

CHAPTER 5

Movement Skills



5.1 DEVELOPING MOVEMENT SKILLS

This chapter serves as a collection of movement skills showcased throughout this guide, offering educators a one-stop reference for planning diverse movement experiences for children. It also explores essential practices of observation, assessment, and feedback, highlighting how educators can continuously enhance children's physical literacy.

Throughout this guide, emphasis has been placed on the importance of children's interaction with their environment, both indoors and outdoors, in the development of movement skills. Educators play a crucial role in facilitating this learning process by utilising the 5Es framework that supports children on their journey toward becoming physically literate individuals. Physical literacy, as defined in Chapter 1, encompasses the development of competence, confidence, and a love for moving, which are essential qualities for children to lead happy, active, and healthy lives.

But which movement skills can be considered "fundamental" for building a child's physical literacy? This chapter explores the essential movement skills, their importance, and how they contribute to the overall physical development and well-being of children.

5.2 WHAT ARE FUNDAMENTAL MOVEMENT SKILLS?

Fundamental movement skills underpin daily living activities and serve as the foundation for engaging in sport and more complex movement skills as children grow. The early years are particularly crucial for establishing and developing this foundation. Research indicates that a lack of movement competency in childhood can act as a barrier to the enjoyment and participation in physical activities and sport throughout youth and adulthood (1-4). By developing competency in a wide range of fundamental movement skills during the early years, individuals can have more options for physical activity and movement later in life (5).

Phases of Movement Skills Development



Adapted from Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners (2010) resource guide

In the first two years of life, a newborn's reflexes gradually fade away, and rudimentary movements begin to emerge. These early movements, such as grasping, sitting, and crawling, allow the child to gain control over different parts of their body before eventually coordinating them as a whole to stand up and walk.

During the preschool years, children develop fundamental movement skills. Through play and physical activities, they learn to control and manage their bodies while navigating the physical and social environment (6).

Fundamental movement skills are typically grouped into three main themes: Locomotor, Object Control, and Stability. Within each theme are key movement skills that are often performed in integration with one another to achieve a functional purpose.

Let us explore the fundamental movement skills that are important for a child's journey of growth and development. The skills listed in the following section have been selected on the basis that they are appropriate and essential for young children (5-7), but the list is by no means exhaustive. Importantly, if other movement skills emerge during the activities, then they are deemed fundamental for their function in that specific learning context.

5.2.1 LOCOMOTOR SKILLS

Locomotor Skills refer to body movements involved in transitioning from one place to another. Many locomotor skills are utilised in daily activities e.g., leaping over a puddle. They are also fundamental in various games and sport (e.g., jumping up to catch a ball or dodging an opponent) as well as during active play e.g., crawling through a tunnel or climbing in the playground. Here are some of the locomotor skills that should be introduced to children:

1. Walking, Running and Leaping

Walking is the child's first upright movement on both feet, providing them with independence and the freedom to explore their environment. Walking involves the transfer of body weight from one foot to the other, with one foot always in contact with the ground.

Running is similar to walking, but it includes a flight phase where both feet are momentarily off the ground. It is typically a faster form of locomotion used for daily functional activities (e.g., running after a bus) and in playground games e.g., tag.

Leaping is a variation of running that involves a longer and more exaggerated flight phase. It entails taking off from one foot and landing on the other to overcome obstacles.

Walking, running and leaping have similar movement characteristics. Thus, they can be considered variations of a similar type of locomotion. These forms of movement may emerge differently depending on whether there is a functional purpose for it. For example, a walk may transit into a run and end with a leap as a person walks down a slope with increasing gradient with a small puddle at the end.



Walking

Running

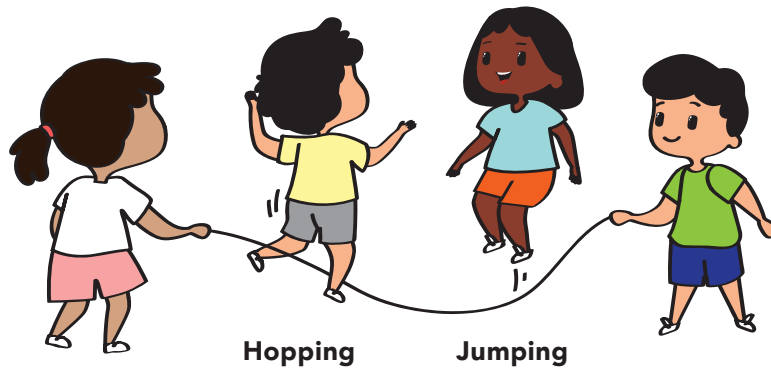
Leaping

2. Jumping and Hopping

Jumping is the action of taking off on either one or two feet and landing on both feet. It encompasses variations, such as jumping off a height, jumping for distance, and jumping for height.

