



Partner in Sport





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Sport Singapore extends its heartfelt appreciation to all those who have contributed in various capacities to this journey!

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We would also like to express our heartfelt appreciation to the principals, educators, and children from the following preschools who generously contributed to the development of resources for this guide and our website. Their collaboration is invaluable in building a repository of ideas for educators to create an active environment for preschoolers.

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Lastly, we would like to thank the early childhood educators, curriculum specialists, preschool centre leaders, and other experts in the field who have graciously shared their valuable insights and engaged in thought-provoking conversations, shaping the contents of this resource guide throughout this journey.

Your unwavering support and contributions have been instrumental in the successful completion of the resource guide. Thank you for your dedication and commitment to creating a vibrant and active learning environment for children.







In 2010, SportSG published the "Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners" resource guide, which provided many early childhood educators and coaches with the knowledge and related activity ideas to help children in Singapore develop their physical literacy. As our early childhood sector evolves, it is timely that we revisit the guide to ensure relevance and alignment to Vision 2030, our national sport blueprint, to provide more opportunities for children and youth to play and pursue sport in and out of school.

I am pleased to share that after a comprehensive year-long review with our valued partners and key stakeholders from the early childhood sector, the new "Fun Start Move Smart – Learning to Move, Moving to Learn" fundamental movement skills resource guide is now ready.

The new guide is aptly named "Learning to Move, Moving to Learn", as it presents a key shift in focus from learning fundamental movement skills in isolation, to using movement to build a strong foundation in fundamental movement skills for preschoolers. Factors such as active play, outdoor learning, and being physically active in other learning domains, are now contributing sources to kickstart and enhance a child's developmental journey. As a father of two young children myself, I am encouraged to know that this focus on the natural integration of movement across different forms of learning will better support children across diverse abilities. This will in turn grow and enhance their physical literacy and learning capacities.

Maria Montessori famously said, "The goal of early childhood education should be to activate the child's own natural desire to learn." And what better way to learn than through *play*. Active play allows children to use their creativity while developing their imagination, fundamental movement skills, cognitive skills, physical literacy, and even their emotional health. As our little ones navigate the world, active play also helps them to develop new competencies that can lead to enhanced social skills, increased self-esteem, and build powerful confidence.

We hope that this resource guide will inspire early childhood educators and coaches to think creatively and integrate the physical elements with the linguistics and numerical aspects of teaching. The opportunities to create fun and engaging lessons are endless!

In addition to the new guiding principles and activity ideas, Sport Singapore will now host a website as the go-to portal for preschool-related complementary materials, such as video tutorials and demonstrations.

I strongly encourage everyone to use the resource guide and accompanying materials to create a strong foundation for a healthy and active start in life for our children. Let us share the knowledge gained and help our younger generation enjoy an active, fulfilling, and healthy lifestyle as they grow towards adulthood.

Alan Goh

Chief Executive Officer, Sport Singapore





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1.1 THE IMPORTANCE OF MOVING FROM A YOUNG AGE

180 minutes. That is the recommended duration of physical activity per day for toddlers and preschoolers in Singapore, but only 40% of them come close to clocking this number (1).

Early childhood physical activity is important because it helps to support a child's motor, physical, cognitive, social, and emotional development, setting the foundation for an active and healthy future (2,3).

On the other hand, excessive amounts of sedentary behaviour such as prolonged sitting while engaging in screen time may result in negative health effects for children, including weight gain, poorer cardiometabolic health and fitness, behavioural conduct, and reduced sleep duration. Moreover, if this behaviour persists into adulthood, there is a higher probability of developing conditions such as cardiovascular disease, cancer, and type-2 diabetes (4).

SPORT SINGAPORE'S CONTINUAL EFFORTS IN PROMOTING PHYSICAL ACTIVITY

In 2010, the Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners resource guide by Sport Singapore was introduced and distributed to every preschool in Singapore. The guide, along with the Fun Start Move Smart introductory workshop, provided early childhood educators and coaches with more tips and ideas to overcome the common challenges that they may face.

This was followed by our flagship Nurture Kids programme in 2017, which was introduced to equip our educators with the necessary knowledge, skills, strategies, and ideas to teach fundamental movement skills to preschoolers.

Subsequently in 2019, a re-envisioning of our Sporting Singapore masterplan – Vision 2030 – was born, with a strong pledge to strengthen the support system for early childhood educators.

The **Children and Youth Sport Framework** was thus created with the goal of providing more opportunities for children and youth to play and pursue sport in and out of school. We envisioned a national-level breakthrough in growing our capabilities and capacities to support a child's holistic development and life journey. In order to better serve preschoolers and early childhood educators, it was essential for us to continue to nurture and grow partnerships with like-minded stakeholders, leveraging expertise and available resources to improve the ecosystem holistically. Working closely with the early childhood sector, Sport Singapore undertook a comprehensive yearlong review of the fundamental movement skills resources in 2022, to further enhance our collaborative efforts in promoting physical activity for children.

More than 500 early childhood educators, curriculum specialists and preschool centre leaders were consulted through focus groups and a survey, allowing us to understand how our Fundamental Movement Skills for Growing Active Learners resource guide had served them in their respective areas, as well as identify potential gaps to better support the early childhood sector. Feedback reaffirmed fundamental movement skills' importance for preschoolers' physical literacy. It highlighted the need to integrate movement with outdoor learning and support children with diverse abilities.

We had also continued partnerships with the Early Childhood Development Agency, the Ministry of Education, the National Institute of Early Childhood Development, and the National Youth Sports Institute in this review. Together with representatives from the preschool anchor operators, we formed a workgroup to co-develop this resource guide. The generous sharing of experiences and expertise, exchange of ideas, and collective commitment to advance towards our mission has led to a robust review of the fundamental movement skills resources, and ultimately to the creation of this 2023 edition.



LEARNING TO MOVE, MOVING TO LEARN

The title of this new resource guide, **"Learning to Move, Moving to Learn"** was coined by our workgroup. It embodies the key shift in focus, where movement is defined in a broader sense of being physically active through active play, outdoor learning, as well as integrated into other learning domains and during transition between lessons. With increased opportunities for movement throughout the day, preschoolers are likely to be more proficient at moving in various aspects of their life.

In addition to the new guiding principles, teaching strategies, resources, and activity ideas that would be introduced in this guide, Sport Singapore's preschool website will be the go-to portal for complementary materials such as video tutorials and demonstrations. We also invite all early childhood educators to reach out to us, to contribute to the existing knowledge base and build a community of practice together.

This journey is not ours alone. Together with our partners, we will continue to develop the capabilities of early childhood educators and nurture happy, active preschoolers who all share a love of moving and playing.

1.2 OUR APPROACH TO MOVEMENT

Our guide embraces a shift from teaching fundamental movement skills in isolation to emphasising the integration of movement into all aspects of a preschooler's daily activities in school. Through regular participation in movement during early childhood, our hope is that children will become physically literate individuals.

To improve physical literacy in preschoolers, early childhood educators will be empowered to design enriched learning environments to provide children with continuous opportunities for varied movement experiences (5). Central to this idea, learning movement skills occur through the interaction of the child and the environment involving the world around them e.g., with others, in the classroom, outdoors, at the playground (6).

WHAT DOES PHYSICAL LITERACY MEAN FOR PRESCHOOLERS?

A physically literate preschooler is one who:

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Moves with Competence Moves with Confidence Enjoys Moving
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This is crucial to set a strong foundation for a happy, active, and healthy life.

GUIDING PRINCIPLES TO FACILITATE MOVEMENT: THE 5Es FRAMEWORK



The 5Es framework will be elaborated in Chapter 3 and will guide how early childhood educators may choose to adopt and facilitate meaningful and positive movement experiences for preschoolers to become physically literate individuals.

1.3 WHY CHILDREN NEED TO MOVE

Physical activity is vital for a child's health, well-being, and development, both now and in the future. Children should be encouraged to participate in a wide range of movement activities and age-appropriate sport from young. A strong foundation in movement competency in early childhood also sets the child up for lifelong participation in physical activity and sport (2,7).

Being physically active in early childhood creates the conditions for **holistic development** in the following areas:

How Physical Activity Nurtures Holistic Development

Motor Development

Participation in a wide variety of movement activities and sport helps children to:

- Develop fundamental movement skills proficiency¹
- Build foundation to play more sport¹

Physical Growth and Development

Regular participation in physical activity can have the following positive impacts on children at both early childhood stages and adulthood:

- Develop cardiovascular fitness²
- Build stronger bones and muscles²
- Reduce risk of obesity, osteoporosis, and other diseases later in life²

Cognitive Development

Physical activity has been linked to a child's cognitive development and evidence suggests that engaging in regular physical activity can:

- Improve mental alertness such as attention and working memory⁴
- Develop critical thinking, problem-solving, creative thinking, and decision-making skills⁵

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To improve our brains, we have to move our bodies.

Dr John J. Ratey (Spark, The Revolutionary New Science of Exercise and the Brain)

¹ Barnett LM, Beurden E, Morgan PJ, Brook LO, Beard JR. Childhood motorskill proficiency as a predictor of adolescent physical activity. *Journal of Adolescent Health*. 2009;44 (3): 252-259.

² Carson V, Lee EY, Hewitt L, Jennings C, Hunter S, Kuzik N, et al. Systematic review of the relationships between physical activity and health indicators in the early years (0-4 years). BMC Public Health. 2017;17(Suppl 5): 854.

³ Christian HE, Lester L, Al Marzooqi MK, Trost SG, Papageorgiou A. The Association Between Preschooler Physical Activity Duration and Intensity and Social Emotional Development: Findings From the PLAYCE Study. Journal of Physical Activity and Health. 2021;18(7): 844-850.

⁴ Fedewa AL, Ahn S. The effects of physical activity and physical fitness on children's achievement and cognitive outcomes: a meta-analysis. Research Quarterly for Exercise and Sport. 2011;82(3): 521-535.

⁵ Bidzan-Bluma I, Lipowska M. Physical Activity and Cognitive Functioning of Children: A Systematic Review. International Journal of Environmental Research and Public Health. 2018;15(4): 800.

As evidenced by research, adopting and cultivating an active and healthy lifestyle in early childhood is important in establishing a strong foundation towards a lifetime of good health and well-being (3,8,9).

While the teaching of fundamental movement skills and introducing active play opportunities may seem challenging for some educators, it is important to understand that movement and active play do not always have to be structured and confined within fixed settings. With some creativity and help from this resource guide, educators will be able to introduce and incorporate fundamental movement skills, movement, and active play opportunities to encourage our children to move with fun and grow.

Social-Emotional Development

Physical activity provides opportunities for social interaction and emotional regulation, which helps children to:

- Develop social-emotional skills³
- Build confidence through physical competency³

1.4 PHYSICAL ACTIVITY GUIDELINES FOR EARLY CHILDHOOD

Physical activity for early childhood refers to any activity that gets children moving. It includes everyday activities, physically active play, and organised sport and exercise. Any and all forms of activity count. According to the revised Singapore Physical Activity Guidelines¹ (SPAG) 2022 and the Singapore Integrated 24-Hour Activity Guidelines² (for children under 7 years old), meeting the targeted recommendations will allow children to reap health benefits associated with regular physical activity and reduced sedentary behaviour (10,11).

However, a 2020 study on Singaporean preschool-aged children showed that on average, 7.8 hours per day are spent on sedentary behaviour, with only 30 minutes per day in moderate- to vigorous-intensity physical activity (12).

Recommendations from SPAG and Singapore Integrated 24-Hour Activity Guidelines:

Physical Activity Guidelines for Preschoolers

1 - 2 years old

Physical Activity

Spend at least 180 minutes doing a variety of physical activities, at any intensity, spread throughout the day.

Aim for daily outdoor play.

Sedentary Time

Limit the amount of time spent being sedentary, with recreational screen time not recommended.

Instead, engage in imaginative play, singing, reading, and storytelling activities.

Quality Sleep

11 to 14 hours with regular sleep and wake-up time.

3 - 6 years old

Physical Activity

Spend at least 180 minutes doing a variety of physical activities, of which at least 60 minutes should be moderate-to vigorous-intensity activity, spread throughout the day.

Older children (5-6 years of age) should be exposed to a variety of age-appropriate vigorous-intensity play and engage in muscle- and bone-strengthening activities several times a week.

Daily outdoor active play is highly encouraged.

Sedentary Time

Limit the amount of time spent being sedentary, keeping recreational screen time to less than an hour a day.

Quality Sleep

3-4 years: 10 to 13 hours

5-6 years: 9 to 13 hours

Children aged 5-6 years should engage in age-appropriate muscle- and bone-strengthening activities at least three days a week. These activities include doing gymnastics, running, jumping, climbing, and playing games at the playground (10).

¹ The revised Singapore Physical Activity Guidelines (SPAG) was launched in 2022 and provides national reference points on public health recommendations (for various sub-populations) on the amount of physical activity (Frequency, Intensity and Duration) required to achieve health benefits and mitigate health risks.

² The Singapore Integrated 24-Hour Activity Guidelines for Early Childhood (below 7 years) provides guidance to encourage Singapore infants, toddlers, and preschoolers to adopt a holistic approach towards integrating all types of activity within a daily 24-hour period.

1.5 WHAT THIS MEANS FOR EARLY CHILDHOOD EDUCATORS

During our consultation with early childhood educators, we discovered some common obstacles that prevented them from including movement in their lessons. This guide not only provides practical techniques and ideas to tackle these challenges, but also aims to be easily comprehensible. By doing so, it empowers early childhood educators to confidently and independently integrate movement into their lesson plans, anytime, anywhere.

These challenges are summarised below:

Common Challenges in Integrating Movement Into Lessons

Sport Singapore's survey for fundamental movement skills resources, conducted in 2022, involved 455 early childhood educators who were asked about the difficulties they experienced when trying to incorporate movement into their teaching. The challenges identified by the educators can be grouped into three main categories:

Challenges Related to Self-Perception and Assessment of Teaching Abilities



A lot of effort is required to plan and conduct lessons involving movement



I need more time for teaching other learning domains



I do not have enough skills and knowledge on how to teach fundamental movement skills



I do not have enough confidence in teaching fundamental movement skills

Challenges Related to Teaching Strategies and Tactics



There are too many students in my class



There is not enough space to carry out physical activities



l do not have enough/suitable equipment

٥



I am unable to cater to students with different abilities

Challenges Related to Preschoolers' Well-Being



I am afraid my students may fall or injure themselves



Students do not like to get hot and sweaty



The following chapters of this resource guide and online materials will seek to address these concerns and serve as a useful tool for educators to carry out physical activities:

CHAPTER 2

Integrated Movement Approach will demonstrate how educators can incorporate movement into children's daily learning experiences through place-making strategies and integrating them into other learning domains and daily routines.

CHAPTER 3

Facilitating Movement will introduce the 5Es framework, movement concepts, strategies, and safety guidelines for movement activities.

CHAPTER 4

Movement Activities will present a collection of activity plans integrating guiding principles from the 5Es framework and provide educators with a range of suitable activities for diverse learners, group sizes, and space constraints.

CHAPTER 5

Movement Skills will consolidate the movement skills presented in this guide, and help educators to plan, observe, and assess children's movement skills.

Complementary content such as video tutorials and demonstrations of the movement concepts, as well as visual aids that help educators better understand and teach fundamental movement skills are referenced at specific sections of this guide for you to view on the website.

The website will also feature ground-up contributions by the sector to share real-life examples of how educators could create an active environment for children and make movement as a way of life.



go.gov.sg/sportsgpreschool

SCAN THE QR CODE FOR MORE INFORMATION







2.1 CREATING AN ACTIVE ENVIRONMENT

The school environment plays a significant role in shaping children's physical activity behaviours and their gross motor skills (1,2). Preschools should make it a priority to establish an active environment that encourages movement throughout the day and promote physical activity in a variety of environments, including both indoor and outdoor spaces.

One approach to encouraging physical activity in children is to make minor adjustments to indoor spaces such as classrooms and corridors, as well as utilising outdoor structures like playgrounds and walking paths. Additionally, movement can be incorporated into lessons and transitions, which can serve as a starting point for instilling a lifelong habit of physical activity participation in children. Some important factors to consider when creating an active environment include:

THE PHYSICAL ENVIRONMENT

Access to open play areas, playgrounds, and more space per child are positively associated with physical activity levels in children attending preschool (3). In local context, space constraints, size of playgrounds, and the weather are barriers to active play (4,5).

