

Cognitive Development

During their first three years of life, children learn faster than they will ever learn again. They are busy gathering and organizing information about their world.

Infants and toddlers learn about the social world through their interactions with other people. They begin to understand simple concepts through seeing, touching, hearing, smelling, tasting, and moving. Toddlers begin to notice more details and differences in their surroundings and become interested in more purposeful play. They use learned information to solve new problems. Children's growing creativity is seen in their art, music, movement, language, and pretend play.

Consistent, organized daily routines are the curriculum from which infants learn. They begin to understand and appreciate order in their world and predict what will happen next. All of children's play with toys, and their indoor and outdoor activities, contribute to cognitive development.

Infants and toddlers develop creativity when they are free to explore musical instruments, art materials, and building materials without being judged. When adults include materials and activities that are familiar to the child's culture, learning becomes more meaningful. Recent research shows the connection between interesting, positive early experiences and brain development.

Infants and toddlers who have disabilities or other special circumstances may need additional support and stimulation to help them learn. They may need to repeat experiences more often or require adaptations to help them remember concepts or solve problems. Caregivers can add or modify learning materials and activities indoors and outdoors to meet their needs. This ensures that all children have the opportunity to explore, discover, participate and create.

Sensory Exploration and Discovery

Social Connections

Concept Development and Memory

Problem-Solving

Creative Expression



Sensory Exploration & Discovery

Infants and toddlers discover and understand their world using their senses. Over time, they learn to plan and control their movements so they can explore with purpose. Toddlers' ability to move about their environment allows for more varied experiences.



What to Look For

Infants may begin to:

- Respond to what they see, hear, taste, smell, and touch.
- Observe objects, displays, or events intently.
- Reach for or move toward interesting items, people, sounds, or movements.
- Explore objects with mouth and hands.
- Respond to familiar objects, people, and events.
- React to likes & dislikes (hold out arms for something they want, shake head “no”, throw unwanted food or objects).
- Imitate familiar sounds.

Young Toddlers may begin to:

- Examine new experiences carefully (reach out to touch rain, stop playing to watch shadows, listen to and stare at musician).
- Use toys and other objects to make things happen (kick a ball, push a button on a toy).
- Notice differences in familiar objects, places, or events (frown at parent with a new haircut, look for furniture that was moved).
- Actively explore objects by handling them in many ways (moving, carrying, filling, dumping, smelling, and putting in mouth).

Older Toddlers may begin to:

- Use their whole body to learn (get mud or paint on themselves from head to toe, fit themselves into a big, empty box).
- Express clear likes and dislikes and reject things they do not like (insist on favorite shoes, search for particular doll and refuse others).
- Discover nature and changes in nature (notice and interact with small insects, smell flowers, catch falling snow, shuffle through leaves).
- Explore the qualities of different materials (sand, water, sink and float, goop, clay).
- Participate in mixing and notice changes in material (paint, play dough, food ingredients).
- Watch and listen carefully to understand new situations and experiences.

What to Do

- ✓ Provide a variety of sensory experiences for infants and toddlers. Include fresh air, a range of smells, sounds and temperatures, materials to touch and feel, and movement activities.
- ✓ Encourage infants and toddlers to use all senses--hearing, seeing, tasting, smelling, and touching--to explore indoors and outdoors.
- ✓ Help children who have sensory impairments to participate fully in all activities and enjoy a wide range of sensory experiences. For example, play music with a bass beat that children who are deaf can feel through their bare feet. Make sure they can also see others moving in time to the music. Remember, some children are overly sensitive to sound, light or touch. Expose them to new sensory experiences gradually.
- ✓ Comfort premature infants when they become over-stimulated. Premature infants may look away, fuss, or cry when there is

too much light, sound, or interaction with people. Turn lights low, keep noise down, swaddle them gently, and stop interacting with them when needed. Provide private space for all children to calm themselves when they are over-stimulated.

