

Early

Learning & Education PROGRAMS

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Learning with Infants and Toddlers

Sophie greets children and parents as they arrive. "Good morning Antonio! I'm so happy to see you today." Sophie offers the 14 month old Antonio a spray bottle and says, "Would you like to water the plants?" He smiles, takes the spray bottle, and slowly walks towards the plants. When he reaches the herb garden he stops, braces the bottle against his tummy with his left hand, and uses the open palm of his right hand to push the trigger of the bottle towards his chest. The water dribbles out and he laughs.

Antonio then walks to the buckets of blocks and cars in the play area. He reaches into the second bucket, pulls out a green car, smiles, and sits down to roll it back and forth. Leilani, a seven month old infant arrives. She smiles, wiggles her legs, and holds her arms out to Sophie. As

Sophie sits on the carpet with Leilani, a light breeze blows through the wind chimes outside the window. Leilani looks towards them and then up at Sophie who says, "Those are the wind chimes you hear. The wind is making music with them." Antonio turns to look at the wind chimes too, and then he resumes playing.

Infants and toddlers learn from social interactions, their senses, and their experiences. Supportive learning environments for infants and toddlers offer plenty of space for exploration, sensory activities that are developed from the child's interests, and ample time to explore. The foundations of infant-toddler cognitive development and understanding are: cause and effect, spatial relationships, problem solving,

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MATH IN BOOKS

Use the following books to introduce and practice math skills.

- *A Chair for My Mother* by Vera B. Williams
- *Big Little* by Leslie Patricelli
- *Brown Bear, Brown Bear, What Do You See?* by Bill Martin Jr. and Eric Carle
- *Each Orange Had 8 Slices* by Paul Giganti Jr.
- *Freight Train* by Donald Crews
- *Mouse Paint* by Ellen Stoll Walsh
- *Pancakes!: An Interactive Recipe Book* by Lotta Nieminen
- *Round Is a Tortilla* by Roseanne Thong
- *Shapes, Shapes, Shapes* by Tana Hoban
- *Ten Little Rabbits* by Virginia Grossman
- *The Napping House* by Audrey Wood
- *We All Went on Safari* by Laurie Krebs



Follow That Beat!

Julie sits on the floor of the toddler room and hits a metal bowl with a wooden spoon — rat-a-tat-tat, rat-a-tat-tat. She pauses to look at Gabriel who hits a plastic bowl with a spatula. Gabriel smiles as he taps his bowl — rat-a-tat-tat, rat-a-tat-tat. Julie laughs and hits her bowl with the handle of the spoon — tap-tap-tap-tap. Smiling, Gabriel turns the spatula around and hits his bowl — tap-tap-tap-tap. They continue this musical exchange for several minutes.

Julie and Gabriel are using music to communicate with each other and strengthen their relationship. Through these rhythm experiments, they are also learning about math and self-regulation. They are practicing one-to-one correspondence as they match their movements to a beat, building their capacity for memory, creating their own patterns (seriation) by drumming, and practicing how to stop and start their bodies (self-regulation). As they continue to listen to music and play instruments, they will begin grouping and classifying sounds, counting beats, and memorizing favorite songs.

Music benefits all children and can be encouraged by creating a music area with a variety of instruments such as drums, tambourines, maracas, shakers, bells, xylophones, and regional or home-made instruments. Add materials that encourage children to move and create their own dances such as scarves or ribbons. Make a wide range of quality music available for children to listen and move to such as classical, jazz, lullabies,

and music from multiple cultures. Listening to different instruments and music styles will help children build their aural (sound) discrimination, which improves their language development.

Make music available on a daily basis for free exploration, and use guided music and movement activities as part of group time. Play rhythm sticks and ask children to imitate simple rhythm patterns, or create a series of movements for a song. Encourage children to make up their own songs to sing during transitions. Inspire children to sing and play every day.

Source: Loose Parts 3: "Music and Math: How Do We Make the Connection for Preschoolers?" by Karen Sawyers and Janet Hutson-Brandhagen (Exchange, July/August 2004).



Hearing Evaluations

Hearing plays an important part in the development of speech and cognitive skills in young children. Regular hearing evaluations by a medical professional can identify hearing loss early, and allow parents the opportunity to pursue medical interventions. It also allows their child to begin learning and using sign language, if desired. Hearing loss can be caused by birth complications, certain viruses or infections, repetitive ear infections, exposure to extremely loud noises, family history, or can develop during pregnancy.