To tackle these barriers, creative solutions are needed to intentionally design indoor and outdoor spaces to provide greater opportunities for movement.

EDUCATORS AS ROLE MODELS

It is important for adults in charge to provide a supportive environment that encourages active play and exploration. Educators should serve as role models by modelling movement as a way of life, which is an indirect reinforcement for children to be active (6). Small actions to encourage a variety of movement include jumping or skipping instead of walking to the toilet, balancing on the side of the walking path, or even doing a small dance or stretch if children are restless in class.

MOVEMENT AS A WAY OF LIFE

The "every activity counts" principle from SPAG supports the overall goal of integrating physical activity into children's daily routines through small, habitual actions that require minimal effort. This principle recognises that any physical activity, no matter how brief or low intensity, can contribute to a child's overall health and well-being (7).

By adopting this approach, the concepts presented in this guide aim to make movement accessible and assist preschools in fulfilling ECDA's regulatory standards for outdoor learning experiences and gross motor activities¹. It also enables children to accumulate and meet the recommended levels of physical activity throughout the day. With consistent effort, regular movement can become an effortless part of a child's lifestyle, making movement a way of life.

According to ECDA's early childhood development centre regulatory standards (2021), full day services are required to allocate 1 hour of gross motor activities of which at least 30 minutes must be outdoors daily, or 45 minutes must be outdoor thrice a week. For half-day services, a total of 30 minutes of gross motor activities should be conducted thrice a week, with at least one session per week outdoors.

2.2 WAYS TO INTEGRATE MOVEMENT THROUGHOUT THE DAY

Let us dive into the exciting part of creating an active environment! This section will explore practical and specific ways to incorporate movement into a child's school day. The movement strategies outlined below can be easily implemented, regardless of the resources at your disposal.

By implementing these simple and practical strategies, children not only have fun during physical activities, but also have ample opportunities to practise their gross motor skills. This enables them to enjoy participating in a variety of physical activities while demonstrating control, coordination, and balance. These are aligned with the learning goals for Health, Safety, and Motor Skills Development as outlined in the Nurturing Early Learners Framework (8).

The theme of "**Learning to Move, Moving to Learn**" allows for the categorisation of strategies to incorporate movement throughout the day into two distinct categories: Self-directed and Directed.

Self-directed strategies involve creating learning environments and opportunities that grant children the autonomy to explore movement independently, fostering their ability of "**learning to move**". They provide children with the physical environment to explore movement at their own pace. Self-directed strategies can include creating spaces like Active Navigation Routes (ANR) or Active Play Corners (APC) that encourage children to move and play freely.

Conversely, **directed strategies** involve activities that are facilitated by an educator and can often be integrated into curriculum time. As movement has been shown to improve attention and cognitive function, these strategies enhance children's capacity to learn academically and thus reinforce the concept of "**moving to learn**". These practical strategies, including activities such as Brain Breaks and Integrated Learning, are specifically designed to enable educators to incorporate movement into classroom routines without compromising teaching time.



2.2.1 ACTIVE NAVIGATION ROUTES

Transforming the mundane task of moving around the school into an exciting adventure is easier than you think! With an ANR, children can explore new ways of moving using the familiar paths they take every day. You can also spice up the journey by adding colourful visual cues on the ground, or by giving them a set of easy-to-follow instructions like a "movement of the day".

The key idea is to offer children plenty of opportunities to move in different ways and to empower them to move on their own to develop a sense of independence while having fun.

WITH VISUAL AIDS

Get creative with visual aids – you can either explore online shops for fun stickers, or visit your local hardware store for some colourful electrical tape. No matter which option you go with, the children will have fun watching a dull space transform into a vibrant playground!

Here are some examples of ANRs with visual aids:

Routes That Specify Movements

Instructions to children: Follow the foot/handprints to get across.



Routes That Are Open-Ended

Instructions to children: Choose a colour and follow the line/circles to get across in any way you like.



WITHOUT VISUAL AIDS

You can also design an ANR without having to attach anything to the floor. For preschools with limited space or resources, you can create an interactive route simply by providing verbal or written instructions.

Here are some examples of achieving an ANR using **verbal instructions**:

- 1. Children, shall we move like a kangaroo when we go from place to place today? Can anyone demonstrate how a kangaroo moves?
- 2. Children, shall we hop like a bunny whenever we go to the toilet today?

Here is another example of achieving an ANR using **written instructions** placed at the same location in the preschool, and changed regularly:

Written Instructions





Child using his feet to push the car to move along the navigation route from one point to another.

E-Bridge Pre-School Rivervale Grescent



Infant following the arrows and footprints as guided by educator to move around the classroom.

MOE Kindergarten @ Fernvale



Children jumping along the alphabet star navigation route to move along the corridor.



Children hopping on the numerical animal-themed navigation route to get across.



Children balancing on the lines to return to their classrooms.



go.gov.sg/sportsg-activenavigation-routes SCAN THE QR CODE TO LEARN MORE ABOUT ACTIVE NAVIGATION ROUTES AND ADDITIONAL RESOURCES

2.2.2 ACTIVE PLAY CORNERS

An APC is a designated area within a preschool where children can play independently using various resources provided. It serves as a movement-focused learning corner that promotes safe and engaging physical activities. This space can be utilised during free play time or while waiting to be picked up, allowing children to choose activities and play with friends. Additionally, it can also be integrated into the Numeracy or Literacy learning corner for a multi-functional space. The primary objective is to encourage children to explore movement independently and creatively in a fun and safe environment. The two activity examples outlined below (Movement Dice and Giant Board Game) showcase just how easy you can set up an APC in your preschool.

Movement Dice and Spinner

All you need is a dice or spinner with faces clearly labelled with types of movements, and a simple instruction card.

Materials Needed (to create the dice)



Card Stock (thicker, more durable paper)

Glue







Dice Template

How to Play

Step 1: Roll Dice 1 to find out which animal movement to follow. Step 2: Roll Dice 2 to see how many times to move like the animal.



A movement spinner works the same way as the dice, except that the children will be spinning an arrow instead of throwing a die.



What is exciting about using dice or spinners in class is the ability to mix things up and keep things interesting for the children. You can use them strategically to reinforce what they have learnt in Motor Skills Development classes, or incorporate them into a recent story you have read in class. It is a fun and engaging way to keep children on their toes and actively participating.

Giant Board Game

If you have available space in your preschool (just 2m x 2m is sufficient), consider setting up a play corner with giant board games. Alternatively, you may consider a fun and versatile play mat that can easily be folded up and put away. Either way, creating a dedicated space for your little ones to play and move around in is sure to keep them happy, healthy, and engaged!

Games you can create include hopscotch, snakes and ladders, and number line.

Take a look at how E-Bridge Pre-School Rivervale Crescent managed to design all three games, complete with integration into other learning areas:





Active Play Corner 1 Number Line Exercise

Children throwing the dice and moving along the number line according to the number and action on the dice.

Active Play Corner 2 Hopscotch Sight Words

Children hopping on the hopscotch sight words while verbalising the words.



Active Play Corner 3 Snakes and Ladders Children playing with DIY-ed snakes and ladders.



go.gov.sg/sportsg-activeplay-corners SCAN THE QR CODE TO LEARN MORE ABOUT ACTIVE PLAY CORNERS AND ADDITIONAL RESOURCES

2.2.3 BRAIN BREAKS

Brain Breaks are a practical application of research findings demonstrating that cognitive function can improve through movement, regardless of whether the movement is related to the academic subject matter (9,10). Brain Breaks are activities that can be implemented throughout the day as a transition from one lesson to another, or to break a lesson up when children start getting fidgety. In essence, Brain Breaks are activities that:



Are Easy to Implement With Minimal Set Up or Materials Require Children to Get Out of Their Seats to Move

Involve Every Child

Here are some examples of Brain Breaks you can try:

Stretching

Get children up and breathing deeper with a simple stretch. Choose a static pose like a star or mountain, or go dynamic with a rocket ship pose. Let the child pick the pose or appoint a leader for maximum engagement!



Cross-Lateral Movement

Cross-lateral movements enhance focus and stimulate the brain's function by facilitating communication between the two hemispheres of the brain. This occurs when arms and legs cross the midline of the body.



Music and Movement

Pick a few songs that the children are familiar with and have the children dance along to their favourite tunes!



Quick Games Here are some examples:



Zoo Time

Children will pretend to be whatever animal the educator calls out.

Would You Rather

Ask the class a series of "would you rather..." questions and the children will make their selection by either standing, or sitting.

Rock, Paper, Scissors

A pair of children will stand opposite each other and form rock, paper, or scissors with their bodies.

Here are some Brain Break ideas from the following preschools:



2.2.4 INTEGRATED LEARNING

According to Shoval et al.'s (11) study, integrating movement into academic learning can work wonders in the classroom. Try having children form letters with their bodies, spell out words using various movements, or walk to form shapes like circles, squares, and triangles. You can also use song and dance to teach grammar or throwing and catching to reinforce addition and subtraction skills.

While it may not be possible to integrate movement into every lesson, these activities are perfect for introducing new concepts or wrapping up a topic!

Look at how this preschool conducts integrated learning activities with the children:



2.2.5 OTHER WAYS TO INCORPORATE MOVEMENT

Try to think outside the box – incorporating movement does not have to fit into self-directed or directed strategies. There are plenty of other ways to incorporate physical activity throughout the day.

Below are some examples of creative movement opportunities that may at first glance seem incidental but in fact, require intentional effort to ensure their fruition. By modelling movement as a way of life, it can become a natural part of children's routines.

Helping to keep equipment



Helping to serve meals or collecting crockery



Stretching after nap time



Helping to water the plants



Jumping high-fives when arriving at or leaving preschools



Performing action songs before meals



2.3 UTILISING OUTDOOR SPACES TO FACILITATE MOVEMENT

Experience endless learning opportunities of outdoor exploration with children! From discovering natural elements to embracing open spaces, the outdoors offer a unique platform for holistic growth and development. The constantly changing environment, natural elements, and open spaces provide stimuli for them to explore, discover, and learn in, about, and through the outdoors (12). Playing outdoors not only promotes their overall health and well-being, but also fosters a sense of wonder and curiosity in the little ones!

The physical environment, particularly outdoor spaces and playgrounds, plays a crucial role in determining children's physical activity levels. Evidence suggests that **spending time outdoors promotes physical activity in children**, providing them with opportunities for **moderate-to-vigorous activity** through active play and organised activities (13,14).

2.3.1 IDENTIFYING OUTDOOR OPPORTUNITIES FOR LEARNING

Preschools in Singapore may not have ample outdoor space and facilities within their premises, but you may utilise nearby neighbourhood outdoor spaces for children to engage in physical activities. With creativity and imagination, the outdoors can provide endless opportunities for children's physical growth and development.

This section offers ideas on how physical structures and features of common outdoor spaces like void decks, green spaces, and playgrounds can help develop fundamental movement skills.

Below are some examples of encouraging **learning to move** and **moving to learn** using common outdoor spaces and corresponding features to discover the benefits of taking learning outdoors.

Identifying Opportunities

As you walk around the neighbourhood, look out for:

- Lines or patterns on the ground that children can walk and balance on, jump or leap across.
- Fixed structures such as tables, chairs, pillars, or stairs that children can use to practise aiming (e.g., throwing or rolling to a target) or walking up.
- Open spaces with different surfaces such as cement floors, grass, or sand for children to run, jump, skip on, and explore different ways of moving.

Guiding Questions

- 1. What features, structures, and spaces around the neighbourhood are safe for children to engage with?
- 2. What movement skills can be learnt through these features, structures, or spaces?
- 3. How can the existing features/structures/spaces be modified to challenge children further?



FIXED STRUCTURES: VOID DECK WITH TABLES/CHAIRS, PILLARS

- Throwing beanbag onto the bench or table
- Dribbling cardboard box with foot, around pillars



FIXED STRUCTURES: STAIRCASE LANDING

Possible Activities

- Climbing up the stairs
- Jumping off a low height, either from the lowest step or from the void deck curb



OPEN SPACE: MULTI-PURPOSE HALL WITH PATTERNS AND LINES ON THE GROUND

- Leaping or hopping from tile to tile
- Jumping over tiles





OPEN SPACE: OUTDOOR OPEN AREA WITH PATTERNS AND LINES ON THE GROUND

Possible Activities

- Over/underarm throwing of beanbag to the middle of the circle
- Skipping along line of the outer circle



OPEN SPACE: WALKWAY WITH PATTERNS AND LINES ON THE GROUND

- Walking across or balancing on lines
- Jumping over squares
- Bouncing a ball within a square





OPEN SPACE: FOOTPATH WITH SIDE CURB

Possible Activities

• Balancing on curb



OPEN SPACE AND FIXED STRUCTURES: HARD COURTS/BASKETBALL COURTS WITH FENCE AND LOW WALL

Possible Activities

- Throwing and catching a ball over a low wall
- Kicking a ball in the court

Other activities: Balancing on lines in the court, jumping for height to reach objects pasted on the fence



OPEN SPACE: OPEN GRASS AREA

Possible Activities

- Running and chasing one another
- Running and bending down to pick up leaves
- Counting, sorting, and creating patterns with leaves and twigs



FEATURE: BOULDERS IN OPEN SPACE

Possible Activities

• Climbing and balancing on boulders





FIXED STRUCTURES: TRELLIS WITH BENCHES

- Jumping and striking balloons
- Rolling a ball under the bench



2.3.2 NEIGHBOURHOOD PLAYGROUNDS TO ENCOURAGE ACTIVE PLAY

Neighbourhood playgrounds offer a multitude of opportunities for children to engage in active play, contributing to their daily dose of physical activity and movement. Their unique features and structures provide a diverse range of movement possibilities, allowing children to navigate through the space and interact with its features (15). Active play at the playground thus facilitates the development of fundamental movement skills and gross motor skills, and builds children's coordination, balance, strength, and endurance.

Here are how some common playground features can be used to help children practise and develop these skills:

Playground Feature	Active Play	
Climbing ropes and structures	Stretching and twisting to get up and acrossStrengthening of upper body, arms, legs, and fingers	
Lines/Patterns	 Jumping, hopping, leaping, and balancing on/over lines or patterns on playground floor 	
Merry-Go-Round	 Stimulating and developing the vestibular system to provide sense of balance Running to push 	
Open spaces in playground	 Running, jumping, and hopping during playground games 	
Playground steps	 Coordinating alternate feet to walk up and down steps Jumping on/off steps 	
Slides	 Squatting to sit Coordinating limbs to scoot forward and push off to slide down Shifting weight around to have a smooth slide 	
Spring riders/ Seesaws	 Coordinating body movements with other children: Spring riders: moving back and forth Seesaws: pushing off the ground 	
Stepping stones/ Balance beams	 Balancing while moving across a narrow base which develops dynamic balance, core control, and strengthens lower body 	
Swings	Coordinating body movements to get higherPushing others on the swing	
Tunnels	 Coordinating arms and legs to crawl through the tunnel Bending, twisting, and manoeuvring the body to get through the tunnel 	
so.gov.sg/sportsg- outdoors		



Playing at the playground is not only about physical development but also social-emotional and cognitive growth. Children can learn by observing and interacting with those of different ages. They may learn how to climb a structure or figure out how to play on a seesaw by watching and learning from others.

At the playground, children have the liberty to choose their activities and freely navigate through the environment during unstructured play. They can also create their own games and rules, which often involve running around and chasing one another.

It is recommended that children spend at least 180 minutes daily doing a variety of physical activities, of which at least 60 minutes should be moderate-to-vigorous intensity activities. These include muscle- and bone-strengthening activities like climbing, jumping, and running. Educators may need to facilitate active play occasionally to help children meet these recommendations.

Here are some suggestions on how you can increase physical activity levels in children and facilitate their development of fundamental movement skills:

Design a challenge by incorporating playground equipment and floor markings to create an obstacle course, and transform it into a group competition.