Hopping, on the other hand, involves taking off on one foot and landing on the same foot, usually in a continuous and rhythmic movement.

Jumping and hopping are commonly used in traditional games such as hopscotch or rope skipping, in dance activities, and in sport like athletics e.g., high jump, long jump, triple jump. They are also embedded in net-barrier games such as in badminton when a person performs a hop (that leads into a variation of a gallop) in attempt to return a shot.



3. Sliding and Dodging

Sliding involves moving sideways while dodging typically entails a sudden change in direction. These skills are commonly used in games that require reacting to an opponent or an oncoming object.



4. Skipping and Galloping

Skipping consists of a continuous series of a step and a hop, while galloping requires keeping one foot in front of the other while moving forward in a rhythmic motion. Skipping and galloping can provide children with opportunities to explore different rhythms as an introduction to dance and music in motion. Skipping is also emergent based on emotion. For example, it is common for children to skip when they are feeling happy. In sport, these skills may emerge when there is a functional purpose such as having to step forward to reach for a shot in badminton (one cycle of a gallop), or as part of the run-up in high jump in athletics (skipping).



Skip to my lou! (Skipping)



Gallop like a horse! (Galloping)

5. Climbing and Crawling

Climbing and crawling are locomotor skills often used in the playground such as crawling through a tunnel or climbing up, across, or over an obstacle. These skills typically consist of a combination of stability skills such as bending, twisting, stretching, weight transfer, pulling, and pushing as the child navigates the obstacle.



Climbing

Crawling

6. Swimming and Cycling

Given that Singapore is an island-nation, swimming (aquatic skills) should be considered “fundamental” in addition to traditionally accepted fundamental movement skills. Riding a bicycle is another example of a movement skill that is essential for participation in physical activity across the lifespan (5). Swimming and cycling can be categorised as locomotor skills as it involves moving from one location to another. These skills may be introduced during school hours (if resources permit) or encouraged as part of out-of-school activities through learn-to-play programmes or as part of recreational physical activity with the family.



Swimming

Children in the preschool years should be exposed to water and develop fundamental swimming skills to promote water safety and gain confidence. Learning a variety of swimming skills opens up possibilities to participate in numerous water activities safely e.g., kayaking, canoeing, water polo, sailing, and scuba diving.



Cycling

Learning to cycle builds dynamic balance, coordination, and strength. Children can start off by riding a balance bike (pedal-less bike with two wheels) or a tricycle to get used to the balance and coordination patterns required. Being able to cycle creates opportunities to explore the outdoors and can be used as an alternative form of transportation to get to places.

5.2.2 OBJECT CONTROL SKILLS

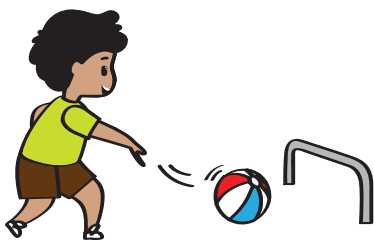
Object Control (Manipulative) Skills require the child to control an object using part of the body or using an equipment. Object control skills involve:

- **Sending** an object away (e.g., rolling, throwing, or kicking a ball)
- **Receiving** an object (e.g., catching a balloon)
- **Controlling** an object (e.g., bouncing or dribbling a ball)

Here are some of the object control skills that should be introduced to children:

1. Throwing and Rolling

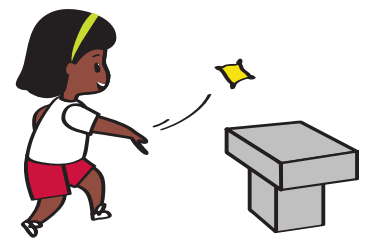
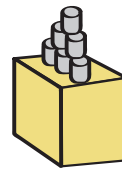
Throwing and rolling involve using the hands to propel an object towards a target, either for accuracy or distance. Variations of throwing and rolling a ball with one hand to a target include underarm rolling, underarm throwing and overarm throwing. Rolling a ball is commonly used in target sport such as bowling while throwing with one hand is used in ball games.