Most children are born with their hearing fully developed, but all hospitals in the United States conduct a hearing screening for each newborn. Hospitals also have an Early Hearing Detection and Intervention (EHDI) program dedicated to identifying infants with permanent hearing loss before they are three months old. This is important because the most effective interventions are those that begin before an infant is six months old.

Between birth and six months, most infants will react to loud noises by jumping (startle response), find soft singing soothing, wake up when it is noisy, seem to recognize

familiar voices by calming at the sound, turn towards new sounds, respond to changes in tone of voice, and begin to vocalize simple sounds. If you observe that an infant is not reaching these milestones during their first year, it may be beneficial for him to receive another hearing evaluation.

Continue observing children as they grow, particularly those who experience frequent ear infections, trauma, or severe illness. Hearing evaluations should be done at birth and at three months old if an infant does not pass the birth evaluation. Hearing evaluations should also be done at ages four, five, six, eight, and ten years old, or when recommended by a medical professional.

Source: Information was adapted from <https://kidshealth.org/en/parents/hear.html> in June 2019.



Learning with Infants and Toddlers

imitation, memory, number sense, classification, symbolic play, attention maintenance, and personal care routines.

In this story, Sophie has created a sensory-rich environment that invites curiosity. She has also provided children with materials and experiences that help build their cognitive development. Antonio demonstrates that Sophie provides a predictable routine and environment by showing that he knows where materials are and how to use them. This consistency helps Antonio feel secure and allows him to repeat tasks, which builds his memory. Sophie uses spray bottles to support (scaffold) his development from one level to the next because she observed that with effort, Antonio could operate the bottle by himself. She knew this challenge would offer him a chance to master that skill.

Antonio can also use the blocks for counting, making patterns, symbolic play, and classification. Combining the blocks to build structures allows him to explore the spatial relationships between objects and solve problems such as how to prevent blocks from falling. The wind chimes offer sensory experiences and demonstrate cause and effect. It is evident that Sophie has established a strong relationship with Leilani. When she arrives to care, she is happy to see Sophie, and when she hears the wind chimes, Leilani expects Sophie to offer her information about what is happening.

The security of nurturing relationships is a necessary support for infants and toddlers as they explore, learn, and develop. Caregivers can build upon those relationships by offering an environment that combines familiar activities with new challenges. As infants and toddlers practice and master these activities, their cognitive skills will grow.

Source: *California Infant Toddler Curriculum Framework*, by the California Department of Education (Sacramento, 2012).

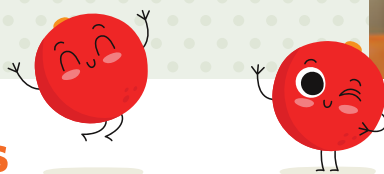
COGNITIVE DEVELOPMENT

Educators often find that the families of infants and toddlers have different perceptions of what cognitive development is and how it can be measured. For example, they may think that cognitive skills are only about learning the ABCs. A family's economic situation, culture, and belief system will influence their expectations for their child's development.

Be respectful and open to their ideas and look for positive ways to share information about development. When an infant is picked up, you can share observations such as "Today when we were cleaning up, Ruben remembered where each toy goes. When Ruben uses his memory, he is building his math skills!"

Take a moment to think about the children and families in your program and consider the following questions: What do the parents in your program know or believe about the cognitive development of infants and toddlers? How do you help families see, understand, and support cognitive development?

Source: *California Infant/Toddler Curriculum Framework*, by the California Department of Education (Sacramento, 2012).



Cranberry Scones

Cranberries are small red berries with a tart taste. Since they are packed with antioxidants, vitamin C, and fiber they make a healthy addition to oatmeal, smoothies, and breads. Children can help prepare these scones and enjoy them with milk for a snack.

Ingredients to make four scones:

- 1 cup chopped cranberries
- 1/4 cup sugar
- 1 cup flour
- 2 1/2 teaspoon baking powder
- 1/2 teaspoon salt
- 1/3 cup butter
- 1 large egg
- 1/4 cup milk
- 3 tablespoon heavy whipping cream



Directions

Preheat the oven to 400°. Chop the cranberries and mix together the dry ingredients. Cut the butter into the dry ingredients. Slightly beat the egg and whisk in the milk and cream. Fold the wet ingredients into the dry mixture and stir just enough to moisten it. Add the cranberries and mix a little more carefully, to not over mix.

Spray a baking sheet with nonstick cooking spray and place the batter on top. Pat it down to form a circle about twelve inches wide and three-quarters of an inch thick. Place in the oven and bake at 400° for sixteen minutes, or until it is slightly golden on top. Let it cool for a few minutes before cutting it into wedges. Serve warm.