Modify playground structures by adding challenges, such as hanging balloons for children to jump and reach. Introduce games with simple rules, such as Catching/Tag, Freeze-Tag, and The Floor is Lava, incorporating different locomotor skills like running, jumping, and hopping.

Bring equipment such as beanbags or balls to practise throwing or rolling under, over, or through playground features.



The following are examples of playground features and possible activities for children to engage in active play:



PLAYGROUND FEATURES: STEPPING STONES, SLIDES, CLIMBING FEATURES

Possible Activities

- Balancing on stepping stones
- Jumping off the bottom of a slide
- Climbing up playground structures (walls, other structures)



PLAYGROUND FEATURES: CLIMBING NETS, PLAYGROUND STEPS, SEESAWS

- Climbing up playground structures (nets, ladders)
- Jumping across lines
- Playing on seesaws





PLAYGROUND FEATURES: CLIMBING NETS, LINES

Possible Activities

- Climbing up playground structures (nets, other structures)
- Hanging on bars
- Balancing on lines



PLAYGROUND FEATURES: STEPS, TUNNELS, SLIDES (SPIRAL AND STRAIGHT)

- Walking up stairs
- Sliding down slides
- Throwing and aiming at targets of different heights on a slide
- Throwing over tunnels



PLAYGROUND FEATURES: SWINGS, SPRING RIDERS, OPEN SPACES



- Pushing the merry-go-round with other children sitting in it
- Running and chasing one another in a game of tag
- Playing on spring riders and swings

To sum up this chapter, the example below presents a day in the life of an active 5-year-old to illustrate how children can learn to move and move to learn throughout the day. Remember - every activity counts!









Walking to school with my mum

9.00am

11.00am

Outdoor playground time - Practising climbing, kicking, and throwing to targets through the "Feeding Frenzy" game

Mother Tongue lesson time - Learning new words today with a song and dance





8.30am

Arriving at school and starting off with "Morning Circle Time" (Music and Movement)

10.00am

Phonics lesson time followed by my favourite Brain Break – Rock Paper Scissors

12.00pm

Healthy lunch time

1.00pm

Nap time

3.30pm

Learning the words beginning with the "th" sound using a throwing game

4.30pm

Free play time – Playing the Number Line Exercise with my friends at the Active Play Corner











3.00pm

12.45pm

Clean up time -

Today it is my turn to wipe the tables and keep the chairs

Waking up with "Good Morning Stretch" and it is tea time

4.15pm

Toilet break – Today we are "Jumping Like A Kangaroo" to the toilet

6.00pm

School ended. Scooting home with my grandfather!








3.1 FACILITATING MOVEMENT

This chapter focuses on how educators can facilitate movement learning in children by creating a positive and supportive learning environment. It introduces the 5Es framework to help educators design effective movement lessons. The chapter also covers movement concepts, strategies to cater to diverse learners, and safety guidelines for facilitating movement activities. By implementing these insights, educators can promote children's physical competence, confidence, and motivation to move.

3.2 THE 5ES FRAMEWORK: GUIDING PRINCIPLES TO FACILITATE MOVEMENT

3.2.1 THEORETICAL BACKGROUND OF THE 5Es

THEORY OF AFFORDANCES

Learning movement skills occur naturally when children interact with the environment and the world around them e.g., with others, in the classroom, outdoors, at the playground (1).

Chapter 2 revealed how the interaction between the **child and the environment** "affords" various movement behaviours to emerge. For indoor spaces, footprints or hopscotch set up along the corridors create inviting movement-based scenarios for children to jump or hop. In the outdoors, structures like a low wall allow movements such as throwing over; a bench for rolling under; lines on the ground for balancing on or jumping over to emerge through an intrinsic motivation for play. Additionally, when children engage with playground features, movements such as climbing up, sliding down, running or skipping around open areas emerge naturally.

The interaction between what the environment offers and how children perceive it creates opportunities for action in a practice environment. These opportunities or possibilities for action offered by the environment are referred to as "**affordances**" (2).

Affordances within the environment are dynamic and unique to the individual, varying in response to the individual's changing body size, strength, capabilities, and motivation (3). Different individuals will perceive and respond with different movement solutions to the affordances provided, and therefore may use the same elements within the environment in different ways (4).

TYPES OF CONSTRAINTS THAT SHAPE MOVEMENT LEARNING

The possibilities for action that surround us are truly limitless. The implication is that educators need to design practice environments that "constrain" or eliminate certain possibilities for action to guide learners to explore and discover functional movement solutions (5).

Newell (6) introduced three different types of **constraints** that serve to shape movement: Individual, environmental and task constraints.

- 1. **Individual (learner) constraints** include the physical properties of the child's body such as height, weight, body composition, and existing coordination abilities related to past movement experiences.
- 2. **Environmental constraints** are general properties of the world around us (external to the learner) such as gravity, temperature, ambient light, wind, and types of surfaces.
- 3. **Task constraints** are most relevant for guiding children to learn movement skills and are factors that educators have most control over. These include instructions or rules in an activity, verbal cues, the equipment being used, and the number and spacing of children in a play area.

By manipulating key task constraints, learners are guided to **self-organise**, resulting in the emergence of functional movement behaviours to meet the movement goal e.g., kicking a ball to a target.

NON-LINEAR NATURE OF LEARNING AND LEARNER-CENTRED APPROACHES

Learning new movement skills is not always a straightforward process. Dynamic interactions between the child and the environment create a non-linear journey full of twists and turns before a new stable movement skill is learnt (7).

Learner-centred approaches such as Non-linear Pedagogy and the Constraints-led Approach recognise and consider the non-linear and dynamic interactions that occur in the learning environment (8,9). The 5Es framework draws upon concepts and ideas from these learner-centred approaches to provide guiding principles that empower educators to effectively design movement lessons.

3.2.2 UNDERSTANDING THE 5Es

Creating exciting and positive movement experiences for children is easier than you think.

By adopting an approach that **puts the child at the centre** and **taking on the role of facilitators**, educators can guide children towards meaningful movement experiences.

WHAT ARE THE 5Es?

The 5Es framework provides guiding principles to help educators design and facilitate positive and meaningful movement experiences for children. The framework outlined below covers the five aspects that educators should consider when designing and facilitating movement lessons.

#1 Learning Environment

The first "E" is about the **Learning Environment**. Here, educators should see themselves as designers who aim to create learning environments that are rich with information, inviting learners to explore, discover, and adapt (10).

When designing the learning environment, educators should be mindful of the following:

a. The physical environment where the lesson will be carried out

- What spaces are available?
- Is the activity more suited for indoors or outdoors?
- What are the existing structures in the environment (e.g., pillars in void deck or playground features) that can be utilised?

b. The activity set-up should be representative of the movement goal

The activities or games introduced need to be **representative of the movement goal** you intend for the children to achieve. The movement goal usually refers to the objective(s) of the activity e.g., kicking to a target. Importantly, educators need to ensure that the activity and set-up provides appropriate affordances for functional movement skills to emerge when children are engaged in the prepared learning environment.

E.g., if the movement goal is to "jump over an obstacle", educators need to make sure that the equipment layout will encourage jumping. In the following activity, children are asked to "try to cross the 'river' as quickly as possible". Here are two examples of how the "river" could be set up:

Set-up 1:

The gap of the "river" is very narrow.



Set-up 2:

The gap of the "river" is increased.



Which set-up is more likely to encourage jumping?

The second set-up! The adaptation of the distance makes it more likely for the child to jump across. In this case, set-up 2 is thus more appropriate as it encourages a movement solution that is aligned to the learning objective.



#2 Movement Experiences

The next "E" to think about when designing a lesson is to provide children with a **variety of Movement Experiences**. This approach provides children with opportunities to try new coordination patterns and to be adaptable in different scenarios. Here are some considerations for lesson planning:

- Intentionally plan to include a **variety of movement skills** and **movement concepts**:
 - Include a variety of movement skills in activities. E.g., the activity can be "the zoo" where children will have to move like a tiger (crawl), a kangaroo (jump), or a horse (gallop).
 - Utilise movement concepts to include different variations of a skill. E.g., in a running activity, you can get children to run in different pathways or at different speeds. (*Movement concepts will be elaborated in section 3.3*).
- Infuse variability to help children be adaptable by:
 - Introducing a **variety of equipment** such as different ball sizes, weights, and textures. E.g., a ball, beanbag, or soft toy can be used for a throwing activity. Objects with different characteristics prompt children to adapt their movement response accordingly. For example, a big ball encourages two-handed throwing, while a small ball typically leads to one-handed throwing.
 - **Playing on different surfaces**. Other than the usual cement surfaces, children can try to play on the grass, or on the carpet. What other surfaces do you have access to in and around your centre?
 - Encouraging the use of both **dominant and non-dominant limbs**. E.g., you can introduce a scenario that says "your writing hand is now injured and cannot be used but you still have to deliver (roll) the 'watermelon' (ball) to the fruit stall. Which hand can you use?"

Did You Know?

Research has found that learning to use both sides of the body independently can facilitate competence in movement (11).

Guiding Question

Can you think of other ways to provide children with varied movement experiences?

#3 Exploration

The key idea is to let children **explore and discover their own functional movement solutions**. Here are some considerations to facilitate **Exploration** during movement lessons:

- a. Use **instructions or verbal cues that are less prescriptive**. This guides children in their search while giving them the freedom to explore different ways to solve the problem. This includes:
 - Keeping **cues short and simple**. E.g., when guiding learners to land on a jump, use "pretend to sit on a bicycle" instead of prescriptive cues like "stand shoulder-width apart and bend your knees 90 degrees, with your hands out in front".
 - Using **external-focused instruction** i.e., instruction paying attention to what is outside of the body. E.g., "Look at where your object landed", "Throw over the red line", or "Jump across the river to stay dry".
 - Using **analogies** that children are familiar with. E.g., to hit or throw a ball over a net, you can say "make the ball flight like a rainbow" or put together "crayon", "star", and "rocket" to perform a jumping jack.



b. Provide children with **choices** for them to discover their own comfortable way of moving. Here are two examples of how choices can be weaved into activities:

Crossing the River Activity

Setting up the "river" in a V-shape provides children with autonomy to choose where to cross depending on their perceived competence and confidence. Children who are less confident can **start with the narrower end** while those who perceive themselves as more competent can **choose the wider end**.

In this activity, children can also be provided with autonomy to choose how to cross the river i.e., they can choose to jump, leap, or run across.



Crossing the Lily Pad Pond Activity

Instructions to children: Use the lilypad to get across the pond. You may **choose only one colour to follow** but you can **get across in any way you want** i.e., by stepping, jumping, hopping, or leaping.



#4 Engagement

Remember to keep every child in the game! The key idea for **Engagement** is to ensure that each child is **appropriately challenged and actively participating** throughout the lesson. Here are some considerations to keep children engaged during game play:

a. Cater to diverse learners by varying the challenge

- Increase the challenge or simplify the activity depending on the competency of the child.
- Provide different choices to vary the challenge. E.g., a child who is new to a toss and catch activity can use a balloon or scarf as it gives more time for the child to react, whereas those who perceive themselves as more competent can choose a ball or beanbag.

More examples will be provided in section 3.4

- b. Select appropriate activity types based on factors such as competency, space, and the number of children. Children generally enjoy **games with simple rules** and **obstacle courses**.
- c. Ensure **maximum participation**. Instead of sitting and listening to instructions or watching, have the children be actively involved in the activity as much as possible. This can be done by carefully considering the type of activities to introduce and activity set-up. E.g., instead of forming lines and taking turns to dribble around a cone, have the children dribble around freely within a space or set up multiple stations where small groups of children can be engaged in the activity at the same time (*refer to Chapter 4 for more examples*).



d. Use **stories, music, and songs**. When a story or a song is used, children tend to be more engaged and participate more in the activity. E.g., instead of saying "cross the obstacle course", try creative storytelling like "imagine you are an adventurer. Cross the river, go over the mountain, and retrieve the treasures".

#5 Encouragement

Create a supportive environment that helps children develop a **spirit of trying without the fear of failure**.

To facilitate **Encouragement**, the feedback you give to children should:

- Focus on the strengths of the child. Instead of emphasising what the child cannot do, think about how the activity can be modified or how outcome-focused feedback can be used to encourage the child to have a successful movement-based experience.
- Include positive words. E.g., "That was a good try! Keep going!" instead of double negatives like "Don't give up".
- Provide specific feedback other than just "good job" and "well done". E.g., "I like the way you are keeping yourself stable when you run"; "I like how you pushed off to jump across the river"; "That is a great throw over the net".
- Include questions when children are struggling with the activity. E.g., "What are some other ways you can throw to hit the target?"; "What can you do to send the object farther away?"

Tip: You can also include the feedback in the child's portfolio to be shared with parents.

FOSTERING INTRINSIC MOTIVATION TO MOVE

As educators, it is essential to embrace the boundless possibilities that movement exploration offers. From different movement solutions to varied levels of competence, every child will discover their own functional way of moving that is aligned to the movement context of the activity. The ultimate objective, guided by the 5Es, centres on ensuring children find joy in the process and experience success, regardless of their level of competence. Nurturing a child's intrinsic motivation to move will cultivate their lifelong love for physical activity.

Here is a summary of the 5Es framework to help educators design and facilitate positive and meaningful movement experiences.



#1 Learning Environment

Design learning environments that invite children to explore, discover, and adapt.

- Consider the **physical space** where the activity will be carried out e.g., playground, void deck
- Activity set-up should be representative of the movement goal e.g., a low target for rolling; a high target for overarm throw



go.gov.sg/sportsgthe-5es

SCAN THE QR CODE TO WATCH THE 5Es VIDEO

#2 Movement Experiences

Provide children with a variety of movement experiences.

- Plan for a variety of movement skills and concepts
- Provide a variety of equipment e.g., beanbags
- Encourage use of **left and** right hand/foot
- Play on **different surfaces** e.g., cement floor, grass, sand

#3 Exploration

Let children explore and discover their own functional movement solutions.

- Use short and simple cues, analogies, or externalfocused instructions e.g, "Make the ball flight like a rainbow"
- Provide children with **choices**

#4 Engagement

Design activities to keep children actively engaged and appropriately challenged.

- Cater to diverse learners by varying the challenge
- Use appropriate **activity types** e.g., group games, obstacle courses
- Ensure maximum participation
- Use stories and music

#5 Encouragement

Create a supportive environment that helps children develop a spirit of trying without the fear of failure.

- Focus on the strengths of the child
- Provide **positive and specific feedback** e.g., "I like how you jumped across the river"

3.3 MOVEMENT CONCEPTS

UNDERSTANDING MOVEMENT CONCEPTS

Get moving! Understanding the fundamentals of movement concepts can be the key to unlocking a child's full potential. They will guide educators to cater to the different paces of learning among children. By applying movement concepts, educators can modify activities to create variety and ensure that all children participate fully during movement lessons.

So, what are movement concepts? Movement concepts **enhance movement experiences by creating numerous variations of a skill**. It includes **Body Awareness**, **Effort Awareness**, **Space Awareness**, and **Relationship Awareness**. By mastering these concepts, children can expand their movement experiences to become more competent and confident movers with improved competency and coordination. Let us explore the exciting world of movement concepts and see how they can help children become competent movers!



Relationship Awareness focuses on the **body's relationship with other body parts, people, or objects** as it moves. It helps children develop awareness on how body parts relate to one another during movement and how the mover relates to individuals, groups, and objects.

Of Body Parts

- Round (curved)/ Straight/Twisted
- Narrow/ WideSymmetrical/
- Asymmetrical

With Objects and/or People

Over/Under

• In front/Behind

• On/Off

• Near/Far

- Along/Through
- Meeting/Parting
- Surrounding
 - Alongside

With People

- Leading/Following
- Mirroring/Matching
- Unison/Contrast (moving together/moving differently)
- Between groups
- Solo/Partner/Groups/Alone in a Mass

Adapted from Fun Start Move Smart - Fundamental Movement Skills for Growing Active Learners (2010) resource guide (12)

HOW DO MOVEMENT CONCEPTS LOOK LIKE WHEN APPLIED?

Using the game "Hot Soup", educators can easily introduce a variety of movement concepts to provide opportunities for children to walk in a variety of ways.

Hot Soup

How to Play?