Rolling to target (underarm)



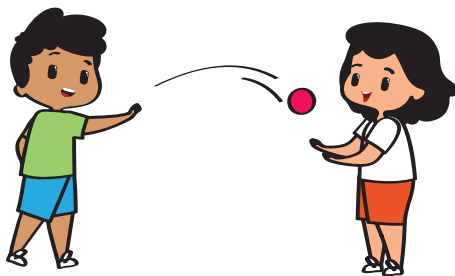
Throwing to target (overarm)



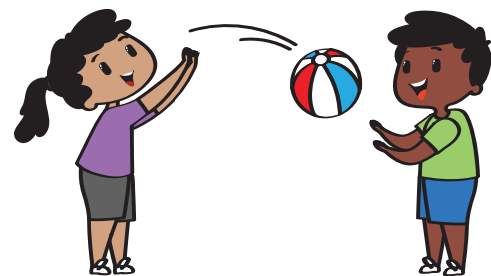
Throwing to target (underarm)

2. Throwing and Catching

Catching is typically introduced alongside throwing as it involves a response to a throw. While throwing involves sending an object to a friend, catching requires the child to track the object (keeping their eye on it) and coordinating their body and hands to receive it. Throwing and catching are essential skills in sport such as netball. Different ways of throwing and catching may be used depending on the size of the ball.



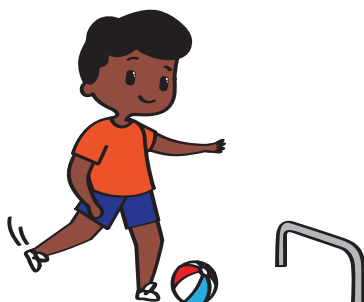
Throwing a small ball



Throwing a big ball

3. Kicking and Dribbling With Foot

Kicking involves using the foot to send an object either for distance or to a target with accuracy, while dribbling requires the child to control an object with the foot while in motion. These skills are commonly employed in the game of football.



Kicking with foot



Dribbling with foot

4. Bouncing and Dribbling With Hand

Bouncing a ball involves applying a firm downward push to make the ball rebound. It requires a child to track the up and down movement of the ball and respond with control according to the rhythm of the bounce. Bouncing can be performed while stationary or on the move (i.e., dribbling with the hand), and is primarily utilised in the game of basketball.



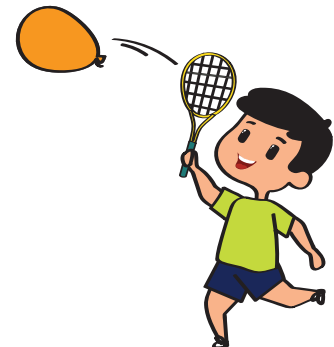
Bouncing/Dribbling a ball

5. Striking With Hand and With an Implement

Striking involves applying force to send an object away using the hand or an implement. Many simple games such as bursting bubbles or hitting balloons involve striking. Moreover, striking is fundamental in various sport, including badminton, tennis, volleyball, and softball. There are several variations of striking such as a one-handed overarm strike or a two-handed strike, which can be performed with or without an implement.



Striking with hand (without an implement)



Striking with an implement

6. Dribbling With a Long Implement

Dribbling with a long implement involves controlling an object with an implement (usually a stick) and travelling with it. It is a common skill in the game of hockey and floorball.



Dribbling with a long implement

5.2.3 STABILITY SKILLS

Stability (Non-Locomotor) Skills involve a child maintaining and/or attaining balance. Stability is a key element for every human movement and is necessary for all locomotor and object control skills.

Here are some stability skills that should be introduced to children:

1. Static Balance

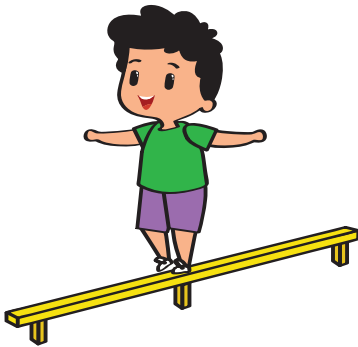
Static balance involves maintaining balance in stationary position while performing a task. Static balance activities may include exploring different shapes with the body while holding a stationary position, or balancing on one foot. The ability to balance on one foot is crucial for other skills, such as kicking a ball and hopping.



Balancing on one foot

2. Dynamic Balance

Dynamic balance involves maintaining balance while the body is moving. It is required in every locomotor activity (e.g., walking, stepping over a small drain) and in sporting activities e.g., dribbling a ball, dodging an opponent. At play, dynamic balance skills such as **weight transfer, bending, twisting, and stretching** are often used in combination to navigate playground structures to climb up walls, crawl through tunnels, and balance across stepping stones.