- ☑ Be aware that infants and toddlers explore their environment by placing things in their mouths. Provide safe toys and supervise children closely to prevent choking and the spread of germs.
- ☑ Place non-mobile children where they have opportunities to see and hear new things, see familiar things from different views and watch or join in with other children.
- ☑ Hang clear, simple pictures, mobiles, and unbreakable mirrors where infants and toddlers can see and/or hear them.
- ☑ Read to children. Tiny infants like to hear the sound of your voice. Toddlers like to see the pictures and turn the pages.
- ☑ Allow infants and toddlers to explore and experience different surfaces, such as vinyl floors, carpet, grass, concrete, sand, and mud.
- ☑ Give toddlers choices to allow them to communicate likes and dislikes, such as deciding between two toys or choosing which color shirt to wear. For children who cannot point or talk, look for gazes or other gestures that show their likes and dislikes.
- ☑ Take walks around the neighborhood to experience changes in nature. Point out flowers, colored leaves, wind, water, animals and other items in nature.
- ☑ Prepare an environment indoors and outdoors that is safe for children to explore. Cover electrical outlets, place breakable objects out of reach, pick up trash. Remove other dangerous objects from indoor and outdoor-play area.
- ☑ Observe what children are interested in, watch where they play, and provide materials and books to follow their interests.
- ☑ Provide sensory materials that allow children to make a mess (sand, water, paint, clay). They learn from these experiences.
- ☑ Make large objects available to toddlers to play with such as empty appliance boxes, beanbag chairs, or pillows.
- ☑ Learn how to adapt your environment to meet the needs of all children. Find out about community resources available to you and the children and families in your care.

Real World Stories

Yesterday, Miss Luo saw several one-year-olds watching maple tree seeds whirl to the ground on their “wings”. Today she has collected maple seeds, dry leaves, and fluffy milkweed seeds. When they go outside, several toddlers cluster around Miss Luo. She shows them the maple seeds she has collected.

“Do you remember these?” she asks. Sarah smashes some seeds between her hands. Jamel examines one carefully, and Chutima tosses a handful into the air. “The whirligigs are twirling down,” says Miss Luo. “Whugigs!” echoes Chutima. When Adam begins crunching a seed with his teeth, Miss Luo gently tells him to spit it out and shows him how to toss it in the air.

Some toddlers begin searching the ground for more maple seeds. Later, Miss Luo shows them the leaves and the milkweed seeds and encourages the toddlers to toss them into the air.

While one toddler is standing at the top of a climber, Miss Luo shows him how to drop first one kind of seed and then another from this height. Several more toddlers climb up with items to drop. They start with the leaves and seeds and add other items such as twigs and small toys.

Miss Luo and her co-teacher watch carefully. They gently interrupt toddlers if they are about to drop something on another child. They use many different words to describe children’s experiences: “fluffy”, “floating”, “heavy”, “light”, “soft”, and “brittle.”

In this example, these toddlers are exploring new objects and the properties of familiar objects. They explore by throwing, dropping, carrying, and squeezing. One child puts an unfamiliar object in his mouth. The teachers know that young toddlers continue to explore in this way. They also know that most children in their particular group are not likely to do it often. They decide they can keep the children safe during the activity.

Miss Luo chose this activity because toddlers were interested in the maple seeds. She helps them add to what they know by showing them other things that float down through the air. She gives them words to describe what they see. But she does not force toddlers to follow her agenda. She allows them to crush the seeds or drop other items from the climber.

She continues to encourage toddlers and talk about what they are doing. Toddlers begin to learn about natural objects from all of these actions. Their experiences form a foundation for scientific thinking and understanding.

🌍 SENSORY EXPLORATION AND DISCOVERY and
CONCEPT DEVELOPMENT AND MEMORY

♥ SENSE OF SELF WITH OTHERS

🍏 CURIOSITY AND EAGERNESS

🗣️ RECEPTIVE LANGUAGE and EXPRESSIVE LANGUAGE

Social Connections

In this area, infants and toddlers learn about social relationships and the people around them. As they watch and interact with other people, children begin to understand their own role and others' roles in the social world.