- Children pretend to be either the best service staff in the world, or the fussiest customer.
- Children pretending to be service staff are to deliver the "soup" (hula hoop) to their specific customer (pathway: straight).

Variety of Movement Concepts

- Children pretend it is 10.30am and it is off-peak period at the restaurant (time: slow)
- Children pretend it is 12.30pm and it is peak period at the restaurant (time: fast)
- Children pretend the ceiling in the restaurant is low in some areas (levels: low/high)
- "Customers" to change positions such that the "service staff" will have to navigate around them to reach their specific customers (pathways: zigzag/curved)



By combining fundamental movement skills with at least one of the other three movement concepts (i.e., effort, space, or relationship awareness), educators can modify and create countless movement activities.

3.4 CATERING TO DIVERSE LEARNERS

No two kids are exactly the same – from their height and weight to their past experiences with movement, every child is unique. As an educator, you have probably seen this firsthand in your classroom. But with such a diverse group of children, how do you create movement activities that work for everyone?

It is all about finding the sweet spot. If a task is too difficult, a child might give up and disengage. That is why it is crucial to cater to each child's individual needs and competencies, whether that means tweaking the activity or offering additional support.

Why is this so important? If a child has a negative movement experience, it could set them on a path of dislike and disengagement, which can be tough to break. Hence, this section is all about enhancing one of the 5Es - Engagement.



3.4.1 VARYING CHALLENGE LEVELS

Inclusive classrooms thrive on constant adaptation and modification to cater to the diverse backgrounds, experiences, interests, and needs of all children. By flexibly adjusting task constraints, an environment is created where each child is appropriately challenged while experiencing success. This section provides ideas on how you can manipulate task constraints to vary challenge levels. The ideas serve as a starting point for you to continue to expand and customise based on your growing understanding of children's individual requirements.

Task Manipulations	Elaboration	Practical Examples
Play surfaces	A ball will travel slower on grass surfaces compared to cement floor.	Dribbling with foot/an implement is less challenging on grass compared to cement.
Size of playing area	The smaller the play area, the more control required.	When playing a dribbling game, widen the play area to decrease challenge.
Target distance (Near/Far)	Setting a target far or near will increase or decrease the challenge levels when throwing or rolling.	Allow children to choose targets set at different distances.
Timing (Fast/Slow)	Manipulating speed by adding or removing timed pressure will increase or decrease challenge levels.	Use instructions like "complete the obstacle course as fast as possible" to increase the challenge.
Length of implement	A shorter or longer implement can be used to adjust challenge levels.	Use a racquet with a shorter handle to decrease the challenge.
Weight/Density of object	A light beach ball, scarf, or balloon travels slower compared to a heavier rubber ball or beanbag.	Use a balloon to reduce the challenge of tracking and catching an object.
Shape/Texture of object	A box or crushed newspaper ball is easier to control than a ball when moving on the floor.	Allow children to choose the ball they want to use when dribbling with foot or an implement.
Size of object	A big ball requires less precision compared to a small ball.	A bigger ball will reduce the challenge in a catching or kicking game.

Guiding Question

Can you think of other task constraints that can be manipulated to cater to diverse learners in a class?

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3.4.2 ADDRESSING COMMON CHALLENGES

Let us look at some common challenges children face when learning to move and explore ideas to help them build on their strengths! It is crucial to give children ample time to develop their competencies without rushing them. Remember, most fundamental movement skills can continue to be practised and mastered during primary school years and beyond. During the preschool years, the focus should be on providing children with exposure to various movement skills and fostering positive movement experiences. The ideas shared below only scratch the surface of addressing common challenges. It is essential to come up with your own solutions and ideas tailored to the specific needs of children in your class who may find certain movement skills challenging.

Common Challenge #1: Maintaining Balance While Walking

You may observe some younger children falling more frequently than others, which may hinder their participation in other games and activities.



What You Can Do:

- Create different pathways on the floor and have the child walk on the lines.
- Use tape or anti-slip mats as part of indoor ANRs, or use existing lines outdoors for the child to balance on.

Common Challenge #2: Running With Coordinated Arm Swing

The best way to help children run more efficiently is to provide them with plenty of opportunities to run in open spaces and play games like tag. This allows children to practise running without modifying the key affordances.

However, some children may still seem uncoordinated e.g., you may notice a child swinging their arms from side to side instead of in a forward-backward motion, which allows for the transfer of force into forward locomotion. In such situations, you may consider introducing a game that focuses on the arm swing briefly (see Idea 1 below), before returning them to the open space to practise running and coordinating their entire body.



What You Can Do:

Idea 1: Play a game – "Show me the colour"

- Get the child to hold two different-coloured cones in each hand e.g., green in right and blue in left hand.
- Ask the child to show you the different-coloured cones alternately by first bringing it backwards, then forward.
- Start slow and gradually increase the speed.

Idea 2: Make use of weights

Get the child to hold a slightly weighted object in each hand (e.g., a half-filled 500ml water bottle) and run with it. The weighted object will likely allow the forwardbackward motion of the arm swing to occur.

Idea 3: Use a slope

Get the child to run down a gentle slope. A slope with a slight gradient will allow the use of gravity to modify the emergent movement of the arm swing.

Common Challenge #3: Jumping off a Height

Some children may be afraid of jumping off a height.



What You Can Do:

Idea 1: Start off low

Start with jumping off the lowest possible height (e.g., the first step of a flight of stairs) and gradually increase the height once the child is more confident.

Idea 2: Provide physical assistance to let the child know they can land safely with your help

- Face the child and hold them at the waist.
- Count to three and gently lift them up.
- Gradually reduce physical assistance from holding at the waist to elbows, then to hands, and finally just verbal cues.

Idea 3: Reach for the soft toy

- To help with the jumping motion, a soft toy can be held in front of the child to encourage them to keep their hands in front when they jump and land. This will also help to break their fall if needed.
- Progress to standing in front of them with your hands out, and ask the child to jump forward to give you a "low-10". This can help improve their jumping accuracy and confidence.

Common Challenge #4: Jumping Up or Forward

Some children may find it challenging to jump up or forward, possibly due to lack of arm swing. Others may need more encouragement to take off or land with both feet as having one foot rooted to the ground gives them a sense of security. This is a natural part of development, and the child should be given time to gradually master jumping with two legs.



What You Can Do:

Idea 1: Reach for the soft toy

- If the goal is to jump for distance, hold an object (e.g., soft toy) a short distance in front of the child and have the child jump and reach for the object with both hands.
- If the goal is to jump for height, hold the object slightly above the child's head.

(Tip: Move object a little forward or up as the child jumps to reach for it)

Idea 2: Tell a story

- Use stories to help. An example could be: "Imagine you are an astronaut. You must step on both footprints to trigger the sensor, and land with both feet to power the rocket".
- Use footprints or a flat marker as a visual aid.

Idea 3: Use analogies

• Place a balloon between the child's knees and use an analogy such as "pretend you are a kangaroo and bounce up and down". This activity can help children improve their coordination and leg strength while having fun pretending to be a kangaroo.

Common Challenge #5: Hopping on One Foot

Providing children with more opportunities to balance on one foot and in a variety of ways (e.g., using their free leg to air-draw letters) will help them be more stable while hopping. Here are some other ways to help children who have difficulty hopping:



What You Can Do:

Idea 1: Provide support

The child can use the wall for support, or you can lend your arm for support while they hop.

Idea 2: Use verbal cues

Use verbal cues such as "push off like a rocket" (hopping leg), "poke knee to sky" (non-hopping leg) or "swing your arms like cooking fried rice" to guide the child.

Common Challenge #6: Skipping With Rhythm

For children who may find skipping challenging, you may try the following ideas.



What You Can Do:

Idea 1: Use verbal cues

Use verbal cues and coloured markers to guide children to "step, hop, step, hop" in rhythm.

Idea 2: Use songs

Use songs like "Skip to My Lou", or a tambourine to help children get a rhythm.

Idea 3: Provide support

For children who need support - face the child and hold both of their hands while skipping together in a circle.



Common Challenge #7: Catching an Object

Some children may turn their eyes away or close their eyes when catching as they are intimidated by the oncoming object. Others may miss the catch as they are slow to react to the ball.





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What You Can Do:

Idea 1: Use a soft toy

- Start off with letting the child play with objects that are colourful and soft like a soft toy.
- When the child is familiar with handling the objects, they can practise tossing and catching them.

Idea 2: Introduce catching gradually

- Use colourful, lightweight and slow-moving objects, such as a scarf or a balloon, to provide more time for the child to track, reach, and grasp the falling object.
- Start by having the child play with the objects first, and then gradually progress to dropping the objects from a height for the child to catch.

Idea 3: Use verbal cues

Encourage the child to have their hands in front of their chest and ready to catch. You can use verbal cues such as "ten fingers and a triangle" to help them to get ready to receive the object.

Idea 4: Use drawings

- Draw a face on a beach ball with the ears on the sides of the ball.
- Ask the child to catch the ball by covering the ears (see example in the illustration on the left).
- Use verbal cues like "Ready? It is coming in 3, 2, 1" to help the child prepare for the catch.

Common Challenge #8: Bouncing a Ball

Bouncing a ball requires the child to spend some time practising and getting a feel of the rhythm of the bouncing ball.



What You Can Do:

- Start by having the child practise "drop, catch" using both hands. Get the child to say "drop, catch" according to rhythm as the ball drops to the ground and when the child catches it.
- Gradually progress to a "push and catch" and slowly increase the tempo.
- As the child gets comfortable, progress to using only one hand.

Do not worry if the child is not bouncing the ball with their finger pads in the early stages. With more practice, the child will build their sensitivity for the rhythm and tempo of the bouncing ball, and the tactile feel of the ball will help the child to gradually start using their finger pads to bounce the ball.

Common Challenge #9: Dribbling a Ball With Foot

Focus on letting children have a feel of what it is like to control different objects with their feet without worrying too much about technique.



What You Can Do:

Idea 1: Use alternative objects

Instead of using a ball, use objects that do not roll away as easily e.g., boxes or a crushed paper ball.

Idea 2: Use different surfaces

Practise on a grassed area instead of a smooth surface to slow down the speed of the ball.



3.5 SAFETY GUIDELINES

3.5.1 IMPORTANCE OF SAFETY IN MOVEMENT ACTIVITIES FOR CHILDREN

Outdoor learning presents a natural environment where children can engage in risk-taking and problem-solving activities. While risks inherently involve challenges and uncertainties, they play a vital role in the growth and learning process of children. It is important to recognise that the goal should not be to eradicate all risks from their lives, but rather to manage them with a perspective that acknowledges the spectrum of potential hazards. By doing so, children are given the opportunity to develop crucial life skills, resilience, and adaptability in a controlled yet dynamic setting. Embracing risks within reasonable boundaries fosters a healthy balance between safety and the invaluable learning experiences that come with exploring and navigating the world around them.

This section explores safety considerations as well as preventive strategies like warm-ups, cool-downs, and hydration, to ensure that children can enjoy movement activities while minimising the risk of injury or harm.

The BREAD and PEEP models¹ offer useful guidance in assessing potential risks and taking preventive measures. BREAD (Benefits-Risks-Evaluation-Action-Decision) helps educators assess if the potential benefit of a planned activity outweighs the risks involved while the PEEP (People-Environment-Equipment-Process) model can be used to identify potential hazards and anticipate issues before and during movement and outdoor activities. By utilising these models, educators can ensure that children can safely and confidently engage in movement and exploration activities while promoting their growth and development.

¹ For more information, refer to the Outdoor Learning: A National Guide for Early Childhood Educators (https://www.ecda.gov.sg/early-childhood-educators-(ece)/curriculum-frame works/outdoor-learning/a-national-guide-for-early-childhood-educators), which details these frameworks on pages 25 and 29, respectively.

3.5.2 SAFETY CONSIDERATIONS AND FRAMEWORKS FOR MOVEMENT ACTIVITIES WITH CHILDREN

As educators, safety should always be a top priority when planning and executing movement-based lessons. The infographic below provides a comprehensive overview of the essential safety elements that educators should be well-informed about, to ensure the well-being and protection of the children in their care.

Safety Guidelines for Facilitating Movement

Activity Planning - BREAD & PEEP Models¹

 BREAD provides a systematic approach to conducting a benefit-risk assessment for movement-based lessons.
 BREAD stands for:

B – Benefits

- R Risks (use PEEP model)
- E Evaluation
- A Action
- D Decision

- The PEEP Model helps to identify potential hazards and anticipate issues before and during movement activities. It involves examining the:
 - P People
 - E Environment
 - E Equipment
 - P Process

Weather

- Minimise sustained outdoor activities from 11am to 4pm (when the sun is the strongest).
- Check for potential lightning risks.
- Have wet weather plans in place.

Attire

- Wear suitable attire and footwear for movement e.g., light clothing, covered shoes.
- Wear a hat on sunny days.

Pre-Participation Screening

• Check that children are feeling well and for any medical conditions prior to participating in physical activities.

Warm-Up and Cool-Down

- Conduct warm-up exercises before physical activities to prepare the body and prevent injuries.
- Incorporate cool-down exercises after physical activities to gradually decrease children's heart rate and breathing to calm them down.

Activity Space and Adult Supervision

- Check that the space is free from hazards (e.g., potholes, slippery floor, poisonous insects) and suitable for children to move freely during the planned activity.
- Provide clear boundaries for children to play within and ensure they remain within sight.
- Ensure adult-to-children ratio requirement is met and adults are first aid-trained.

Equipment

- Ensure that there are no hazardous parts on the play equipment.
- Ensure that the size and weight of the equipment are appropriate for the age and competencies of the children.

Hydration

• Provide adequate water breaks for children to stay hydrated during the activity.

¹ Early Childhood Development Agency. Outdoor Learning: A National Guide for Early Childhood Educators; 2019. https://www.ecda.gov.sg/early-childhood-educators tors-(ece)/curriculum-frameworks/outdoor-learning/a-national-guide-for-early-childhood-educators



1 INTRODUCTION TO MOVEMENT ACTIV

This comprehensive chapter provides educators with a rich collection of activity plans that are designed in accordance with the 5Es framework, allowing educators to see how the guiding principles can be applied when designing or modifying movement. The goal is to inspire educators to modify and create their own activities based on the examples to enhance their movement-based lessons.

While the focus of the activity plans is on developing movement skills, they also cover themes that align with the aspects of learning and development highlighted in the Nurturing Early Learners Framework (1), such as values, social and emotional competencies, and integrated learning, where appropriate. The activities are organised according to different activity types rather than fundamental movement skill categories which will be covered in Chapter 5. This approach allows educators to select suitable activities while considering the needs of diverse learners, group sizes, and space constraints.

The activity types covered in the chapter include:



go.gov.sg/sportsgmovement-activities

ACTIVITY VIDEOS

4.2 WARM-UP AND COOL-DOWN

It is important to cultivate the habit of warming up and cooling down from young. The former helps children prepare their muscles for playing games, while the latter relaxes muscles and gives them time to calm down before moving on to other activities. Further details regarding the significance and function of warm-ups and cool-downs will be explored in this section.

WARM-UP

The function of warm-ups is to prepare the body for movement and prevent injuries. To do that, you can follow the RAMP protocol (2):

- **R** Raise body temperature and heart rate
- A Activate the key muscle groups
- M Mobilise joints
- P Prepare the body and the mind for more activities

Start with low-intensity movements and gradually increase the intensity. You may include dynamic stretches that move beyond the usual range of motion (e.g., leg swings, arm circles, lunge walks) as well as action songs and mini-games.

COOL-DOWN

To gradually decrease children's heart rate and breathing, you can include a lowered-intensity activity like breathing exercises, yoga poses, or static stretches.