Balancing on beam



Stepping across stepping stones (weight transfer)



Twisting body to get across climbing net



Stretching to reach while climbing



Bending over

3. Pushing and Pulling

Pushing and pulling involve applying forces in different directions. A push involves exerting a force that moves objects away from the body (e.g., pushing a friend on a swing), whereas a pull involves moving objects towards the body e.g., pulling a trolley of toys. Games involving pushing and pulling with a partner can also be introduced for children to explore the feeling of being in a stable or unstable position. Pushing and pulling are intertwined with movements such as throwing and catching, and are also essential for activities of daily living such as opening doors and lifting school bags.



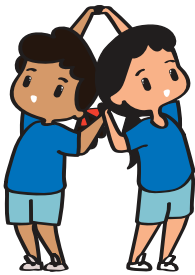
Pushing



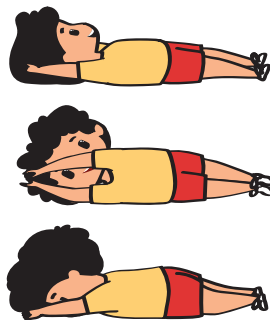
Pulling

4. Turning, Rolling, Tumbling, and Falling

Turning, rolling, and tumbling involve rotational movements around different axes of the body, commonly used in gymnastics, diving, dance, martial arts, and various contact sport. Learning to fall and tumble are also crucial skills that children should acquire, particularly at a young age. Being able to tumble and get into the right position to break a fall reduces the risk of injury and puts the child in a better position to explore a wider range of activities.



Turning



Rolling



Tumbling



SCAN THE QR CODE
TO WATCH FUNDAMENTAL
MOVEMENT SKILLS IN VARIOUS
LEARNING CONTEXTS

go.gov.sg/sportsg-fundamental-movement-skills

These fundamental movement skills videos include verbal cues that are aligned to the 5Es framework to facilitate **Exploration**.

As you watch the videos, notice how the children have slightly different ways of performing a skill. Variations are expected as movement patterns of children are influenced by various factors including the learning environment, task requirements, and individual differences.

5.3 OBSERVATION AND ASSESSMENT

Observation and assessment of children’s learning are important for educators to understand the children’s progress and to use the information to adjust or plan new activities that better support and promote children’s learning and development.

Children should be observed in various learning contexts e.g., as they move around throughout the day, during playtime at the playground, and during movement games and activities. Educators may take photographs, video recordings, and anecdotal records to capture children’s learning.

Educators can look out for the following five areas when observing a child’s movement competency: **Coordination, Consistency, Adaptability, Creativity, and Independence** to document important aspects of children’s progress.

In the following section, the “Feeding Frenzy” activity is used as an example to illustrate how educators may observe the five movement competency areas during play time. Apart from the elaboration and guiding questions, the movement competency spectrum is a useful tool to mark the child’s progress. Educators may design their own observation tools based on the movement activities children are engaged in.

The “Feeding Frenzy” activity plan can be found in Chapter 4. It aims to let children explore different ways of sending objects to targets of varying levels (i.e., low, medium, high).



Area for Observation #1: Coordination

What to Observe?

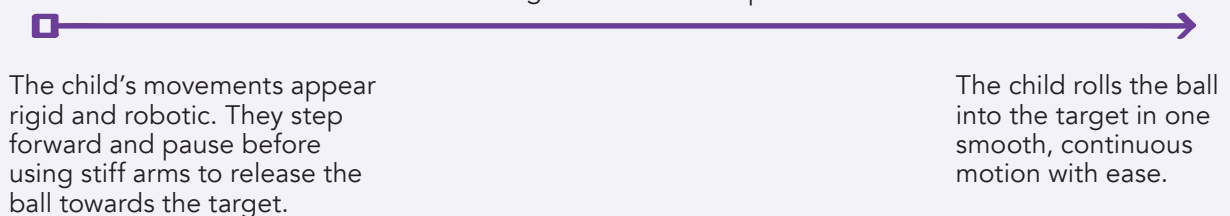
Observe a child’s entire body movement coordination pattern in a particular learning context (*instead of examining the movement pattern in segmented body parts*).

Guiding Questions

How does the child move when performing various fundamental movement skills in a learning environment?

- Are the child’s movements smooth, fluid, and rhythmic (vs rigid and stiff)?
- Is the child able to move comfortably and effortlessly within a play area or while performing a task?

