

Using Toys to Support Infant-Toddler Learning and Development

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Colorful scarves fill the air in a mixed-age, inclusive infant and toddler classroom. Most of the young children dance and move, swaying their bodies and hands while waving their scarves. Maggie is 2 ½ years old, but her play skills are more typical of a younger child. Instead of dancing with others, she sits alone, happily mouthing a few scarves. Her teacher, Vicky, wants to help Maggie expand her play.

Vicky understands where Maggie is developmentally and also knows Maggie enjoys filling and dumping. The teacher stuffs scarves inside an empty tissue box, leaving a small piece poking out. Maggie excitedly pulls scarves from the box and laughs; a new game is born. By being aware of Maggie's developmental skills and interests, Vicky has used a simple toy to facilitate the toddler's cognitive development through play.

Choosing toys and activities that are suitable for infants and toddlers can challenge even the most experienced teacher. By being mindful of the basic principles of child development and the role of play, teachers can intentionally select toys to meet young children's unique needs and interests, supporting learning. It is also important to be aware of the essential role of teacher-child interactions. When teachers engage with children as they play, teachers help children make sense of their experiences and promote children's further exploration (Johnson & Johnson 2006).

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Understanding development and toys

Play is the mechanism by which children learn - how they experience their world, practice new skills, and internalize new ideas - and is therefore the essential "work of children" (Paley 2004). Through this continuous and expanding process, early skills give rise to new ones and new experiences are integrated with previous ones. Through play, children learn about the world and engage in activities that encourage their cognitive, emotional,

and social development (Elkind 2007). For example, when a child bangs on a drum, she learns she can create a sound. Through play, she learns the important concept of cause and effect.

Teachers can build on children's play by providing engaging toys. Effective toys are safe and suited to the child's age, abilities, and interests. When a child expresses an interest in animals, for example, a teacher can build on this by adding animal toys to block play. Block play provides a foundation for learning about problem solving and basic math and science concepts.

Child development occurs across several domains, including language, fine motor, gross motor, social-emotional, and cognitive development. When choosing materials and planning learning activities for children, teachers can consider how the toys and experiences will support development within and across domains. Certain toys promote behaviors that encourage development within certain domains. For example, teachers can nurture the cognitive skill of object permanence by hiding a toy under a scarf and playing the classic peek-a-boo game.

A child's cognitive development involves thinking skills - the ability to process information to understand how the world works. Toys and play naturally provide opportunities for practicing different thinking skills, such as imitation, cause and effect, problem solving, and symbolic thinking. When a teacher models drumming on pots and pans, a child imitates and quickly learns to make a noise of his own. Offering this opportunity to play allows the child to practice imitation, to experience cause and effect, and to have fun discovering how the world works.

Homemade toys and readily available materials

Many advertisements lead consumers to think that toys are better if they are expensive, store-bought items. In reality, the best toys are those selected based on their appropriateness for the child's age, development, and interests. Engaging toys are often homemade or readily available items such as fabric, bottles, cardboard boxes, yarn, cooking pans, pinecones - the options are practically limitless. This is especially important to keep in mind for economically challenged communities or just plain busy people. Even for people with the time and resources, making toys can be a more personal way to build relationships between teachers and children. Using photos of family members to make stick puppets, for example, is a wonderful way to bring the child's home into the classroom.

When choosing materials for toys, it is important to consider the children's communities and cultures. Teachers can bring into the classroom elements of different languages, dress, and music. When choosing or making books, for example, some can reflect the cultures and languages of the children. Similarly, dolls, dress-up clothes, and pretend food should represent children's families and communities.

A little creativity combined with basic materials can stimulate play and facilitate a young child's development across all domains (including cognitive). For example, teachers can use cardboard boxes, plastic dishes, pie tins, and sock puppets. In the following section, all of the suggested toys and materials can be handmade using easily acquired or inexpensive materials.