Examples of warm-up and cool-down activities:

- Jungle Adventure
- Fruit Salad
- Mr Man/Little Miss
- Pirate Ship

Jungle Adventure (Warm-Up)

Activity Type Warm-up/Individual

Age Group

3 years and above

Fundamental Movement Skills

Stability – Static Balance, Dynamic Balance, Stretching

Activity Objectives

Children will be provided with opportunities:

- To engage in various dynamic stretches, promoting coordinated body movements
- To develop their static and dynamic balance skills



How to Play

- String various exercises together using a story.
- Get children to imagine they are going on a "jungle adventure".
- Demonstrate the exercises with the accompanying story:
 - Starfish squat and reach: "Wake up and stretch! Let us stretch our bodies before we start our jungle adventure."
 - Squash the bug (step), slap the mosquito (opposite hand on knee), shout hooray (lift knee and opposite hand up): "I see a bug! What do we have to do?"
 - Side-to-side low lunge, hands reach across: "We are entering a cave full of bats, stay low to escape the bats!"
 - Squat to crawl out: "Crawl through a hollow log. You see a tiger! Crawl back!"
 - Balance on one leg (3 to 5 seconds per side): "Hop and balance on the rocks to cross the river. We have made it to the other side, hooray!"

Variations of Play

Challenge Levels:

- Simplify the game by getting children to balance on one leg instead of hopping.
- Simplify "starfish squat and reach" to squat and stand.

Guiding Questions

- 1. How else can you modify the warm-up exercises to simplify it?
- 2. What other stories can you use to introduce this warm-up?

Jungle Adventure (Cool-Down)

Activity Type

Age Group

Cool-down/Individual

Fundamental Movement Skills Stability – Stretching

2 years and above Stability – Stro

Activity Objectives

Children will be provided with opportunities:

- To explore the use of simple stretches to help their muscles relax
- To practise self-regulation by lowering their heart rate and breathing at the end of a movement lesson



How to Play

• String various exercises together using music and analogies.

Itsy bitsy spider

- Play the song "Itsy bitsy spider".
- Get children to walk fingers along the body to the rhythm of the song:
 - Start from the middle of the body, move across the other arm, to the fingers on the side (hold stretch), change side.
 - Start with fingers above head (stretch toward the sky), move down to shoulders, waist, knees, and toes (hold stretch), walk fingers back up.

Deep breathing

- Step forward and breathe in: "Smell the flowers".
- Breathe out: "Blow out the candles".

Fruit Salad

Activity Type Warm-up/Individual

Age Group 2 years and above

Fundamental Movement Skills Stability – Balance, Stretching

Activity Objectives

Children will be provided with opportunities:

- To perform exaggerated body movements that require balancing and stretching
- To sing and move their bodies to the beat





Pineapple



Banana



Fruit Salad

Watermelon

How to Play

- Song (Sung to the tune of "Are You Sleeping?"):
 - Watermelon, watermelon
 - Pineapple, pineapple
 - Ba-na-na-na-na, ba-na-na-na-na
 - Fruit salad, fruit salad
- Demonstrate the accompanying actions with exaggerated body movements. Subsequently, get children to perform the actions as they sing:
 - Watermelon: Stretch hands up, then bring them down, while drawing a big circle in the air each time
 - Pineapple: Draw circle from below, stop hands at chest level and stretch out again over head level
 - Banana: Form an arc with both hands, slide right, then slide left
 - Fruit Salad: Hands clasped, both hands and body make exaggerated stirring and trunk rotation movements

Variations of Play

- Change the tempo of the song: Slow or fast
- Exaggeration of movements: Big or small movements
- Ask children what fruits they like and get them to show the accompanying action; add fruits to the song.

Adapted from Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

Mr Man/Little Miss

Activity Type Warm-up/Circle

Age Group 3 years and above

Fundamental Movement Skills

Locomotor – Walking, Jumping, Skipping Stability – Dynamic Balance

Activity Objectives

Children will be provided with opportunities:

- To explore forming different shapes using their bodies
- To move creatively based on the names given



How to Play

- Children to imagine they are either "Mr Man" or "Little Miss".
- Get the children to stand in a circle and move in a clockwise (or anticlockwise) direction.
- Call out variations (with example shape and movement) such as:
 - Mr/Little Miss Small: Make body small (squat) and walk
 - Mr/Little Miss Tall: Stretch to the sky and walk on tip toes
 - Mr/Little Miss Slow: Walk slowly
 - Mr/Little Miss Rush: Walk quickly
 - Mr/Little Miss Bounce: Walk with light springy actions or jump
 - Mr/Little Miss Happy: Skip or do any action that makes you happy
- Allow the children to move in whatever ways they feel are representative of the names.

Guiding Questions

- 1. Instead of Mr/Little Miss actions, what other simple actions can you think of to get children's bodies warmed up?
- 2. What other analogies can you use? E.g., get children to mimic movements of animals.

Pirate Ship

Activity Type Warm-up/Group Age Group 4 years and above **Fundamental Movement Skills** Locomotor – Walking, Running Stability – Dynamic Balance

Activity Objectives

Children will be provided with opportunities:

- To move with coordination, control, and body awareness
- To move in response to the other children and the surroundings

Materials/Equipment

Cones, Station labels

Set-Up

Use cones to mark out the different parts of the ship e.g., bow, stern.



How to Play

- Get children to imagine that they are pirates on a ship.
- You (or the selected child) are the captain.
- The captain will call out actions for the pirates to perform:
- Salute the Captain and say "Aye aye, Captain!"
- Scrub the deck
- Climb the ladder
- Run to the different areas of the space upon command to get to various parts of the ship:
- o "Port"– Left
- o "Starboard" Right
- o "Bow" Front
- o "Stern" Back

Variations of Play

• Call out actions according to other scenarios e.g., stormy seas; an aeroplane is approaching, stay low.

Guiding Question

How can you use the playground or lines on the ground to facilitate this activity?

4.3 INDIVIDUAL AND PAIR ACTIVITIES

Let us explore the possibilities of individual and pair activities! These versatile activities are particularly useful in indoor spaces where there may be limited room for running around. They also come in handy in situations like the COVID-19 pandemic, where minimal or no interaction with other children is allowed. Whether as a game for one or a partnership adventure, these activities provide opportunities for children to have fun and develop their skills while maintaining a safe and controlled environment.

Activity Type Individual Description

- Activities that involve a child completing movement tasks individually within their personal space.
- It can involve multiple children participating in the activity at the same time e.g., during warm-up/ cool-down.

Example of individual activity set-up:



Examples of individual activities:

- Road Trip
- Alphabet Yoga
- Around the World

Activity Type

Pair

Description

- Activities that involve two children interacting with each other within a general space.
- It can involve multiple pairs participating in the activity at the same time.
- The activities may involve both cooperative or competitive play.

Example of pair activity set-up:



Examples of pair activities:

- Poison Ball/Avoid the Fruits
- Push-and-Pull Battle

Road Trip

Activity Type Individual Age Group 3 years and above Fundamental Movement Skills

Locomotor – Running, Jumping, Hopping

Activity Objectives

Children will be provided with opportunities:

- To vary their running speed according to different commands
- To pay attention, listen, and respect the teacher by following the commands

Materials/Equipment

Spot markers

Set-Up

Place spot markers spaced apart for children to stand on.



How to Play

- Children to imagine they are going on a road trip and travelling in a car.
- The road trip starts and children are to start running on the spot.
- Children to vary their speed according to different traffic conditions:
 - "Traffic jam": Slow
 - "Smooth traffic" (along a small road): Medium
- "Expressway": Fast

Variations of Play

Challenge Levels:

- To simplify the game: Use commands "slow", "medium", "fast" instead of traffic conditions.
- To increase the difficulty, include various road scenarios for children to react to:
 - "Potholes": Hop on the spot
 - "Over the hump": Jump on the spot
 - "U-turn": Jog on the spot and turn clockwise or anti-clockwise

Guiding Question

Can you think of other traffic conditions or road scenarios to prompt children to move differently? E.g., "Icy Roads": Slide.

Alphabet Yoga

Activity Type Individual/Pair

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Age Group
3 years and above
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Fundamental Movement Skills Stability – Static Balance

Activity Objectives

Children will be provided with opportunities:

- To perform different stability skills while trying to form various letters of the alphabet with their bodies
- To explore different ways to create shapes with their bodies

Materials/Equipment

Cue cards for alphabets



How to Play

- Give children various letters of the alphabet to form using different parts of their bodies.
- Encourage children to use their creativity to form the letters.
- This activity can be done individually or in pairs, depending on the letter being formed.

Variations of Play

Integrated Learning:

- Introduce the sounds of each alphabet as children perform the letters with their bodies.
- Get children to spell out words with their bodies.

Around the World

Activity Type Individual Age Group 2 years and above Fundamental Movement Skills Stability – Stretching

Activity Objectives

Children will be provided with opportunities:

- To move a small ball around their body by stretching to reach different parts of the body
- To explore and handle objects of different sizes

Materials/Equipment

Small to medium-sized balls



How to Play

- Give each child a small ball.
- Get children to roll the ball down their right leg to their toes, then back up across their chest to their left palm (by now stretched outward from body). Then, roll the ball back along their left arm, down the chest to the left toe and back to the chest.
- Next, get children to raise their right hand overhead and roll the ball up along their raised right arm and hand. Holding the ball with hands overhead, get children to slowly bend over to touch their toes with the ball.
- Get children to slowly move their ball around the "world" North, South, East and West!

Variations of Play

Movement Experiences:

- Get children to try out different rolling speeds such as rolling the ball faster or slower.
- Get children to roll/manipulate ball around their head, torso, or legs.
- Use different-sized balls.

Integrated Learning:

• Get children to identify directions (left, right, up, down, or north, south, east, west).

Adapted from Fun Start Move Smart - Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

Avoid the Fruits

Activity Type Pair/Group

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Age Group
4 years and above
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Fundamental Movement Skills

Object Control – Underarm Roll, Overarm Throw Locomotor – Sliding and Dodging

Activity Objectives

Children will be provided with opportunities:

- To throw or roll an object accurately to a target
- To slide or dodge in response to a partner or an oncoming object

Materials/Equipment

Crushed paper balls/Beanbags/Balls, Cones (to mark out playing area)



How to Play

a) In Pairs

- One child will be "A", other child "B".
- "A" will decide whether to slide to the left or right, and "B" is to mirror.
- As "A" moves, "B" will follow.

b) In Pairs (after some practice)

- One child takes the role of the thrower/roller, aiming a soft object ("fruit") at their partner's feet.
- The partner's task is to dodge the object by moving quickly to avoid being hit.
- Children to take turns in both roles.

c) In Teams (4 to 6 per team)

- Team A to stand outside the playing area while Team B will be within the playing area.
- Children in Team A will aim their "fruit" at the feet of the opposing team (Team B), using only one object at a time.
- Team B must dodge the different "fruits" being thrown by the other team.

Variations of Play

Challenge Levels:

- To simplify the game, use only underarm roll.
- To increase the difficulty, children can stand nearer to or farther from each other.

Movement Experiences:

- Get children to explore different ways of throwing to their partner's feet.
- Use different-sized balls, or various soft objects for throwing.

Push-and-Pull Battle

Activity Type Pair **Age Group** 5 years and above Fundamental Movement Skills

e Stability – Dynamic Balance, Weight Transfer, Push, Pull

Activity Objectives

Children will be provided with opportunities:

- To adjust their strength in pushing and pulling in response to their partner's movement
- To explore transferring of weight while doing a pushing or pulling action

Materials/Equipment

Spot markers, Nylon rope, Tape (to mark out square box)



How to Play

"Push battle"

- In a pair, each child to stand in a designated square box, facing each other while holding their hands up palm-to-palm.
- Each child's objective is to try to push and make their opponent lose balance and step out of the box.
- Children can pretend to push or move their hands back quickly to trick their opponents and cause them to lose balance.

"Pull battle"

- In a pair, each child to stand on a spot marker, facing each other while holding onto a rope or scarf.
- Each child's objective is to tug/pull the rope/scarf to try to make their opponent lose balance and take a step.
- Children can pretend to pull to trick their opponents and cause them to lose balance.

Safety consideration: Ensure that the activity is conducted with ample space without any obstructions around. Additionally, it is important to remind children not to tug too hard and that it is alright for them to take a step the moment they feel like they are losing their balance.

Variations of Play

Challenge Levels:

• Have children stand on different surfaces e.g, on grass, sand, or a cushioned mat to increase difficulty.

Guiding Question

Can you think of the spaces around your centre that has natural markings or different types of surfaces where this activity can be conducted?

4.4 STATION GAMES AND OBSTACLE COURSES

Get ready for some action-packed fun with station games and obstacle courses! Suitable for groups of all sizes, these dynamic activities guarantee an exciting time for everyone involved. Station games and obstacle courses require larger areas for set-up, allowing for exploration in various physical environments. Whether at outdoor open spaces or indoor settings, let your imagination soar as you create unforgettable adventures for the children.



Feeding Frenzy

Activity Type Station games **Age Group** 4 years and above

Fundamental Movement Skills

Object Control – Throwing, Rolling, Kicking Stability – Dynamic Balance, Weight Transfer

Activity Objectives

Children will be provided with opportunities:

- To explore different ways of using their hands or feet to get various objects into/onto/over targets
- To accurately send the objects into/onto/over targets of varying levels (low, medium, high)
- To engage in cooperative play, and learn to wait for their turns at various stations

Materials/Equipment

Soft rubber balls (medium and large), Rolled-up socks, Crushed newspaper balls, Beanbags, Pictures for targets and station labels, Spot markers

Set-Up

- Each station can be set up as a "feeding station" for different animals.
- Use spot markers and picture cards to label each station. Include about three objects for throwing at each station.
- The set-up for each station should encourage the various types of object control skills e.g., two-handed overhead throw, underarm roll, etc.
- Utilise playground structures for this activity e.g., bottom of climbing net to roll under and/or tunnels as targets.



How to Play

- Get children to imagine that they are zookeepers tasked to feed hungry animals.
- At each station, children to aim their objects towards the different targets to feed the animals, using different object control skills.
- To facilitate this activity, introduce one station at a time.
- Once all the stations are introduced, the children will choose which station they want to start with.
- Allow the children to have about three minutes at each station. Call "Next!" for children to move to their next designated station.

Possible Station Ideas



Station 1: Feed the Lion Throw (two-handed, overarm, underarm) through a hoop; Climb through the spider web to retrieve the ball



Station 2: Feed the Crocodile Kick/roll the ball under the net



Station 3: Feed the Giraffe Throw into/over the tunnel



Station 4: Feed the Snake Roll/throw (underarm/overarm) to targets of different heights on the slide

Variations of Play

Challenge Levels:

• Vary the throwing/kicking distance or heights of targets to increase or decrease the challenge.

Movement Experiences:

- Use different types and sizes of balls for each station.
- Use different items as targets for different effects e.g., throwing empty cans into trash bags, aiming at moving hoops (by peers).
- Set up the stations on different floor surfaces for a different experience e.g., kicking the ball on grass, rolling the ball on sand etc.

Guiding Questions

- 1. How can you incorporate various playground features into the stations to create opportunities for varied movement experiences?
- 2. How can you modify this activity to conduct it indoors? E.g., using chairs to roll/kick under, sticking targets on wall to throw at.

Going on a Safari

Activity Type Obstacle course Age Group 4 years and above

Fundamental Movement Skills

Locomotor – Running, Jumping, Leaping, Hopping, Crawling Stability – Dynamic Balance, Weight Transfer

Activity Objectives

Children will be provided with opportunities:

- To use a variety of locomotor skills to get over obstacles of varying distances and height
- To maintain dynamic balance and perform weight transfer while manoeuvring their body through an obstacle
- To demonstrate patience by waiting for their turn to go through obstacles

Materials/Equipment

Hula hoops, Nylon jump ropes, Masking tape, Floor markers (square base/donut), Cones, Sticks, Arrows

Set-Up

Set up various obstacles in an open outdoor space and mark route with arrows.



How to Play

- Get children to imagine that they are going on an adventure to the safari.
- Before starting, explain to children what they can find in the safari and potential dangers e.g., deep rivers, traps, logs, etc.
- Demonstrate the following obstacles:
 - V-river: "Jump/Leap over the river to stay dry"
 - Tunnel: "Go/Step through the tunnel"
 - Fallen trees: "Cross over/under the fallen trees"
 - Lilypads: "Choose one colour. Step on the lilypad to cross the river"
- Upon your instructions to start, children to attempt the obstacles one after another, following the sequence to avoid collision.
- Encourage children to be creative and explore different ways of crossing the obstacles.