What to Look For

Infants may begin to:

- Become connected to primary caregivers.
- Look toward people and follow them with their eyes.
- Show a clear preference for familiar people.
- Intently observe actions of children, adults, pets, and objects nearby.
- Imitate facial expressions and sounds.
- Reach to explore caregiver's face and clothes.
- Seek parents, siblings, caregivers, and teachers for play and meeting needs

Young Toddlers may begin to:

- Imitate routine actions of their caregivers (rock a baby doll, push a lawnmower, "read" a magazine).
- Participate in daily routines (wash hands, come to table for snack).
- Remember people they have seen before.
- Show they understand others' emotions by offering comfort or help (pat crying child, offer soft toy).
- Know whom they can go to for help (regular caregiver versus visitor, parent versus neighbor).
- Recognize other children (make sounds, say name, move toward or away from child).
- Compare their own physical features and emotions with those of others by looking and touching.

Learn as much as you can about the cultures of the families in your program. Provide books, pictures, toys, music, and other materials that are familiar to children and bring their cultures into the play area in positive ways.



Older Toddlers may begin to:

- Help with daily routines (put cups out for lunch, feed pets, wash tables).
- Engage in make-believe play about things they see others do every day.
- Tell the difference between “mine” and “yours.”
- Select which children they want to be with.
- Talk about what others do during the day (“Mommy at work.” “Mimi at home.”).
- Show they know what others want by talking about it or trying to help (reach toward light switch when an adult says “It’s dark in here,” says “He get away” when looking at a picture of a man running).
- Put self and others in categories based on age, gender and physical characteristics using language and play. (Say, “I’m a girl.” Point to a picture, puppet or doll and say: “That looks like me.”)
- Use play to communicate what they know about their community.

What to Do

- ✓ Hold and hug infants and toddlers throughout the day to help each child feel safe and secure.
- ✓ Learn from families how they hold, calm and soothe their infant so you can do the same.
- ✓ Tell infants and toddlers what you are going to do before you perform caregiving tasks. (“I’m going to wash your face and then we can play.”)
- ✓ Make playful interactions part of caregiving routines. (Play peek-a-boo, imitate facial expressions, or make the same sounds infants make while dressing or changing them.)
- ✓ Learn as much as you can about the cultures of the families in your program. Provide books, pictures, toys, music, and other materials that are familiar to children and bring their cultures into the play area in positive ways.
- ✓ Bring other cultures into the program in positive ways so children can see and experience how diverse the human race is.
- ✓ Learn to say a few important words in the home language of infants and toddlers whose families speak a different language.
- ✓ Cuddle with a child or a few children while you read a book to them. Very young children may prefer to look at the pictures. Talk to them about what they are seeing and hearing.
- ✓ Keep television to a minimum! Play with infants and toddlers using real objects and real human interactions.
- ✓ Model pleasant, polite interactions with family members and other adults. Infants and toddlers will imitate you.
- ✓ Allow children to discover “what is me” and “what is not me.” Toddlers begin to recognize and explore differences among people, including skin color, clothes, and physical appearance. Talk about these differences in a positive way.
- ✓ Allow and support children’s choice of playmates. Help children play together, including children who are different from each other. Model and encourage gentle touch while playing.
- ✓ Toddlers frequently claim people and objects as “mine.” This is a normal part of learning the concepts of “yours” and “mine.” Children must learn these concepts before they can learn to share. Provide several of the same toys and help children understand these concepts. (“This is your truck and that is Eduardo’s truck. Both of you have a truck.”)
- ✓ Take children to community events and places such as parks, playgrounds, petting zoo, farmer’s market, and library to learn about the world.
- ✓ Allow toddlers to help with daily routines such as putting out napkins, folding laundry, feeding pets, and watering plants. Adapt tasks so children with special needs can participate. (Keep in mind children with health conditions such as asthma, allergies and chronic cough may need to avoid animals.)
- ✓ Share children’s pleasure in learning and discovering new things through their play, both indoors and outdoors.
- ✓ Make scrapbooks or memory books and revisit them with the children.

Concept Development & Memory

Infants and toddlers acquire and remember basic concepts such as names of objects and people, colors, sizes, and shapes. Children relate what they learn to previous experiences and use their knowledge in new and different situations.



What to Look For

Infants may begin to:

- Look in the direction where objects disappeared or turn head towards sounds.
- Respond in simple ways to people and objects (smile and focus on familiar face, soothe at smell of mother, bat at a toy).
- Anticipate routine events (smile, wave arms and legs, make excited sounds, move toward adult holding bottle).
- Expect and try to repeat actions and events (make sounds when music stops, bounce up and down to get adult to continue “horsie ride”).
- Discover different shapes and sizes by exploring (put toys in mouth, crawl over pillows, pick up large objects).

