarter kids.ca