Possible Obstacle Ideas:



Obstacle 1: V-river to jump/leap over (rope or tape to make V-river)



Obstacle 3: Fallen trees (cones with sticks to cross over or under)



Obstacle 2: Tunnel (series of hoops to go through)



Obstacle 4: Lily pads (coloured markers)

Variations of Play

Challenge Levels:

• Provide choices (e.g., V-river or lily pads) to allow children to choose a path that suits their abilities.

Environment:

• Combine the obstacle course with playground or outdoor features e.g., an additional obstacle could be climbing up the steps and sliding down.

Adapted from Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

A Fruit Picking Adventure

Activity Type Obstacle course Age Group 2 years and above

Fundamental Movement Skills

Locomotor – Crawling, Walking, Climbing Object Control – Grasping Stability – Dynamic Balance, Stretching (Overarm Reaching)

Activity Objectives

Children will be provided with opportunities:

- To develop locomotor skills as they learn to maintain balance and control of their body while moving through different obstacles
- To demonstrate perseverance to go through obstacles

Materials/Equipment

Balance Beams, Crawling tunnel(s)/Tables, Soft mats, Chairs, Slides, Plastic balls, Small bags, Sticky tape

Set-Up

This obstacle course can be set up indoors to include various stations that provide opportunities to explore different fundamental movement skills.



How to Play

- Get children to imagine that they are hosting a fruit party and are tasked to go through the forest to collect fruits (balls).
- After introducing each obstacle, invite children to try out the obstacle course independently.
- Allow self-exploration and only provide assistance when needed.

Possible Obstacle Ideas



Obstacle 1: River rush Slide down slides and land on soft mats



Obstacle 3: Cross the river Walk/Balance across balance beams of various heights (provide chairs at the side to allow children to balance independently)



Obstacle 2: Mud and tree trunks Crawl under a table or through a tunnel



Obstacle 4: Fruit picking

Overarm reach to collect balls (place a long sticky tape between two shelves and stick balls on it for children to reach and put in their bags)

Variations of Play

Integrated Learning:

- Get children to sort the balls according to colour.
- Get children to count the number of balls collected.

DESIGNING AN OBSTACLE COURSE

In the previous two activity examples (Going on a Safari and A Fruit Picking Adventure), you observed how different obstacles can be combined to create continuous obstacle courses for children. These obstacle courses can be adapted to different physical spaces, catering to various ages and competencies. Utilise the available resources in your learning environment to design obstacle courses catered to your specific needs and target age group. Apart from the previously mentioned obstacles like the V-river and Tunnels, below are some additional activity ideas you can use to create your own unique obstacle courses.


The Floor is Lava

Activity Type Obstacle course Age Group 5 years and above

le course

Fundamental Movement Skills Locomotor – Jumping, Hopping, Climbing Stability – Dynamic Balance

Activity Objectives

Children will be provided with opportunities:

- To create their own obstacle course incorporating various fundamental movement skills
- To develop accuracy in throwing by aiming towards targets
- To work as a team to design an obstacle course

Materials/Equipment

Flat markers, Boxes, Nylon rope/Masking tape, Beanbags



How to Play

- Divide children into 4 groups (green, orange, red, blue) and imagine that the Floor is Lava.
- In the equipment area, provide a set of items for each group e.g., 6 flat markers, 2 ropes, and 2 boxes.
- Children to work within their group to design their own obstacle course from one point to the next point.
- Once the obstacle course is ready, children are to move from point to point, going through the obstacle course that they have created. E.g., jump/leap/step from marker to marker and balance on the rope, etc.
- Children have to step on the flat markers or on the rope to avoid the lava.
- At the "Throwing Zone", children can cool down the lava by throwing the beanbags into matchingcoloured hoops.
- After their throw, they continue the route towards the next "Throwing Zone" by crossing the other group's obstacle course.

Guiding Questions for Children (to facilitate the creation of obstacles)

- 1. How can you arrange the obstacles such that you and your friends can get across successfully?
- 2. How can you arrange the obstacles so that you and your friends can pick easier or more challenging routes?

4.5 GROUP GAMES AND CIRCLE GAMES

Ignite the spirit of teamwork and cooperation with group games! These group activities can serve as the core of your lessons especially when working with larger class sizes, guaranteeing active participation from all. Group games involving the entire class in the same space bring a new level of complexity as they involve interactions with multiple children within the play space, fostering improved spatial awareness and navigation skills. While most group games generally require a larger space, there is a subcategory of circle games included that are perfect for indoor spaces with limited room. With instructions to follow, these games are ideally suited for children aged 4 years and above. Remember to make these games fun and engaging by incorporating stories that children can relate to.

Activity Type

Group games

Description

- Activities in which a group of children are tasked to play within a marked area, with a set of rules.
- It can involve one large group or several small groups of children participating in the activity at the same time.
- Group games can accommodate many children and allows maximum participation. They can also foster team work and spatial awareness.

Examples of group game set-up:





Examples of group games:

- Protect the Princess
- Harvest Day
- Monkeys and Bananas
- Sea Shore Ship Shark
- Sticky Popcorn
- How Far Can My Leaves Go?
- Musical Hoops
- Traffic Light
- Drivers and Tyres Gate Dribbling
- Send the Presents Over

Activity Type Circle games

- Description
- Activities that involve children doing the same activity in a circle e.g., moving within the circle together, throwing towards a target together, etc.
- This type of activity requires a much smaller space while maximising participation.

Example of circle game set-up:



Examples of circle games:

- Put Out the Fire
- Horses and Stables

Protect the Princess

Activity Type Group games

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Age Group
5 years and above
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Fundamental Movement Skills

Locomotor – Sliding

Activity Objectives

Children will be provided with opportunities:

- To slide with control and sudden changes in direction and body levels
- To observe teammates' movements and respond accordingly
- To work together by moving in unison to protect the princess

Materials/Equipment

Cone, Sash/Scarf

Set-Up

Ensure there is sufficient space for the activity.



How to Play

- Divide children into groups of 4-5. Each group should have one designated princess and the rest will be knights.
- The princess and the knights will hold hands to form a circle around the cone (the castle), and keep it within the circle.
- The princess is to wear a tail by tying/tucking a sash to the back of their shorts. Make sure the tail has some length showing.
- The dragon's role is to try to snatch the princess's tail.
- The knights have to protect the princess by moving in either direction to avoid the dragon. The knights and princess have to communicate to move in the same direction.
- Rotate roles whenever the dragon scores or after about 30 seconds of play.

Variations of Play

Challenge Levels:

- Have an adult be the dragon to pace the activity and lower the challenge.
- Rotate roles with shorter or longer time intervals (shorter time intervals allow for more frequent breaks and is therefore less challenging).

Harvest Day

Activity Type Group games

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Age Group
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4 years and above

Fundamental Movement Skills

Locomotor – Walking, Running Object Control – Toss Up and Catch, Throw and Catch

Activity Objectives

Children will be provided with opportunities:

- To travel in different pathways using various locomotor skills
- To explore tossing and catching different objects

Materials/Equipment

Hula hoops/Flat markers, A variety of objects for tossing (scarf, beanbags, soft toys, balls of different sizes, balloons)

Set-Up

- Mark out the playing area (this is the farm).
- Place hula hoops/flat markers around playing area and an object for tossing in each hoop.



How to Play

- Children are to imagine that they are little farmers who are moving around the farm using different locomotor skills.
- Upon hearing the command "Harvest", each child needs to go into one hula hoop/donut marker, pick up the item inside, and toss up and catch five times before putting it back down.
- Children are to move around the play area again until they hear the command "Harvest" again.
- Repeat the game several times to allow children to move using different locomotor skills and try tossing and catching a variety of objects.

Storyline: Children, you are now little farmers, and you need to harvest food. You can see food inside the farm area (hula hoop/donut markers). Remember, the food is only ready to be harvested when you hear "Harvest!". How do we harvest? You need to go into one farm area, pick up your food, and throw and catch it 5 times. You need to listen because there are times when the weather is hot (so you need to tiptoe) and when the weather is cold (so you need to run to keep warm).

Variations of Play

Challenge Levels:

- Place the farm areas nearer to one another (decrease challenge) or farther away (increase challenge) from one another.
- Include more options of objects that move more slowly when tossed (e.g., scarfs and balloons) to decrease challenge.
- Use only one hand to toss and catch to increase challenge.

Movement Experiences:

- Different locomotor skills (e.g., hopping, skipping, galloping) may be used to get around the farm.
- Modify the set-up by leaving some hoops empty and some hoops with objects. When "Harvest" is called, children in hoops with and without objects pair up to throw and catch to each other.

Integrated Learning:

• Include numeracy by varying the number of times the children have to toss up and catch, incorporating addition or subtraction.

Monkeys and Bananas

Activity Type

Age Group

Group games

5 years and above

Fundamental Movement Skills Locomotor – Running, Sliding, Dodging Stability – Dynamic Balance, Stretching

Activity Objectives

Children will be provided with opportunities:

- To travel in different pathways using various locomotor skills
- To dodge and avoid getting tagged
- To stretch to tag while maintaining balance
- To demonstrate honesty by going back to the starting line when tagged

Materials/Equipment

Hula hoops/Flat markers, Beanbags

Set-Up

- Set up hoops spaced apart according to the number of children participating in the game.
- Clearly mark a "Start" and "End" point.
- Position the "Bananas" (beanbags) after the "End" point.



How to Play

- Divide children into two teams. Assign one team to be the "Monster Trees" who will stand in the hoops, while the other team will be the "Monkeys".
- Monkeys will have to avoid the Monster Trees to get the bananas at the "End" point and bring it back home to the "Start" point. Monkeys can only collect one banana at a time.
- The Monster Trees will have to stretch their arms while staying in their hoops and try to tag the Monkeys.
- Monkeys will have to try to avoid being tagged by the Monster Trees.
- Monkeys who have been tagged will have to return to the start point and try again.
- The game ends when all the bananas have been transported home. Alternatively, a time limit can be set for Monkeys to collect as many bananas as possible.
- Get children to rotate roles at the end of each round.

Variations of Play

Challenge Levels:

- Vary the arrangement of the hoops to encourage different pathways.
- Increase the distance between the hoops to provide the Monkeys with an easier challenge.
- Increase the size of the hoops to make it easier for the Monster Trees (so that they can move around more); decrease the size of the hoops or use spot markers to increase challenge for the Monster Trees.

Integrated Learning:

• Count the number of bananas at the end of the game.

Guiding Question

Can you think of alternative equipment that can be used for this game?

Sea Shore Ship Shark

Activity Type Group games Age Group 4 years and above

Fundamental Movement Skills

Locomotor – Running, Jumping, Sliding, Hopping, Skipping

Activity Objectives

Children will be provided with opportunities:

- To move using a variety of locomotor skills such as running, jumping, sliding, hopping, and skipping
- To move with sudden changes in direction, location, and pathway by reacting quickly to the commands given
- To respect the rules and listen carefully to the commands given

Materials/Equipment

Cones/Ropes

Set-Up

Divide court into three sections: sea, shore, and ship.



How to Play

- Divide the children evenly into the three marked sections.
- Indicate one of the sections as the "Shore" and call it out. In response, the children should run to the section that has been called.
- Repeat the process by calling out a different section, prompting the children to run and gather there.
- When the word "Shark" is called, instruct the children to run to either the "Shore" or the "Ship." Any children remaining in the "Sea" section after "Shark" is called can be tagged.

Variations of Play

Challenge Levels:

- To increase the challenge, introduce additional "Sharks" in the "Sea" section who are waiting to tag the children.
- Modify the width of the "Sea" area by making it wider or narrower, depending on the desired level of difficulty.

Movement Experiences:

- Introduce variations in locomotor skills during the game. Instead of just "running", children can be instructed to "jump", "slide", "hop", or "skip" to move to their respective sections.
- Get children to dribble a ball with their hand or feet to move to the respective sections. When "Shark" is called, children must hold the ball and run to either the "Shore" or the "Ship".

Adapted from Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

Sticky Popcorn

Activity Type

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Age Group
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Group games

4 years and above

Fundamental Movement Skills Locomotor – Jumping

Activity Objectives

Children will be provided with opportunities:

- To jump continuously in a defined space with other children
- To jump and travel along different pathways in different directions to avoid being tagged

Materials/Equipment

Sashes, Cones/Disc cones

Set-Up

Use cones to mark out boundary or start/finish line.



How to Play

- Begin by explaining to the children the process of how corn kernels transform into popcorn.
- Select one child to be the "Sticky Popcorn" and allow them to wear a sash for easy identification.
- Instruct the remaining children to imagine themselves as corn kernels inside a "hot pot".
- Ask the corn kernels to crouch low, keeping their limbs close to their bodies.
- Signal the start of the game by saying, "I'm turning the heat up. It is getting hotter, hotter, and pop!"
- As the "heat" increases, encourage the corn kernels to slowly stretch themselves out, starting with their arms, followed by their bodies, and then their legs.
- Upon hearing the word "pop!", the children should begin jumping around on both feet (no running).
- However, the Sticky Popcorn should be on the lookout to tag the "Popcorns".
- Once a Popcorn is tagged, they should lock arms with the Sticky Popcorn to form a growing chain of sticky popcorn.

Variations of Play

Challenge Levels:

- Have an adult be the sticky popcorn to decrease the challenge.
- Pair up the children, with one child as the Popcorn and the other as the Sticky Popcorn. The Sticky Popcorn should chase the Popcorn once the corn kernels "pop".
- Vary the boundary size (widen the boundary to increase the challenge for the Sticky Popcorn and vice versa).
- Set up the game so that the children start from one end, with the other end designated as a safe zone where they are protected from the Sticky Popcorn.

Adapted from Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

Guiding Question

What other locomotor skills can be used to play this game?

How Far Can My Leaves Go?

Activity Type Group games Age Group 4 years and above

Fundamental Movement Skills

Object Control – Throwing Locomotor – Walking, Running, Skipping, Galloping, Jumping, Hopping

Activity Objectives

Children will be provided with opportunities:

- To explore throwing different objects for distance
- To use a variety of locomotor skills (walking, running, skipping, galloping, jumping, hopping) to move from one spot to another

Materials/Equipment

Cones, Pictures/Visual cue cards for various locomotor skills

Set-Up

- Activity will be conducted outdoors where there is access to leaves and twigs.
- Checkpoint marked out with cones and visual cue cards.



How to Play

- Allow each child to pick a locomotor skill cue card, instructing them to use that skill when exploring the area. They should choose a new card each time they return to the checkpoint.
- Invite children to collect leaves and twigs during their exploration and bring them back to the checkpoint.
- Get children to pick up a leaf/twig and throw as far as they can.
- Allow children to explore and experiment with different ways of throwing.

Variations of Play

Challenge Levels:

- Start off with focusing on one locomotor skill before moving on to another.
- Instead of using cue cards, use a whistle to signal the children to switch to a different locomotor skill.
- Modify the throwing activity by introducing a target.

Guiding Question (Integrated Learning)



Can you think of ways you can integrate literacy into this activity?

Musical Hoops

Activity Type Group games Age Group 4 years and above Fundamental Movement Skills

Locomotor – Running Object Control – Dribbling With an Implement

Activity Objectives

Children will be provided with opportunities:

- To move with the ball using both control and speed
- To look for and move into an empty space according to the music

Materials/Equipment

Stick, Ball, Hula hoops/Flat markers, Cones

Set-Up

- Mark out the play area with cones.
- Lay out equal number of hoops/markers to children in the class e.g., 8 hoops if there are 8 children.



How to Play

- Get children to move around when the music is played.
- When the music stops, children have to quickly move to stand in an empty hoop.
- Once the children are familiar with the game, introduce a stick and ball to each child. Get children to dribble with the stick in the play area when the music is played and move by dribbling to an empty hoop once the music stops.

Variations of Play

Challenge Levels:

- Instead of using balls, consider using boxes to decrease the challenge.
- Remove one hoop to create competition. The child who does not get into a hoop when the music has stopped will have to do a simple forfeit e.g., chicken dance.

Movement Experiences:

- Instead of dribbling with an implement, children can use other skills such as dribbling with feet or hand.
- Use music with faster or slower tempo, prompting the children to vary their speeds accordingly.