Young Toddlers may begin to:

- Seek objects that are hidden or partly hidden.
- Observe and imitate others (children, adults, pets).
- Recognize where familiar objects belong.
- Identify objects and people in pictures by pointing.
- Use familiar objects in appropriate ways (comb hair, talk on phone, “water” plants with pitcher).
- Participate in routine events (carry clean diaper to changing table, go to sink to wash hands, sit at table for snack).
- Explore space with their bodies (fit self into large box, crawl under table, climb over low walls).
- Try to fit shapes into holes.

- Try to take simple objects apart and put them together (snap beads, pots with lids, containers that open and close).
- Indicate they want “more” (food, songs, “catch me” games).

Older Toddlers may begin to:

- Experiment with safe tools to learn how they work (wooden hammer with pegs, sifter, funnel).
- Investigate the world of nature (care for classroom pets and plants, pick up rocks and bugs, ask questions about things seen outdoors).
- Search for objects in different places, even when not seen recently.
- Remember more about events (tell what happens next in favorite book, repeat finger play, talk about recent trip).
- Recall the order in which things happen (finish line in story or song, remember that outdoor play comes after snack).
- Use an object to represent something else during play (block for a cell phone, a large box for a fort).
- Put objects together that are alike in some way (cars with cars and airplanes with airplanes, plates separated from cups, all long blocks together on shelf).
- Ask for “more” or “one more” (toy, snack, story).
- Try to count and use some number words.

What to Do

- ✓ Provide toys and materials that vary in color, texture, shape, size, and other characteristics.
- ✓ Keep toys and materials where infants and toddlers can reach them. Choose playthings that present some challenges to the children in your group.
- ✓ Talk often about what is happening around infants and toddlers. Name people and objects and describe events. Use a wide variety of words.
- ✓ Use self-talk (describe what you are doing) and parallel talk (describe what the child is doing) to provide new information. (“I am washing my hands-oooh, the water is warm.” “You are pushing the big dump truck. I am rolling the shiny, blue car.”)
- ✓ Make extra efforts to help infants and toddlers with disabilities connect concepts and words to their experiences. For example, for an infant who is blind, provide many things to touch, hear, feel and smell. Describe these things as the infant explores them. Make sure a child with hearing loss is looking at you and at the object you are communicating about before speaking or signing clearly about it.
- ✓ Use routines and real-life situations to help infants and toddlers learn. For example, talk about body parts during diapering or “hot” and “cold” while eating. Toddlers learn about things that go together and the concepts of “same” and “different” while sorting laundry and picking up toys.
- ✓ Allow infants and toddlers to play for long periods of time and repeat activities over and over.
- ✓ Observe each child carefully to determine what they enjoy, where they are comfortable, and how they learn best. Offer activities to match each child’s interests and temperament.
- ✓ Hide toys while infants are watching and encourage them to find them (under a blanket, in your hand, behind the chair).
- ✓ Give toddlers a chance to collect, sort and organize objects and materials both indoors and outdoors. Make sure children with disabilities have access to the same wide variety of materials.
- ✓ Encourage and help children to think about, name, and talk about what they are seeing and doing.
- ✓ Read stories that repeat the same words or lines over and over. Read favorite books many times. Talk about books after you read them. Read books on a variety of topics and place books in all learning centers.
- ✓ Invite children to tell or retell stories and talk about recent events.
- ✓ Provide materials for children to use in make-believe play. Play with them without taking over.
- ✓ Provide opportunities to play with materials in ways that change them, such as cutting play dough and squishing it back together or mixing two colors of finger paint.

Problem-solving

Infants and toddlers use what they have learned from past experience to meet challenges and solve problems. They show flexibility, creativity, and persistence.

What to Look For

Infants may begin to:

- Make random movements with various parts of their body.
- Notice the results of an action and do it again (shake rattle to make noise, kick legs to make crib mobile bounce).
- Meet their needs in simple ways (cry, kick, spit food out).