Thinking about Safety

When selecting toys, it is critical to consider the numerous safety issues specific to different developmental stages. Choking and falling are two concerns for infants and toddlers. Children love to move, and young children learning to control their bodies often fall or bump into things. Toys and other classroom materials should not have sharp edges or projections. Infants and toddlers often explore their world by putting things in their mouths. Small buttons or pieces that come off easily are choking hazards and should be avoided. Watch out for chipping paint, and select toys that are not toxic.

Be on the lookout for materials treated with potentially harmful substances, such as arsenic (used to treat some wood products), lead paint, and chemicals such as bisphenol A (BPA) and phthalates. Children's brains and bodies are smaller than adults' and are developing fast, making them especially vulnerable to toxic substances, even in small amounts. Look for labels on toys and materials (such as "nontoxic" or "BPA-free"), and check online resources such as www.gogreenratingscale.org.

Choosing and using toys to support cognitive development

Teachers should be intentional about the toys they offer to children, regardless of whether they are homemade or store-bought. For example, many toddlers enjoy using modelling materials and props such as playdough. Offer it to children with some specific developmental goals in mind. Provide matching plastic cookie cutters, allowing children to make shapes and experience the ideas of "same" and "different" shapes as they explore.

The following examples illustrate toys that are easy to find or make, as well as specific areas of cognitive development

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that can be addressed with the toys. Keep in mind that a lot of toys are open-ended—appropriate for children at different ages and developmental

levels. Children can use these toys in many different ways, and they will hopefully spark your imagination to make other fun, educational toys for infant and toddler classrooms.

Fabric

Scarves and pieces of cloth of different colors and textures can come from old clothes, sheets, or fabric scraps provided by families, collected by teachers, or donated by a store in the community. Teachers can use fabric with children of all ages. A scarf can be a costume in dramatic play, an item to throw and catch, or something to put in a box and pull out again.

Example. Kaori, age 8 months, plays with her teacher, Devora, who hides a doll under a scarf and calls out "Dolly, where are you?" Devora checks with Kaori, then lifts the scarf and says, "there you are, Dolly—peek-a-boo!" Kaori laughs, excited at the "return" of her doll.

Cognitive connection. Kaori is becoming aware of object permanence—the knowledge that an object is there even when it cannot be seen (Cole, Cole, & Lightfoot 2005). This is an essential step in an infant's cognitive development because

understanding object permanence leads to an understanding of her world and an awareness that will allow her to learn, imitate, and explore. Through exploration of the environment and peek-a-boo and other games that involve hiding objects, a teacher can support children's emerging awareness of the environment around them (Brazelton & Sparrow 2006).

Blocks

Blocks are great toys for children of all ages. Blocks made of wood are one option, but teachers can also offer shoeboxes, cereal boxes, plastic bowls, cups, and paper bags filled with crumpled newspaper and taped shut. These simple blocks are best for children 2 years and under, while wooden unit blocks are good for ages 2 and up (MacDonald 2001). Children can explore, move, and hold blocks before beginning to stack them vertically or line them up horizontally to form simple structures or complex designs. They can select blocks of the same size or in uniformly descending sizes.

Example. Fatima, age 22 months, takes blocks made from cardboard boxes from an assorted pile in the block area. She stacks one on top of the other while playing at a tabletop. As she places a fourth block on top of her tower, it falls down. Fatima's teacher Maria says, "Look, the block is beside your foot." Fatima stops and looks to the side of her body and picks up the block. Fatima then picks up a large block and places it on a small block. The large block falls over. Maria says "Oh! The big block fell off the small block." Fatima then puts the small block on top of the big block. Maria excitedly responds, "Look, you

put the small block on top of the big block and it did not fall."

Cognitive connection. Fatima is gaining an understanding of spatial relationships—the ability to understand dimensions and shapes and how they work together. She is learning how to balance and fit pieces to build towers. As she expands this play through experience, she might build more complex structures, such as bridges and enclosures (MacDonald 2001).

Puzzles

A muffin pan accompanied by a variety of small objects can be an excellent first puzzle for infants and toddlers. Offer items that fit easily inside or, to make it more complicated, just barely fit. A muffin pan puzzle allows children to feel a sense of success since all the cups are the same size. To make puzzles that offer greater challenges, cut out circles or squares of different sizes in the top of a shoebox. Offer objects such as large recycled plastic jar tops, toy cars, or clothespins that just fit inside the cutouts.