Traffic Light

Activity Type Group games

Age Group

5 years and above

Fundamental Movement Skills

Object Control – Dribbling With Hand

Activity Objectives

Children will be provided with opportunities:

- To dribble at different speeds along various pathways, incorporating changes in directions
- To learn about traffic rules and understand the importance of respecting them

Materials/Equipment

Medium and large rubber balls, Disc cones/Cones to mark boundary, Traffic light props

Set-Up

Mark out boundary of play area.



How to Play

- Get children to pretend to be drivers.
- Explain the required actions for different traffic conditions:
 - Green: Dribble with hand without colliding into anyone
 - Amber: Bounce on the spot
 - Red: Stop and hold the ball in front of chest
- At appropriate intervals, call out different traffic light conditions and children should respond accordingly by performing the corresponding actions.
- Encourage children to practise dribbling with both the left and right hand.

Variations of Play

Challenge Levels:

- Allow drop-catches or bouncing with two hands (instead of dribbling) to decrease challenge.
- Vary the order of traffic lights (e.g., amber-red-green; amber-green-red) to increase challenge.

Movement Experiences:

- Instead of dribbling with hands, children can dribble with their feet or an implement.
- Get children to change directions after each signal.
- Have children dribble at different levels e.g., dribble high, dribble low.

Adapted from Fun Start Move Smart - Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

Drivers and Tyres

Activity Type Group games Age Group 5 years and above Fundamental Movement Skills

Locomotor – Walking Object Control – Dribbling With Foot

Activity Objectives

Children will be provided with opportunities:

- To dribble along different pathways and at different speeds behind a partner
- To develop appreciation for different road signals, rules, and travelling conditions
- To recognise that different children have different speeds of moving and learn to work with each other

Materials/Equipment

Disc cones (as steering wheel), Small and medium rubber balls, Small cardboard, Tissue boxes, Cones

Set-Up

Mark out boundary of play area.



How to Play

- Divide the children into pairs, with one child designated as the "Driver" and the other as the "Tyre".
- Spread out the pairs in an open area, ensuring there is enough space between each pair to avoid collisions.
- The Drivers are to stand in front with a disc cone, holding it as a steering wheel. The Tyres should stand an arm's length behind the Driver, with a ball.
- Instruct the Drivers to walk slowly, turning the disc cone as if they are steering a car. The Tyres should dribble the ball closely behind the Driver, making sure not to let the ball get in front of them.
- Be creative. Encourage children to imagine different road conditions:
 Different pathways e.g., drive straight, follow a right/left bend, etc.
 - Different speeds e.g., caught in a bad jam, slow traffic in a busy road on a clear highway, etc.
- Rotate roles between Drivers and Tyres.

Variations of Play

Challenge Levels:

• Dribble with empty tissue boxes to decrease challenge.

Movement Experiences:

- Instead of dribbling with feet, children can dribble with their hands or an implement.
- Incorporate different stories to vary the speed of the dribbling. E.g., imagine you are now in different vehicles bicycle, car, and train.

Adapted from Fun Start Move Smart - Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

Gate Dribbling

Activity Type Group games Age Group 5 years and above Fundamental Movement Skills

Locomotor – Walking, Running Object Control – Dribbling With Hand, Rolling

Activity Objectives

Children will be provided with opportunities:

- To roll a ball with control and precision towards a target
- To dribble a ball with control and start-stop according to the commands given

Materials/Equipment

Balls, Cones, Flat markers

Set-Up

- Mark out play area.
- Set up gates using two cones and a stick.
- Arrange gates in a random manner spaced out throughout play area.



How to Play

- Provide each child with their own ball.
- Get children to move around when the music is played.
- When the music stops, children are to move to a gate (two children to a gate, one child standing on either side).
- Once there are two children at a particular gate, the pair is to roll the ball through the gate to their partner.
- Once the children are familiar with the game, modify the rules so that they now dribble the ball with their hands around the gates instead of holding it.

Variations of Play

Challenge Levels:

- Adjust the width of the gate to alter the difficulty: widening the gate decreases the challenge, vice versa.
- Encourage children to stand nearer to or farther from the target to decrease or increase the challenge.

Movement Experiences:

- Have children move around using other locomotor skills such as galloping, tipping toes, running, walking, hopping, etc.
- Modify the rules so that children have to dribble the ball with their hands or with an implement as they move (instead of holding it).

Send the Presents Over

Activity Type Group games Age Group 4 years and above **Fundamental Movement Skills**

Object Control – Throwing

Activity Objectives

Children will be provided with opportunities:

- To develop overarm throw with force over a medium height while moving among others in defined space
- To engage in cooperative play to achieve a common goal

Materials/Equipment

Bedsheet/Canvas sheet, Towels/Socks/Crushed paper

Set-Up



How to Play

- Divide class into two teams, with each team positioned on one side of the net.
- Give each child one or two objects (presents).
- Instruct the children to throw the presents over the net to their friends on the other side.
- Set a one-minute time limit for the game.
- After one minute, give a signal to stop. Count the number of presents that have landed on each side of the net.
- The team with fewer presents on their side is considered the more generous team and wins the game.

Variations of Play

Challenge Levels:

- Decrease the challenge by lowering the net to just above the children's head.
- Increase the challenge by introducing a "No-man Zone" so that children have to throw from a greater distance.
- Increase the challenge by introducing targets: add a hula hoop held by an adult, moving along the net.

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

Guiding Question (Integrated Learning):

Can you think of a story you can use for this activity instead of "sending the presents"?

Put Out the Fire

Activity Type Circle games Age Group 4 years and above Fundamental Movement Skills Locomotor – Walking, Running

e Locomotor – Walking, Runr Object Control – Throwing

Activity Objectives

Children will be provided with opportunities:

- To travel using various locomotor skills in clockwise and anti-clockwise directions at different speeds
- To throw accurately from various distances
- To listen to the commands given and respond accordingly

Materials/Equipment

Beanbags (water), Cone markers (fire), Floor markers

Set-Up



How to Play

- The children (firefighters) will be given a beanbag (water) each and will have to move (walk/run) in a circular motion along the perimeter of the markers.
- At the command "Fire!", each firefighter will have to stand on a floor marker.
- At the command "Put Out the Fire!", firefighters are to throw the water to put out the fire.

Variations of Play

Challenge Levels:

- Vary the distance of the floor markers to the fire e.g., nearer (easier), further (more challenging).
- Vary the speed of the locomotor skills of firefighters by giving scenarios e.g., slow moving traffic (easier), car race (more challenging).

Movement Experiences:

- Incorporate different locomotor skills e.g., skipping, galloping, etc.
- Encourage children to use different ways of throwing to the fire. Get them to think about which way of throwing would be most effective if they had to throw with force to put out the fire.

Integrated Learning:

• Use different coloured hoops/markers as the fire. Children are to only throw to targets that are of the same colour as their beanbags.

Horses and Stables

Activity Type Circle games Age Group 4 years and above **Fundamental Movement Skills**

Locomotor – Galloping Stability – Static Balance

Activity Objectives

Children will be provided with opportunities:

- To gallop with control in general space
- To listen and look out for one another while performing the movement

Materials/Equipment

Disc cones (to mark team positions), Flat markers (arrows)

Set-Up



How to Play

- Group children into teams of threes (two children to form the "Stable" by holding hands overhead, and one child to be the "Horse" standing in between).
- At the command "Change stables", horses are to leave their stable and gallop to the next by following the directional arrows on the floor.
- Rotate horses and stables to ensure children have opportunities to try both roles.

Variations of Play

Movement Experiences:

- Change scenarios to allow children to explore various fundamental movement skills:
 - E.g. 1. Spiders and Webs (to explore crawling)
 - E.g. 2. Joeys and Stables (to explore jumping)
 - E.g. 3. Little Red Riding Hood and Grandma's House (to explore skipping)
- Explore various static balance positions for the stables e.g., balance on one foot while holding both hands overhead.

Adapted from Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

4.6 RELAY, COMPETITION, AND MODIFIED-SPORT GAMES

Are you ready for some friendly competition and exciting challenges with relay, competition, and modified sport? This section has been intentionally placed towards the end, as these activities are best introduced when children have developed a certain level of skill and competence. Older children often enjoy a bit of healthy competition, which can give them a sense of their own progress and create an atmosphere of excitement. It is important to note that the focus should not be on comparing children to others, but rather on encouraging each child's individual growth. These activities provide valuable learning moments, reminding children to cheer for one another and celebrate their achievements.

Activity	Туре
Relay	
Descrip	tion
 Activitie 	s in which individuals in a team take turns to participate and complete a task.
 It usuall 	\prime involves several teams completing the task at the same time and may involve competition
Activity	Туре
Compet	ition
Descrip	tion
Activitie	s in which individuals or teams compete to complete certain tasks, with or without a time

Example of relay and competition game set-up:

Examples of relay and competition games:

- Through the Tunnel Race
- Recycle Obstacle Course
- High Score





Activity Type

Modified-sport games

Description

- Activities involving simplified sport rules, often played within a marked area.
- It could involve pairs or small groups of children playing with or against each other.
- These activities may be used to introduce children to various categories of sport (e.g., net-barrier games, striking and fielding games, territorial games, etc.)

Example of modified-sport games:

Examples of modifiedsport games:

- Balloon-minton
- Bat and RunGoal

Through the Tunnel Race

Activity Type Relay Age Group

5 years and above

Fundamental Movement Skills Stability – Bending

Activity Objectives

Children will be provided with opportunities:

- To perform bending and curling
- To roll a ball backwards to another child accurately
- To engage in cooperative play with a partner to achieve a desired goal

Materials/Equipment

Big to medium-sized balls, Markers, Cones

Set-Up



How to Play

- Pair up the children with one child designated as Child A and the other as Child B.
- Child A stands in front of Child B and bends over, pushing the ball to Child B behind them.
- After pushing the ball, Child A quickly gets up and moves behind Child B, getting ready for the next exchange.
- Child B, who has received the ball from Child A, waits for Child A to be in position behind them. Child B then bends over and pushes the ball back to Child A.
- The children continue the back-and-forth exchange as they move until they reach the end point.

Variations of Play

Challenge Levels:

- Increase number of children to 3-4 per team.
- Include races and challenges with other pairs to increase challenge.

Movement Experiences:

• Incorporate twisting and turning: children to pass the ball from side to side instead of under the legs.

Adapted from Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

Recycle Obstacle Course

Activity Type

Age Group

Fundamental Movement Skills

Relay/Obstacle Course 4

4 years and above

Locomotor – Running, Jumping, Hopping Stability – Dynamic Balance

Activity Objectives

Children will be provided with opportunities:

- To run, jump, and hop with control over obstacles of varying distance and height
- To learn about caring for the environment by learning how to recycle appropriately

Materials/Equipment

Hula hoops/Flat markers, Nylon jump rope/Masking tape, Container/Box (as recycle bin), Recyclable items (newspaper, plastic bottles, cans, etc), Directional arrows

Set-Up

- Set up a series of obstacles with three "recycling bins" at the end.
- Label the recycling bins: "plastic", "paper", "metal".
- You can add more lanes to maximise participation.



How to Play

- Assign 3-5 children to each relay team.
- Get children to imagine they are going on an adventure in the forest to save the Earth!
- To do this, they will pick a recyclable item, bring it along with them through the forest and return these items to the correct recycling bins e.g., plastic bottle into bin labelled "plastic".
- As children go through the forest, they are encouraged to perform various fundamental movement skills:
 - Obstacle 1: hop/jump from floor marker to floor marker
 - Obstacle 2: balance on the rope
- Upon reaching the end point, the child will place the recyclable items into the correct bin, then run back to tag the hand of the next teammate waiting in line.
- The next child picks another recyclable item and completes the obstacle course accordingly, tags the next child, and so on.
- After a few rounds of practice, an element of competition can be incorporated for children to challenge one another.

Variations of Play

Movement Experiences:

• Place a marker in front of the recycling bins. Get children to aim and throw into the bins.

Engagement:

• Incorporate additional stories and situations. E.g., "There's a bear coming from afar! Let us complete this task quickly".

High Score

Activity Type Competition Age Group 4 years and above **Fundamental Movement Skills**

Object Control – Throwing for Distance

Activity Objectives

Children will be provided with opportunities:

- To explore throwing for distance using objects of various weights and sizes
- To explore appropriate body position, rotation and foot position to achieve distance
- To demonstrate resilience by doing their best until they achieve their desired distance

Materials/Equipment

Cones, Tape, Beanbags, Other soft objects for throwing (rolled-up socks, soft toys, foam javelin, paper aeroplane, etc.)

Set-Up

- Place cones at intervals in a large open space to indicate different scoring zones.
- Place a basket of beanbags/soft objects for children to choose.



How to Play

- Assign 2-3 children to each group.
- Get one child from each group to choose an object for throwing and take position at the start line.
- Upon command, children to throw their object as far as possible (get children to remember their scores).
- Children within each group to take turns to throw and tally up their scores. The group with the most points wins.
- Encourage children to choose a different object each round and explore which objects are easier or harder to throw far.

Note: You can group children with mixed competencies within each group so that each group stands a chance to win each round

Variations of Play

Challenge Levels:

• Adjust the scoring zones according to children's competency levels (ensure that scoring zones are challenging, but achievable).

Movement Experiences:

- Explore using both left and right hands to throw for distance.
- Vary throwing items to provide opportunities to explore different objects.

Integrated Learning:

- Children to aim for odd/even numbers only.
- Children to aim for selected colours only.

Adapted from Fun Start Move Smart - Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

Balloon-minton

Activity Type

Age Group

Modified-sport games/Pair games

5 years and above

Fundamental Movement Skills

Object Control – Overarm Striking

Activity Objectives

Children will be provided with opportunities:

- To track moving objects and strike them over a mid-high net
- To demonstrate resilience by doing their best to keep balloons from falling to the ground
- To engage in cooperative play without colliding into anyone while striking the objects

Materials/Equipment

Balloons (1 per pair), String/Light tablecloth/Bedsheet or Any item that can be used as a net

Set-Up



How to Play

- Pair up the children, with one child on each side of the net.
- Distribute balloons to children on one side of the net.
- At "Go", the child with the balloon will strike it using an overarm action, attempting to send it over the net to the other side.
- Both children continue sending the balloon back and forth over the net, using their hands or other body parts to keep the balloons from falling to the ground until the "Stop" signal is given.
- Count the score by determining the number of successful hits or rallies made without the balloon touching the ground.
- Explain that this game is similar to a friendly game of badminton or tennis (net-barrier game) where partners have to hit the shuttlecock/ball continuously over the net to each other.

Variations of Play

Challenge Levels:

- Use balloons of different sizes e.g., bigger (easier), smaller (more challenging).
- Include the element of competition e.g., introduce simple scoring rules of badminton or tennis.

Engagement:

• Challenge children to keep the balloons from falling to the ground for as long as the song plays, "Twinkle Twinkle Little Star" (or other songs).

Integrated Learning:

• Get children to count and add their scores.

Adapted from Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

Bat and Run

Activity Type

Age Group

Modified-sport games 5 years and above

Fundamental Movement Skills Locomotor – Running, Sliding

Object Control – Striking, Catching

Activity Objectives

Children will be provided with opportunities:

- To strike a stationary object with two hands or with a short bat, run quickly and change directions during the run
- To track a moving ball and move into position to catch it
- To engage in cooperative play and communicate between fielders

Materials/Equipment

A tee, Cones, Markers, Large or medium ball

Set-Up



How to Play

- Divide the children into groups of three, with one child designated as the "Batter" and the other two as the "Fielders". Position one Fielder on each side of the base or cone.
- Place the ball on a tee. At the "Go" signal, the Batter strikes the ball on the tee using their hands.
- Once the ball is struck, the Batter quickly runs around the base, which is placed at a distance away from the tee. After reaching the base, the Batter then runs back to the tee.
- The two Fielders attempt to catch the ball before the Batter reaches the tee.
- Once the ball is caught, fielders have to shout "Got it!" and hold the ball high overhead.
- Each Batter gets two tries at batting. Batter and Fielders then rotate roles.
- Explain that this game is similar to striking games like softball or cricket.

Variations of Play

Challenge Levels:

- Use a newspaper roll or a short foam bat to increase the challenge.
- Modify the playing area with different distances and layouts (increase distance to increase challenge).