Source: Recipe adapted from <https://www.superhealthykids.com/recipes/cranberry-scones> in June 2019.



Fun with Math



Math is all around us and children use it in their daily play. When they pretend to set the table for meals, add up restaurant orders on a calculator, play the drum, or build with blocks, they are using math. Plan activities that introduce new skills, then select materials for the environment that allow children to practice those skills at their own pace. For example, you might introduce primary and secondary colors by reading the book *Mouse Paint* by Ellen Stoll Walsh, then set out a color-mixing activity with ice cube trays, eye droppers, and water that has been colored red, blue, and yellow.

Title: Here is a Beehive

Age group: Infants

What you need: Optional: A black glove with a small bee glued to each fingertip.

What you do: Sing the following rhyme using the gestures described in the parentheses. Here is the beehive, where are the bees? (clench your fist). Hidden away where nobody sees (pretend to look inside your fist). Open it up and out they fly (open fist and bring out fingers quickly one by one). One, two, three, four, five, buzzzz (gently tickle your child's neck while saying "buzz").

What they learn: Infants are introduced to the numbers one through five, counting, and literacy. This is also an opportunity for caregivers to build relationships with infants by using eye contact, talking, and gentle touches.

Source: Adapted from <https://kids.tpl.ca/ready-for-reading/things-to-do/activity/-fingerplay-here-is-a-beehive> in July 2019.

Title: Pet Patterns

Age group: Toddlers

What you need: Choose two stuffed or plastic animals and gather three of each (example: three cats and three dogs).

What you do: Sit down in front of a toddler with your animals. Place one dog down and say, "This is my dog." Then, place a cat next to the dog and say, "This is my cat." Place another dog next to the cat as you say, "This is another dog." Then hold up the two different animals and ask, "Which is next?" If the toddler is unsure, offer a hint



such as, "The next animal says meow."

What they learn: Toddlers like placing toys in a line. This activity offers them an opportunity to try forming a simple A-B pattern by sorting familiar objects by similarities and differences. When you see toddlers make a pattern, draw their attention to it by saying, "I see a pattern," and then describe it.

Source: *The Encyclopedia of Infant and Toddler activities for Children Birth to Three* edited by Kathy Charner, Maureen Murphy, and Charlie Clark (Gryphon House, 2006).

Title: Whose Shoes are These?

Age group: Preschool

What you need: Magazines, thick paper, scissors (adult use), and glue.

What you do: Look for pictures in magazines that show people standing and wearing shoes. Cut out the pictures and glue them on to stiff paper like cardstock or poster-board, leaving space around each image. Once dry, cut the images out as rectangle shapes. Then cut each image in half between the shoes and the knee. Mix up the images and lay them out. Invite children to find the shoes that match each person.

What they learn: Children practice the math skill of matching according to size, shape, color, type of shoes, and other physical attributes in the pictures. Ask children, "How do you know those are his/her shoes?" Drawing attention to their process for classifying helps children learn to voice their observations and think through problems.

Source: *1-2-3 Math* by Jean Warren (Warren Publishing House, 1992)



Fun with Math

Title: Library Shelves

Age group: School Age

What you need: A variety of children's books including fiction (stories, fairy tales, poems, and rhymes), non-fiction (science, nature, art, cooking, maps, facts about other countries), magazines, graphic novels, song books, etc.

What you do: Place the books in a box next to an empty shelf or bookstand. Review the parts of a book with children (title, author, illustrator, editor, publisher, copyright date, and table of contents, if applicable) and the different genres (types of books). Ask children to organize the books by different attributes (example: put books in order by copyright date, alphabetize by author, by genre or subject, etc.). Ask children which style of organization is the most useful for finding books again later.

What they learn: Children practice categorizing, sorting, and ordering books according to their various attributes and genres.



ABOUT CHS

For over 125 years, Children's Home Society of California (CHS) has adapted to the changing needs of children and families. Since 1891, CHS has worked diligently to protect our community's children and strengthen their families through diverse programs and services.

At CHS, we view a child not in isolation, but in the context of each family's health, stability, and resources. We believe that families are fundamentally strong and resilient. The mission of CHS is to reach out to children and families at risk with a range of services to ensure every child the opportunity to develop within a safe, healthy, and secure environment.

Therefore, CHS provides a variety of services to children and families in California and nationwide, working to improve their quality of life by offering vital information, education and resource services, and child care assistance.

CHS also serves as an expert resource for child care providers, other social service agencies, and government agencies at the local, state, and national level. To learn more about CHS and resources available to you, please visit our website at www.chs-ca.org.

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