Increasing Movement Competence



Area for Observation #2: Consistency

What to Observe?

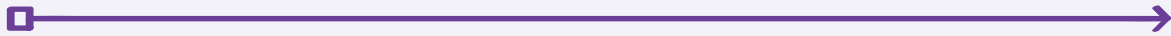
Observe a child's movement outcomes in a particular learning context, over a period.

Guiding Questions

How consistent is the child's movement performance for various fundamental movement skills?

- How accurate is the child at rolling/throwing/kicking?
- How long can the child balance on one foot?
- How stable is the child when balancing on a line?
- Is the child able to bounce and control a ball consistently? How many times can the child bounce a ball?

Increasing Movement Competence



The child usually misses when rolling, throwing, or kicking to the target.

The child is consistently accurate when rolling, throwing, or kicking to the target from a distance.

Area for Observation #3: Adaptability

What to Observe?

Observe a child's movement response when task constraints are changed or in a different learning context.

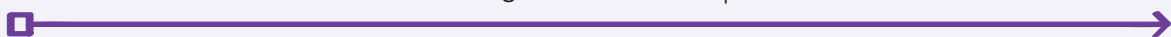
Guiding Questions

How does the child respond when task constraints are changed? Is the child able to make appropriate adjustments when:

- Different ball sizes are introduced?
- The non-dominant hand is used instead of the dominant hand?
- Target heights are varied?
- Playing on different surfaces?
- Rules of the game changed slightly?

How well does the child react to external stimuli in the environment e.g., an on-coming ball or to other children in the play area?

Increasing Movement Competence



The child is more comfortable using the underarm throw to send the objects to the targets and thus is only able to aim and reach the lower targets.

The child makes appropriate adjustments to the way they throw to aim accurately to targets of different levels. E.g., uses overarm throw for a higher target and underarm throw for a lower target.

Area for Observation #4: Creativity

What to Observe?

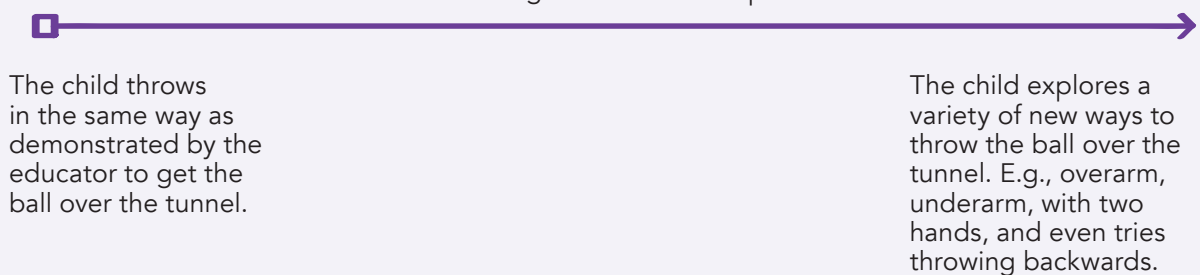
Observe a child's propensity to come up with unique movement solutions when presented with a task or challenge in a particular learning context.

Guiding Questions

To what extent does the child use new and unique ways to complete the task?

- Does the child challenge themselves to try new ways of moving? (vs preferring to go with a safer option?)
- Are the unique movement solutions functional?

Increasing Movement Competence



Area for Observation #5: Independence

What to Observe?

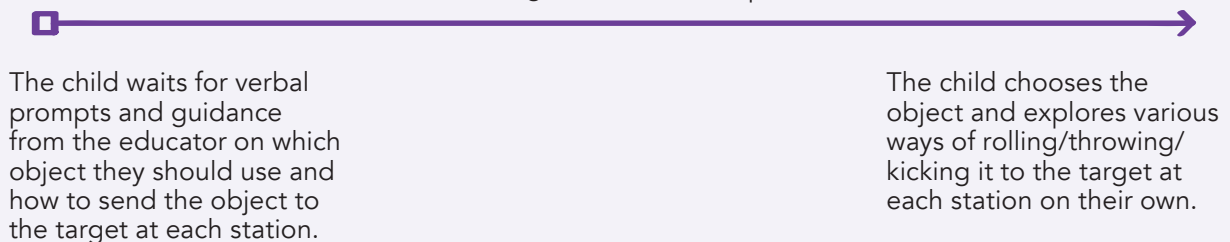
Observe the child's confidence to move or complete the task by themselves.