Young Toddlers may begin to:

- Use trial and error to make things happen (bang, then shake, then pull to get a lid off).
- Use what they know in other situations (try to get same reaction from different adults, look for buttons to push on new toys).

- Use body, objects, or others to get what they want (point to refrigerator for a drink, crawl over objects to get to toy, pull a string to bring toy closer).
- Use familiar objects in inventive ways (use spoon to feed self, doll, or other person; hand toy phone to parent to “talk”).
- Solve simple problems using tools (use stick to reach toy, catch bug with net, wave wand to make bubbles).

Older Toddlers may begin to:

- Find solutions by thinking (stop play to think about what to do; try idea not suggested or demonstrated by others).
- Think about more than one way to solve a problem and choose one.
- Find creative solutions to problems (put chairs together for a train, use hollow block for a doll bed).



What to Do

- ✓ Move toys closer when an infant is reaching for, but cannot touch, a desired object.
- ✓ Encourage infants when their random movements make something interesting happen. Talk about what is happening. (“You waved your arm and the bell jingled!”)
- ✓ Play a game of hiding favorite toys and encouraging children to find them with you.
- ✓ Provide toys and household items that pose problems for infants and toddlers to solve, such as empty containers with matching lids, measuring cups, pots and pans, sorters, busy boxes, simple puzzles, and large Duplo® blocks.
- ✓ Allow time for infants and toddlers to try to solve problems on their own. Know each child’s signs of frustration. Offer help only when the child seems unable to master the problem alone.
- ✓ When you help infants and toddlers, provide just enough help so they can finish independently and feel successful. For example, open a snack or zipper half way and let the child finish.
- ✓ Praise children for their effort by using words like, “Keep trying, you almost have it!” “You worked for a long time and you got it done!”
- ✓ Explore other solutions to problems by asking questions such as “what would happen if...”
- ✓ Be aware that children might be solving problems silently. Allow them time to do so. Invite a child to use words to state, or show you, what the problem is if you believe this will lead them to a solution, but do not require them to explain the problem to you.
- ✓ Support children and help them to feel secure. When children feel secure, they are willing to keep trying until they solve a problem, even if they fail sometimes.
- ✓ Welcome questions from children about why things happen. If possible, show them while you explain. (For example, if a child asks “Where did the ice go?” in a pitcher of water, put out a bowl of ice and invite children to watch what happens.)
- ✓ Ask questions that have many possible answers (open-ended questions) while reading books to toddlers, such as “What do you think might happen?” or “Where do you think the bird is going?”

Real World Stories

Mrs. Juarez has placed a pile of scarves and homemade streamers in her outdoor play area. She hopes the children in her family child care home will enjoy them on this windy day.

Chelsea, who is two-and-a-half, selects two orange scarves and flutters about the yard. “See, I a butterfly!” she calls. Perhaps she is thinking of the monarch butterflies she has seen in the yard lately. Carlos, who is almost one, watches Chelsea and then crawls over to the scarves. With one scarf in each hand, he flaps his arms wildly and squeals with delight.

David, who is almost three, sorts through the streamers and separates the colors. He chooses a bright green one, saying, “This my snake, like the book.” Mrs. Juarez remembers that David liked the green tree python in a book from the science center. He runs as fast as he can with the streamer sailing behind him.

Suddenly, David stops and asks, “Can I put eyes on my snake?” “How will you do that?” asks Mrs. Juarez. David thinks for a moment, then points to the paint on the outdoor easel. Mrs. Juarez smiles and nods her head. David’s snake with eyes is soon flying behind him as he chants, “Snake fly, up high, snake fly, up high.” The two younger toddlers in the group run around the yard, fluttering scarves of their own.

The scarves and streamers in this example are ideal for promoting creativity and helping children learn concepts. They are materials the children can use in many ways. Children at all age levels enjoy and learn from these materials, which encourage active play.

For younger toddlers, scarves make running and flapping their arms a new experience. The older children in the group use them to pretend. Scarves become butterfly wings and a streamer becomes a snake.

David and Chelsea make connections with what they know about snakes and butterflies. The younger children imitate the actions of the older ones. This increases their learning as well. Mrs. Juarez lets David figure out how to put eyes on the streamer to make a snake that flies. This encourages his creative thinking and shows that she values it.

