Communicating: Exploring numeracy and early mathematical understandings



Learning possibilities for position and direction

Children learn about location and direction from everyday experiences, first by experimenting with ways to move their bodies, to navigate furniture and avoid falls. As they develop physical knowledge of being in a space children begin to see relationships between people and other objects or events. For example, a child may begin to make judgments, such as whether a toy car will fit into a small box or whether they need a larger box.

As your child/children learn about location and direction it's important to introduce spatial language including:

- Position: over, under, above, below, top, bottom, side, on, in, between, outside, inside, around, in front, behind, front, back, before, after, beside, next to, opposite, apart, middle, edge, corner.
- **Direction:** left, right, up, down, forwards, backwards, sideways, across, along, through, close, far, near, to, from, towards, away from.
- Comparison: wide, wider, widest, loud, louder, loudest, quiet, quieter, quietest, empty, full, half full, same, overflowing.
- Movement: slide, roll, stretch, bend.

Play ideas to try

- Listen and dance to the song *Jump forward jump*back (see the resource box). Help you child/children to differentiate between left and right by writing the letter

 L on the back of their left hand. Once they are familiar with the dance, invite your child/children to teach the
 rest of the family. They might like to draw pictures of the dance moves. Get the whole family involved in doing
 the dance and make a family video.
- Invite your child/children to join in some simple games that support eye-hand/eye-foot co-ordination:
 - Set up a bowling/skittles game using plastic bottles (a little sand in the bottom will help give them stability) and a medium sized ball. Invite your child/children to bowl along a path and knock the skittles down. Encourage them to count the skittles they knock down and to use position, direction and movement words when talking about the game.
 - Hang a hula hoop from a tree branch and invite your child/children to throw balls or bean bags through. Use position and direction words when talking with your child, 'That was a big throw – it went right over the hoop! I wonder if this one will go through? Try standing a little closer this time.'
- Make and fly paper planes using scrap paper (discarded A4 letters/printed material is ideal). Invite your
 child/children to share their ideas and experiment with different designs. As they make their planes, talk with
 your child/children about the position and direction of the folds (fold the paper down the middle, fold in the top
 corners), and about the direction, movement and comparison of the flights (high, low, over, faster, glide), 'Wow

Resources

'The caterpillar' (finger play)

A caterpillar crawled to the top of a tree, (index finger of left hand move up right arm)

"I think I'll take a nap," said he.

So under a leaf he began to creep,

(wrap right hand over left fist)

To spin a chrysalis then fall asleep.

All winter long he slept in his chrysalis bed,

(keep right hand over left fist)

Till spring came along one day, and said,

"Wake up, wake up little sleepy head."

(shake left fist with right hand)

"Wake up, it's time to get out of bed!"

So, he opened his eyes that sun shiny day,

(shake fingers and look into hand)

He'd was now a butterfly! Fly, fly away!

(link thumbs and make hand flying motion with hands)

Story

Bug dance

https://www.youtube.com/watch?v=FdghMCK6bm0

Song

Jump forward, jump back

https://www.youtube.com/watch?v=1PdA1z5fwqc

Website

Brisbane insects and spiders

http://brisbaneinsects.com/pchew_brisbane/index.htm



Sam, that was a fast throw! Your plane went really high then crashed down in front of you. I wonder what would happen if you tried a gentle throw? Do you think you could get it to go over the sandpit?'

Text: Murphy, S. 1989, Bug dance, Mulberry, New York.

Engage

- Step 1. If you have this book at home, encourage your child/children to predict what the story is about from the cover. If not use the suggested video link in the resources box and watch the video together.
- Step 2. Read/watch the story.
- Step 3. Here are some questions to ask your child/children about the story.
 - 1. Who wasn't very good at dancing? (centipede)
 - 2. What were some of the insects in the story? (centipede, caterpillar, inchworm, cricket, fly, ants)
 - 3. How do you think centipede feels about the dance?
 - 4. What might happen if the centipede put shoes on all his feet?

Play ideas to try

- Invite your child/children to walk around the garden to investigate the creatures that live there beetles, butterflies, grasshoppers, caterpillars, worms, spiders, centipedes. Notice where they live (on webs, inside curled leaves, under the soil) and how they move (wriggling, crawling, scuttling, running, flying, gliding). Encourage your child/children to draw pictures or take photos or videos of what they find. Together with your child/children, visit the website *Brisbane insects and spiders* (see the resource box) to find the names and information about the creatures that live in your back yard. Reinforce care for creatures with the line 'Look, love and leave' to avoid touching and harming insects and to avoid allergic reactions in children.
- Invite your child/children to pretend to be insects, spiders or other kinds of backyard creatures by making shapes and moving their bodies in different ways. For example, slowly, gently flapping their arms to fly like a butterfly, or scurrying on hands and knees like a beetle. Encourage your child/children to sing about the creature they are pretending to be, using the tune *The wheels on the bus*, for example 'The worm in the soil goes wriggle, wriggle, wriggle; wriggle, wriggle, wriggle, wriggle, wriggle, wriggle, wriggle, wriggle, all day long.'
- Invite your child/children to join in the finger play, *The caterpillar* (see the resource box). Demonstrate the finger movements, using position, direction and movement words to describe the actions (right, left, in, out, around, up, shake, fly). Explore your child/children's understanding of a butterfly's lifecycle (metamorphosis) from egg to caterpillar to chrysalis to butterfly. Together with your child/children, find a caterpillar, chrysalis or butterfly in your garden or at a local park. Take a photo of it then visit the *Brisbane insects and spiders* website (see resource box) to see what it looks like during its different stages of life. Perhaps you have your seen that in your garden and never knew?