Guiding Questions

To what extent does the child depend on physical support and/or verbal prompts from others?

- Is the child able to effectively make use of cues in the environment to complete the task successfully?
- Is the child able to make decisions independently when given choices?

Increasing Movement Competence



CASE STUDY

This case study demonstrates how you can chart your observations and use them as a feedback and planning tool. When observing a child's movement competency, you can do so within an activity, or within a period across a variety of activities.

This case study showcases the observation record of Jane, a 5-year-old child across a period of 12 weeks. During this period, Jane participates in a whole range of structured movement activities like "Traffic Light" activity (see Chapter 4 for activity plan), and unstructured movement activities such as playground time. The playground is a "safe space" for children to explore movement with limited "rules and regulations", hence enabling educators to assess the child's competency to move and interact with the environment and others.

Unstructured Activity - Playground Play

The children get to play at the playground three times a week as part of outdoor time in the afternoon. They are encouraged to explore different playground features and create their own games with their friends.



Observation Notes

At the playground, Jane navigates the structures without assistance. She can be seen climbing up the steps quickly and jumps off low heights without hesitation. When climbing, she uses different ways and adjusts her body position to quickly get up or across various obstacles such as the cargo climbing net and the ladder.

She also enjoys playing tag with her friends. She typically joins in the game after observing a few other friends join in. During the game, Jane runs without bumping into others and usually runs around the perimeter of the playground in the same direction.

Interpretation and Assessment

Jane is quite **independent** when it comes to navigating her environment at the playground and does not require much prompting or physical support.

She exhibits strong **coordination** in her locomotor skills, especially running, leaping, dodging, jumping off heights, and climbing.

She is **adaptable** as she can recognise and choose to use different ways to cross various obstacles and is able to adapt her body according to the different angles, distance in gap, and height of the obstacles.

However, she lacks **creativity** when it comes to using new or novel strategies to avoid getting tagged during the game e.g., trying different movements around the playground.

Follow-Up Actions

Affirm Jane's competence in terms of independence and coordination with verbal praises.

Provide other opportunities for her to hone her adaptability by taking the class to different playgrounds within the neighbourhood. Encourage her parents to take her to other playgrounds around Singapore to challenge her further.

Challenge Jane to think of creative solutions by designing movement activities that encourage the children to explore new ways of moving, thereby increasing the movement variations to execute new game strategies.

Structured Activity - Traffic Light

The children have been introduced to the “Traffic Light” activity to practise bouncing and dribbling a ball at different speeds, along various pathways, and in different directions within a play area. During the game, children must respond to different traffic light signals. E.g., Green – dribble with hand without colliding into anyone; Amber – bounce on the spot; Red – stop.



Observation Notes

During the “Traffic Light” activity, Jane prefers to wait for the teacher to demonstrate and guide her, even though the activity has been introduced before and the children were encouraged to explore bouncing the ball on their own.

Jane can bounce the ball with two hands but loses control when she tries to use one hand. When dribbling the ball, she tends to look down at the ball and often does not stop to hold the ball when the “red light” is given.

When asked to explore balls of different sizes and bounce, she attempts to adjust her hand position and bends lower to accommodate a lower bounce.

Interpretation and Assessment

Jane will require more time to **coordinate** her body in bouncing and dribbling with her hands as it is still challenging for her at this point. She needs time to work on bouncing the ball with control more **consistently**.

Jane has just started to learn to bounce and dribble, and thus is not so confident in performing the skill by herself, requiring additional visual and verbal prompts to guide her prior to executing the movement. She needs more opportunities to practise for her to gain confidence in bouncing and dribbling more **independently**.

When performing the single skill of bouncing a ball, she is able to **adapt** her body and hand position to the bounce when different types of balls are used. However, when responding to sudden changes in the environment, she is not able to effectively react and adapt according to the appropriate signals as her attention is focused on coordinating her body to control the ball.

Follow-Up Actions

Provide ample opportunities for Jane to practise the skill of bouncing and dribbling with her hands by designing more activities that include it.

Continue to provide Jane with verbal prompts to guide her and allow her to “drop and catch” or “push and catch” the ball with two hands for her to experience success and gain confidence first.

Once she can bounce the ball more independently, introduce a variety of balls again for Jane to explore bouncing and dribbling. Create opportunities for her to bounce on different surfaces and encourage her to bounce using both left and right hands.

During the “Traffic Light” activity, simplify the rules by reducing the number of traffic conditions the children need to react to.