- 🎯 CONCEPT DEVELOPMENT AND MEMORY, PROBLEM SOLVING and CREATIVE EXPRESSION
- ✋ PHYSICAL ACTIVITY
- 🍏 IMAGINATION, CREATIVITY AND INVENTION

Creative Expression

Infants and toddlers begin to explore music, drama, dance, art and building. They become more able to express their ideas and feelings using imagination and artistic materials.



What to Look For

Infants may begin to:

- Show interest and respond to sounds, tones, and voices.
- Listen to music and be calmed by it.
- Use everyday household objects for play (spoons, pots and pans, plastic bowls).
- Attend to bright or contrasting colors (primary colors, black and white).
- Gaze at pictures, photographs and mirror images.
- Show preferences for favorite colors.
- Hold, touch, and experience different textures (fuzzy blanket, smooth skin, rough carpet).

Young Toddlers may begin to:

- Use hats and clothes for dress-up make-believe.

- Respond to and participate in music, rhythm, and songs (sway, clap, stomp, vocalize).
- Explore and use musical instruments.
- Use materials to create sounds (bang blocks together, run wheels over rough floor, shake metal can to make contents jingle).
- Observe and imitate hand movements to music and finger-plays.
- Explore sensory materials and use them to create visual effects (smear finger paint, tear paper, roll and squash play dough).

Older Toddlers may begin to:

- Request preferred songs, music and rhymes.
- Express ideas and feelings through music and dance.
- Use props to recreate a familiar event (birthday party, going to the store).
- Experiment and create art with clay, crayons, markers, paint, and collage materials.

- Create familiar scenes using play materials (blocks, animals, people, cars).
- Pretend to be somebody other than themselves.

What to Do

- ✔ Provide musical mobiles for infants to watch and listen to.
- ✔ Place pictures and photographs at eye level for infants and toddlers and talk about them. Laminate pictures and attach them to the wall with Velcro® so children can handle them without damage.
- ✔ Listen and dance to many types of music. Play soft, soothing music during nap and lively music for children to dance. Talk with the children about the variations in music, such as loud, soft, fast, or slow. Point out the sounds of different instruments.
- ✔ Ask families to share recordings of music they enjoy. Play songs and dances from different places in the world.
- ✔ Provide safe musical instruments that make all kinds of sounds. Use household items as rhythm instruments and make musical instruments with materials that are easy to find (empty boxes, plastic bottles, paper tubes).
- ✔ Sing nursery rhymes and do finger plays. Let toddlers choose songs by pointing to pictures. Provide board books with illustrations of favorite repetitive song lyrics so children can “read” them.
- ✔ Encourage children to move and dance to music in many different ways (march, clap, stomp, gallop, jump, sway). Offer dance props such as scarves, streamers, and shakers for toddlers to twirl and shake.
- ✔ Provide a wide variety of sensory materials both indoors and outdoors, such as play-dough, goop (cornstarch and water), clay, finger paint, chalk, sand, mud and wood pieces.
- ✔ Provide materials for drawing, painting, building, molding and collage. Choose materials that are suitable for the age and development of the children. For example, use contact paper for collages with children who cannot handle glue.
- ✔ Invite children to talk about the art they create. Recognize that they may not have words for their creations or may not want to describe them. Make specific comments about what they have done (“You put a lot of feathers in this corner”).
- ✔ Display children’s artwork at their eye level and go back often to talk about it. Help young children respect their artwork by encouraging them to keep the art on the walls.
- ✔ Provide toys that create life scenes like a farm, parking lot, bus station, or school. Use puppets and stuffed animals to act out songs, rhymes, and stories. Encourage children to pretend using these materials.
- ✔ Provide dress-up materials to encourage pretend play about a variety of themes (gowns and top hats for a night on the town; hardhats, big boots and tools for builders; dresses, ties, shoes and watches for house and office play).
- ✔ Offer creative play activities both indoors and outdoors. For example, children might use chalk on a blackboard indoors or on the sidewalk outdoors. Play music outdoors where children can make large dance movements.
- ✔ Take pictures of the children doing creative activities. Display these pictures to help children recall what they have done and to help families appreciate the creative process.