Teachers can build on children's developing cognitive skills by creating simple picture puzzles. To make puzzles, draw a picture, print a photograph, or cut out a picture from a magazine. Glue the picture to a piece of cardboard or paper plate so that the puzzle is easier to manipulate, and cut into pieces that a child can reassemble.

Example. Raj, age 12 months, sits surrounded by objects of different sizes and shapes, including a plastic cup, a toy boat, and jar lids. His teacher places a

Toys and Activities to Nurture Children’s Cognitive Development

Toy	Age (months)	Activity	Cognitive Connections
Mobile	0-6	Moving objects attract a young child’s attention and stimulate interaction. Attach safe objects (such as pictures or large pinecones) to a string and hang the mobile so that a child can watch it move and also reach out and pull or bat items. The child can be lying on her back or sitting and reaching forward.	<ul style="list-style-type: none"> -Cause and effect -Sound and texture discoveries -Hand-eye coordination
Bottle with floating objects	6-9	Infants need toys that illustrate cause and effect. Fill a clear plastic baby bottle or soda bottle with water and add shells, rocks, floating glitter, or any object that captures a child’s interest. Make sure the top is attached securely, especially in a mixed-age room, preferably glued with all-purpose nontoxic glue. Children can shake the bottle to hear and see items move inside and roll it, which encourages crawlers to chase after it.	<ul style="list-style-type: none"> -Cause and effect -Intentionality
Knock-knock	9-12	Any “surprise” item that can be uncovered provides opportunities for children to discover and name. On a large piece of paper, draw or glue pictures. For each, cut out rectangles from different color paper that is large enough to hide the pictures. Attach these by gluing or taping down one long side so that they can be “opened” like doors. Have children knock on the doors and open them to reveal the hidden items.	<ul style="list-style-type: none"> -Object permanence -Cause and effect -Naming
Books	12-18	Early books are an excellent (and fun!) way for children to discover and name objects, and learn that pictures represent real things. Thin paper books can be difficult for very young children to manipulate. They also tear easily. Glue pictures of animals, everyday objects, or drawings onto pieces of thick cardboard, and bind the pages with glue or yarn. For a more interactive experience, glue picture on fabric or papers of different textures.	<ul style="list-style-type: none"> -Early literacy -Language and vocabulary -Prediction -<i>Wh</i> questions (who, what, when, where, why)
I Spy telescope	18-24	Almost anything that is open on two ends can become a child’s telescope. Use paper towel tubes, empty cracker boxes, or just roll a few sheets of paper and tape them together. Children can look through the telescope for things around the room or yard. Offer variations by asking children to look for specific items, colors, or categories. For example, “Do you see anything green? Do you see animals?”	<ul style="list-style-type: none"> -Classification -Recognition -Language and vocabulary -Joint attention -Perspective taking
Puppets	24-36	Children can use puppets to tell stories and act out ideas. Make hand puppets from a variety of materials (such as paper, socks, cloth, and so on) or make a handheld puppet by gluing a picture to a stick. Decoration brings a puppet to life. For example, draw a face with markers, glue on pictures from a magazine, or adorn puppets with string or yarn.	<ul style="list-style-type: none"> -Imagination -Abstract thinking -Language -Sequencing

muffin pan in front of him. Raj picks up objects and puts them in and out of the cup shapes in the pan, rotating pieces to make them fit. He concentrates with each new object and claps his hands in delight with each success.

Cognitive connection. As he manipulates objects to make them fit into the muffin pan, Raj is thinking and problem solving. As children are exposed to these types of activities, they learn to develop solutions, which boosts their confidence in their ability to solve problems. Without the frustration of precise puzzle pieces, early versions allow infants and toddlers to explore different sizes and shapes, and gain understanding of size dimensions and concepts of *in* and *out*. As children get older, teachers can introduce simple puzzles with a few pieces.

