MIND in the Making

The Seven Essential Life Skills Every Child Needs

PRESCRIPTIONS FOR LEARNING

When to Teach Letters, Colors and Numbers to Babies

Promoting the Life Skill of Making Connections in Infants

Four Strategies That Work in Moving from Managing Children's Behavior to Promoting Life Skills

Question: When should I start teaching my nine-month-old her letters, colors, and numbers?

Children are born learning and, in these early years, you are laying the foundation for their lifelong learning.

Noting that the brain grows from one pound to its full size in the first five to six years of life, neuroscientist Sam Wang of Princeton University compares brain development to building a house:

> ***A baby's brain is like a house that's being built. If you think about all the things that babies have happen to them—we feed them, we love them, we talk to them, they have other experiences with other kids, whatever it is that they encounter—all of those are learning experiences. So, there's this constant construction project where babies and small children are putting together the basic foundations for who they are going to become later.***

Because babies learn so much in these early years—with 700 trillion connections among the neurons in the brain being formed during that time—parents wonder when and how to teach them about letters, colors and numbers.

Even very young children can learn to memorize the names of numbers, letters and colors. What's important is that they not just memorize the words—which they may do to please adults with little to no understanding of what these concepts mean. When you use everyday moments to help children understand the concepts of colors, letters and numbers, they are learning what these ideas mean as well as learning the life skill of Making Connections.

1. **Be a partner in your child's explorations and play.** The way that children learn during the early years is to touch, to taste, to play with everything around them to try to figure out how things work. Get involved, but let your child take the lead in choosing activities and objects that interest her. Instead of taking over or telling your child what to do, be a guide.

Roberta Golinkoff of the University of Delaware and Kathy Hirsh-Pasek of Temple University have found that children learn more when their parents are involved with what they do:

> ***When a parent joins in, we call it "guided play," and it always elevates the level of play. So, parents shouldn't feel like they have to stay out and let the kids play on their own—they should join in, but they can't be the boss. They have to follow the child's lead and talk about the kind of things that the child is interested in.***

This is where you can add concepts, such as letters, colors and numbers as they come up naturally. For example, you can say:

- "You are playing with the yellow duck in the bath."
- "I gave you two pieces of banana."

Even though your child at nine months is just making sounds as a step into learning to talk, she hears and increasingly understands what you are saying. Over time, she will begin to understand these and other more abstract concepts.

Sam Wang states that the key to learning is play.

> ***Play is [where] active learning takes place—where the baby is engaged or the child is engaged and just wants more and more of that. As long as that element of fun and play [are] present, then that enhances learning.***

Patricia Kuhl of the University of Washington adds:

> ***As I've watched my own child grow, there are various times and various things that light her up. As parents and as caretakers of a whole generation of kids, we have to be tuned into that engagement process.***

2. **Build on your child's interests.** What makes your baby's eyes light up? Karen Wynn of Yale University finds that adults promote children's learning on the deepest level when they tap into children's passion and enthusiasm and then build on it.

The best way to do that is through back and forth conversations. These conversations, with and without words, have been called many things by researchers—a dance, a ping-pong game or "serve and return."

The research panel at the Harvard Center for the Developing Child writes:

> ***One of the most essential experiences in shaping the architecture of the developing brain is "serve and return" interaction between children and significant adults in their lives. Young children naturally reach out for interaction through babbling, facial expressions, and gestures and adults respond … back. This back-and-forth process is fundamental to the wiring of the brain, especially in the earliest years.***

- Pay attention to where your baby is looking or pointing and describe it: "Do you see the big yellow school bus? Beep beep!" Children are more likely to learn the names of things that they find interesting.
- Add on to your child's ideas. Watch her play closely and see if you can help her take it even further. If your child is stacking objects, give her a choice of two different things to add on top: "Do you want the blue cup or the orange one? You chose the orange cup to stack next. You now have two cups. Let's see what happens!"

A series of studies over the past three decades has found that there are early foundations of knowledge and skills that emerge in babies' first months of life. Elizabeth Spelke of Harvard University describes these as core cognitive capacities that "come online" before they could possibly have been taught, but then these capacities need developing.

3. **Extend your child's early understanding of big ideas.** As amazing as it may seem, your baby is born with an ability to grasp many big ideas like numbers, space, objects and even people! These are the foundations upon which children build their learning as they grow and develop.
   - Listen carefully to your words when you are guiding your child's play. One of the things you are doing—maybe without even being aware of it—is helping your child make connections. In a sentence as simple as: "Look at the big red fire truck," you are helping your child connect her experiences to ideas like space, size, numbers and colors.
   - Play finger games or sing songs and nursery rhymes that use numbers and rhyming like "One, Two, Buckle My Shoe" or "The Ants Go Marching."
   - Talk about math everyday. For instance, when you change your child's diaper or wash her in the bath, count her fingers and toes. Talk about amounts like "more" and "less" and ideas like "empty" and "full" during meal times.
   - When watching your child play or helping her get dressed, talk about how her body is moving, using words like "up" and "down" and "in" and "out." This helps her develop her sense of space, a skill she will need for later science and math learning.

As your child grows into her second year and begins to understand these big ideas even more, don't be surprised if the learning is uneven. Your child may be able to sing a number song and say all of the numbers in order, but if you ask how many pretzels you are holding in your hand, she may say: "two, five." Or, your child may get stuck on a certain color. Whenever you say the word color, your child may say: "yellow." Learning these big ideas takes time, but learned in these everyday ways, they will have a much deeper meaning

4. **Create a supportive environment for learning.** Children learn what they see and live, so, it is up to you to create an environment where words, reading, listening and learning are important. Take the time in your everyday routines to:

- Point out signs, letters and numbers at home and on the go. Show your child different street signs or traffic symbols: “There’s the red stop sign. It tells all of the cars to stop.” This helps her make connections between letters, words and what they stand for, an important piece of early literacy learning.
- Tell stories and sing songs. You can encourage your child’s love of language by using lots of descriptive words, telling favorite stories over and over and exploring the rhythm and music of song. Make a family story time part of your day.

For more tips on things you can do every day to help build your baby’s brain, visit: http://www.joinvroom.org, download the free app and get daily tips on turning everyday moments into brain building opportunities..

These four strategies will promote the life skill of Making Connections and move from managing children’s behavior to promoting life skills in fun and doable ways.

Making Connections is at the heart of learning—figuring out what’s the same and what’s different, and sorting these things into categories. Making unusual connections is at the core of creativity. In a world where people can google for information, it is the people who can see connections who are able to go beyond knowing information to using this information well.

Mind in the Making (MITM), at The Bezos Family Foundation, is an unprecedented effort to share the science of children’s learning with the general public, families and professionals who work with them. Based on *Mind in the Making: The Seven Essential Life Skills Every Child Needs* (HarperCollins, 2010) by Ellen Galinsky, Chief Science Officer at The Bezos Family Foundation, its mission is to promote Executive Function life skills in adults and through them in children in order to keep the fire for learning burning brightly in all of us.

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