Rattles

Infants love making noise. Teachers can use a clean plastic container, small enough for a child to hold in one hand, to quickly make a wonderful noise-making toy. Fill the container with objects too large to be a choking hazard, such as shells or large bells. Make sure there is enough space for the objects to move freely inside. Seal the top with a lid using heavy tape.

Example. Mario, age 8 months, sits on the floor holding a small plastic water bottle partly filled with broken pieces of crayon. Music plays and Rosemary leans toward Mario, moving his hands up and down, singing, “Shake your maracas . . . shake, shake, shake your maracas.” Mario smiles

and imitates his teacher, shaking the bottle. Each time he moves the bottle, it makes more sound, encouraging him to keep up the motion.

Cognitive connection. Mario is interested in activities that demonstrate cause and effect. Activities such as simple musical instruments offer children a chance to figure out how objects work and to connect their own actions with outcomes. This can lead to a greater sense of self-awareness and increased control over their environments.

Summary

Infants and toddlers engage in certain types of play, depending on their stage of development. Teachers can maximize opportunities to build new skills by being mindful of where children are developmentally, what their interests are, and what skills they, as educators, want children to explore. When teachers are aware of how specific cognitive skills can be practiced through play, they can choose toys and activities intentionally. As the underlying reasons for selecting specific toys and activities become clearer, a world of limitless possibilities for invented toys opens up.

As the primary vehicle for early childhood education, toys are an essential classroom ingredient. Teachers can easily make toys from inexpensive materials found in most communities. Readily available materials, when used appropriately, can stimulate play and development across all domains. While

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toys are important instruments in facilitating a child's development, above all, toys should be considered tools with which teachers can engage children.

References

- Brazelton, T., & J. Sparrow. 2006. *Touchpoints Birth to Three*. 2nd ed. Reading, MA: Da Capo Press.
- Cole, M., S. Cole, & C. Lightfoot. 2005. *The Development of Children*. 5th ed. New York: Worth Publishers.
- Elkind, D. 2007. *The Power of Play: Learning What Comes Naturally*. Reading, MA: Da Capo Press.
- Johnson, J.A., & T.A. Johnson. 2006. *Do-It-Yourself Early Learning: Easy and Fun Activities and Toys from Everyday Home Center Material*. St. Paul, MN: Redleaf Press.
- MacDonald, S. 2001. *Block Play*. Beltsville, MD: Gryphon House.
- Paley, V. 2004. *A Child's Work*. Chicago, IL: University of Chicago Press.

Additional resources

- Boise, P. 2010. *Go Green Rating Scale for Early Childhood Settings and Go Green Rating Scale for Early Childhood Settings Handbook: Improving Your Score*. St.

- Paul, MN: Redleaf. Available from NAEYC. www.gogreenratingscale.org
- Clever Toddler Activities. n.d. "Easy Homemade Toys." www.clever-toddler-activities.com/home-made-toys.html
- Environmental Working Group. n.d. "Health/Toxics: Children's Health." www.ewg.org/childrenshealth
- Miller, L. & M. Gibbs. 2002. *Making Toys for Infants and Toddlers: Using Ordinary Stuff for Extraordinary Play*. Beltsville, MD: Gryphon House.
- Posner, R. 2010. "Double Exports in Five Years?" *The Becker-Posner Blog*, February 21. <http://uchicagolaw.typepad.com/beckerposner/2010/02/double-exports-in-five-years-posner.html>.
- Ranson, A. *The Imagination Tree*. Blog. www.theimaginationtree.com.
- Sher, B. 2009. *Early Intervention Games: Fun, Joyful Ways to Develop Social and Motor Skills in Children with Autism Spectrum, or Sensory Processing Disorders*. San Francisco, CA: Jossey-Bass.
- Sparling, J., I. Lewis, & D. Dodge. 2007. *The Creative Curriculum Learning Games*. Bethesda, MD: Teaching Strategies.
- Wilmes, D., & L. Wilmes. 2's Experience series. Building Blocks.
- Zero to Three. n.d. "Tips for Choosing Toys for Toddlers." www.zerotothree.org/child-development/play/tips-for-choosing-toys-for.html.