Adapted from Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

Guiding Question for Children (to help them understand the value of commitment to follow through the play): through the play):

Upon batting, what should you do immediately? Why should you keep to the tee?

Goal

Activity Type

Age Group

Modified-sport games 5 years and above

Fundamental Movement Skills

Locomotor – Running, Sliding Object Control – Dribbling With Foot, Kicking

Activity Objectives

Children will be provided with opportunities:

- To dribble the ball into open spaces
- To score by kicking accurately into the goalpost
- To manage their emotions when they are both successful and unsuccessful in scoring goals

Materials/Equipment

Cones, Markers, Balls/Boxes/Crushed paper balls (for dribbling and kicking), Bibs (if any)

Set-Up

- Mark out a play area in an open space e.g., futsal court or grass area.
- Set up two goalposts (using cones) on either side of the play area.
- Place an equal number of balls/objects in each goalpost (about 5 objects).



How to Play

- Divide the children into two teams of 2-3 children each.
- At "Go!", children to start dribbling the ball (one ball per child) from their own goalpost and attempt to score into the opponent's goalpost.
- After scoring, children should continue playing and try to score as many goals as possible.
- Upon command to stop, children to count the number of balls in the opponent's goalpost.
- The team with more balls in the opponent's goalpost wins the round.
- Explain that this game is similar to games like football or hockey (territorial games) where the aim is to invade the opponent's territory to score.

Variations of Play

Challenge Levels:

- Incorporate defending to increase the challenge e.g., allow one player (or more) to block or steal the ball from the opponent.
- Introduce 1 vs 1/2 vs 2/3 vs 3 with the use of only one ball to increase the challenge.

Movement Experiences:

- Explore with different object control skills such as dribbling with hand or an implement.
- Incorporate other types of goal scoring:
 - E.g. 1. Run with the ball in their hands and place the ball into the goalpost
 - E.g. 2. Dribble (Bounce) the ball with their hands and shoot the ball into hula hoops/baskets
- Use balls of different sizes and types.

4.7 PARACHUTE GAMES

Parachute games are popular with children, especially with the rainbow colours and endless possibilities of games to entertain them and get them moving.

They require minimal preparation and are easy to set up for large group play, promoting teamwork and bonding amongst children. Parachute games provide an ideal platform for incorporating social emotional competencies such as self-management, self-awareness, social awareness, relationship management, and responsible decision-making.



Alligator

Activity Type Parachute games Age Group 4 years and above

Fundamental Movement Skills

Locomotor - Crawling

Activity Objectives

Children will be provided with opportunities:

- To explore low level and slow body movement under the parachute
- To build relationships with other children as they interact and play cooperatively to create excitement and anticipation of the unknown
- To experience and identify emotions (e.g., fear, excitement) in themselves and others during the game

How to Play

- Have the children sit in a circle around the parachute, pretending to be by a lake.
- Instruct the children to hold the parachute at waist level and gently wave it up and down, creating "ripples" to simulate water movement.
- Appoint one child as the alligator.
- The alligator will crawl under the parachute to pick its victim, by gently shaking the latter's foot.
- The victim must now exchange places with the alligator and the new alligator will continue to look for a new victim.
- The game continues in this manner, with children taking turns being the alligator and the victims.

Adapted from Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

Blow Wind Blow

Activity Type

Age Group

Parachute games

4 years and above

Fundamental Movement Skills

Locomotor - Crawling

Activity Objectives

Children will be provided with opportunities:

- To explore low to medium body levels when moving under the parachute
- To travel with spatial awareness of self and others when under the parachute
- To gain self-awareness through identification of parts of their personal identity

How to Play

- Children to stand and hold the parachute at waist level.
- You can first say "Blow wind blow!" and the children will respond "Blow what?"
- Then, you will say "Blow all the children who _____ (various descriptors)".
- Children who fit the descriptors will go under the parachute and exchange places with one another, coming back up in a new position.
- Example descriptors:
 - Has short hair
 - Is wearing blue
 - Loves ice cream
 - Has a brother or sister
- Make sure to use a range of descriptors such that all children have a chance to exchange places.

Adapted from Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)

How High Can It Go?

Activity Type Parachute games Age Group 5 years and above **Fundamental Movement Skills** Stability - Dynamic Balance, Pulling

Activity Objectives

Children will be provided with opportunities:

- To develop arm strength and movement stability
- To work together as a team to achieve a common goal

How to Play

- Have children stand around the parachute while holding it at chest level.
- Place a soft object in the centre of the parachute e.g., soft toy, rolled-up sock.
- Children are to toss the object by tugging on the parachute.
- Children are to make the object go as high as possible while ensuring it falls back onto the parachute.
- You can switch to a bigger object to increase the challenge.

Adapted from Fun Start Move Smart - Fundamental Movement Skills for Growing Active Learners (2010) resource guide (3)



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).



Scoot, crawl, creep, walk (assisted/unassisted), reach, grasp

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.



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)

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.



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.



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, waterpolo, sailing, and scuba diving.

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.

Cycling

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.







Throwing to target (underarm)

Rolling 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.



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.



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



go.gov.sg/sportsgfundamental-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

The child's movements appear rigid and robotic. They step forward and pause before using stiff arms to release the ball towards the target.

The child rolls the ball into the target in one smooth, continuous motion with ease.



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?

0-

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. Increasing Movement Competence

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

The child throws in the same way as demonstrated by the educator to get the ball over the tunnel.

The child explores a variety of new ways to throw the ball over the tunnel. E.g., overarm, underarm, with two hands, and even tries throwing backwards.

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

The child waits for verbal prompts and guidance from the educator on which object they should use and how to send the object to the target at each station.

The child chooses the object and explores various ways of rolling/throwing/ kicking it to the target at each station on their own.
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.

REFERENCES

CHAPTER 1

- 1. KK Womens' and Children's Hospital. Singapore Integrated 24-Hour Activity Guidelines for children under seven years launched; 2022. https://www.kkh.com.sg/news/announcements/singapore-integrated-24-hour-activity-guidelines-for-children-under-seven-years-launched.
- 2. Barnett LM, Beurden E, Morgan PJ, Brook LO, Beard JR. Childhood motorskill proficiency as a predictor of adolescent physical activity. *Journal of Adolescent Health.* 2009;44(3): 252-259.
- 3. Carson V, Lee EY, Hewitt L, Jennings C, Hunter S, Kuzik N, et al. Systematic review of the relationships between physical activity and health indicators in the early years (0-4 years). *BMC Public Health*. 2017;17(Suppl 5): 854.
- 4. World Health Organization. *Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age.* World Health Organization; 2019.
- Rudd JR, Pesce C, Strafford BW, Davids K. Physical Literacy A Journey of Individual Enrichment: An Ecological Dynamics Rationale for Enhancing Performance and Physical Activity in All. Frontiers in Psychology. 2020;11: 1904.
- Button C, Seifert L, Chow JY, Davids K, Araujo D. Dynamics of Skill Acquisition: An Ecological Dynamics Approach, 2nd ed. Human Kinetics Publishers; 2020.
- 7. Vandorpe B, Vandendriessche J, Vaeyens R, Pion J, Mattys S, Lefevre J, et al. Relationship between sports participation and the level of motor coordination in childhood: A longitudinal approach. *Journal of Science and Medicine in Sport*. 2012;15(3): 220-225.
- 8. Pate RR, Hillman CH, Janz KF, Katzmarzyk PT, Powell KE, Torres A, et al. Physical Activity and Health in Children Younger than 6 Years: A Systematic Review. *Medicine and Science in Sports and Exercise*. 2019;51(6): 1282-1291.
- Veldman SLC, Chin APMJM, Altenburg TM. Physical activity and prospective associations with indicators of health and development in children aged <5 years: a systematic review. International Journal of Behavioral Nutrition and Physical Activity. 2021;18(1): 6.
- 10. Loo BKG, Sirisena D, Müller-Riemenschneider F, Chia MY, Tan B, Tan NC, et al. Consensus statement on Singapore integrated 24-hour activity guide for early childhood. *Annals of the Academy of Medicine, Singapore*. 2023;53(6): 310-320.
- 11. Sport Singapore and Health Promotion Board. *Singapore Physical Activity Guidelines; 2022.* https://www.activesgcircle.gov.sg/campaigns/spag.
- 12. Chen B, Waters CN, Compier T, Uijtdewilligen L, Petrunoff NA, Lim YW, et al. Understanding physical activity and sedentary behaviour among preschool-aged children in Singapore: a mixed-methods approach. *BMJ Open*. 2020;10(4): e030606.

CHAPTER 2

- True L, Pfeiffer KA, Dowda M, Williams HG, Brown WH, O'Neill JR, Pate RR. Motor competence and characteristics within the preschool environment. *Journal of Science and Medicine in Sport*. 2017;20(8): 751-755.
- 2. Martin A, Brophy R, Clarke J, Hall CJS, Jago R, Kipping R, et al. Environmental and practice factors associated with children's device-measured physical activity and sedentary time in early childhood education and care centres: a systematic review. *International Journal of Behavioural Nutrition and Physical Activity*. 2022;19(1): 1-21.

REFERENCES

- 3. Nobre JNP, Morais RLDS, Prat BV, Fernandes AC, Viegas AA, Figueiredo PHS, et al. Physical environmental opportunities for active play and physical activity level in preschoolers: a multicriteria analysis. *BMC Public Health*. 2022;22(1): 1-12.
- 4. Chen B, Waters CN, Compier T, Uijtdewilligen L, Petrunoff NA, Lim YW, et al. Understanding physical activity and sedentary behaviour among preschool-aged children in Singapore: A mixed-methods approach. *BMJ Open.* 2020;10(4): e030606.
- 5. Sport Singapore. Fun Start Move Smart Guide Review: Integrated Quant-qual Report. Unpublished Internal Report; 2022.
- 6. Moore LL, Lombardi DA, White MJ, Campbell JL, Oliveria SA, Ellison RC. Influence of parents' physical activity levels on activity levels of young children. *Journal of Pediatrics*. 1991;118(2): 215-218.
- 7. Sport Singapore and Health Promotion Board. *Singapore Physical Activity Guidelines*; 2022. https://www.activesgcircle.gov.sg/campaigns/spag.
- 8. Ministry of Education. Nurturing Early Learners: A Curriculum for Preschool Education in Singapore; 2022. https://www.nel.moe.edu.sg/resources/frameworks-and-guidelines.
- 9. Bidzan-Bluma I, Lipowska M. Physical Activity and Cognitive Functioning of Children: A Systematic Review. International Journal of Environmental Research and Public Health. 2018;15(4): 800.
- 10. Egger F, Benzing V, Conzelmann A, Schmidt M. Boost your brain, while having a break! The effects of long-term cognitively engaging physical activity breaks on children's executive functions and academic achievement. *PloS one*. 2019;14(3): e0212482.
- Shoval E, Sharir T, Arnon M, Tenenbaum G. The Effect of Integrating Movement into the Learning Environment of Kindergarten Children on their Academic Achievements. *Early Childhood Education Journal*. 2018;46: 355-364.
- 12. Early Childhood Development Agency. *Outdoor Learning: A National Guide for Early Childhood Educators; 2019.* https://www.ecda.gov.sg/early-childhood-educators-(ece)/curriculum-frameworks/ outdoor-learning/a-national-guide-for-early-childhood-educators.
- 13. Martin A, Brophy R, Clarke J, Hall CJS, Jago R, Kipping R, et al. Environmental and practice factors associated with children's device-measured physical activity and sedentary time in early childhood education and care centres: a systematic review. *International Journal of Behavioral Nutrition and Physical Activity*. 2022;19(1): 1-21.
- 14.Zhang Z, Kuzik N, Adamo KB, Ogden N, Goldfield GS, Okley AD, et al. Associations Between the Child Care Environment and Children's In-Care Physical Activity and Sedentary Time. *Health Education & Behavior.* 2021;48(1): 42-53.
- 15. Doherty J, Bailey R. Supporting Physical Development and Physical Education in the Early Years. Buckingham: Open University Press; 2003.

CHAPTER 3

- Button C, Seifert L, Chow JY, Davids K, Araujo D. Dynamics of Skill Acquisition: An Ecological Dynamics Approach, 2nd ed. Human Kinetics Publishers; 2020.
- 2. Gibson JJ. The Ecological Approach to Visual Perception. Boston, MA: Houghton Mifflin; 1979.
- 3. Kyttä M. The extent of children's independent mobility and the number of actualized affordances as criteria for child-friendly environments. *Journal of Environmental Psychology*. 2004;24(2): 179-198.
- 4. Little H, (ed). Outdoor Learning Environments: Spaces for exploration, discovery and risk-taking in the early years. London: Routledge; 2020.

REFERENCES

- 5. Gray R. How We Learn to Move: A Revolution in the Way We Coach & Practice Sports Skills; 2021.
- 6. Newell KM. Constraints on the Development of Coordination. *Motor Development in Children:* Aspects of Coordination and Control (pp. 341- 360). Dordrecht, Netherlands: Martinus Nijhoff; 1986.
- 7. Chow JY, Davids K, Hristovski R, Araujo D, Passos P. Nonlinear pedagogy: Learning design of self-organizing neurobiological systems. *New Ideas in Psychology.* 2011;29(2): 189-200.
- 8. Chow JY, Davids K, Button C, Renshaw I. Nonlinear Pedagogy in Skill Acquisition: An Introduction. New York: Routledge; 2021.
- 9. Renshaw I, Chow JY. A constraint-led approach to sport and physical education pedagogy. *Physical Education and Sport Pedagogy*. 2019;24(2): 103-116.
- 10.Rudd JR, Pesce C, Strafford BW, Davids K. (2020). Physical Literacy A Journey of Individual Enrichment: An Ecological Dynamics Rationale for Enhancing Performance and Physical Activity in All. *Frontiers in Psychology*. 2020;11: 1904.
- 11. Ng, JL, Button C. Construct validation of a general movement competence assessment utilising active video gaming technology. *Frontiers in Bioengineering and Biotechnology*. 2023;11: 1094469.
- 12. Teo-Koh SM. Fun Start, Move Smart!: Fundamental Movement Skills for Growing Active Learners. Singapore Sports Council; 2010.

CHAPTER 4

- 1. Ministry of Education. *Nurturing Early Learners: A Curriculum for Preschool Education in Singapore;* 2022. https://www.nel.moe.edu.sg/resources/frameworks-and-guidelines.
- 2. Jeffreys I. Warm-up revisited: The ramp method of optimizing warm-ups. Professional Strength and Conditioning. 2007;(6): 12-18.
- 3. Teo-Koh SM. Fun Start, Move Smart!: Fundamental Movement Skills for Growing Active Learners. Singapore Sports Council; 2010.

CHAPTER 5

- 1. Seefeldt V. Developmental motor patterns: Implications for elementary school physical education. *Psychology of motor behavior and sport*. 1980;36(6): 314-323.
- De Meester A, Stodden D, Goodway J, True L, Brian A, Ferkel R, Haerens L. Identifying a motor proficiency barrier for meeting physical activity guidelines in children. *Journal of Science and Medicine in Sport.* 2018;21(1): 58-62.
- Stodden DF, True LK, Langendorfer SJ, Gao Z. Associations Among Selected Motor Skills and Health-Related Fitness: Indirect Evidence for Seefeldt's Proficiency Barrier in Young Adults?. *Research Quarterly for Exercise and Sport.* 2013;84(3): 397-403.
- Dos Santos FG, Pacheco MM, Stodden D, Tani G, Maia JAR. Testing Seefeldt's Proficiency Barrier: A Longitudinal Study. International Journal of Environmental Research and Public Health. 2022;19(12): 7184.
- Hulteen RM, Morgan PJ, Barnett LM, Stodden DF, Lubans DR. (2018). Development of Foundational Movement Skills: A Conceptual Model for Physical Activity Across the Lifespan. *Sports Medicine*. 2018;48: 1533-1540.
- 6. Teo-Koh SM. Fun Start, Move Smart!: Fundamental Movement Skills for Growing Active Learners. Singapore Sports Council; 2010.
- 7. Wormhoudt R, Savelsbergh GJP, Teunissen JW, Davids K. The Athletic Skills Model: *Optimizing Talent Development Through Movement Education*. London: Routledge; 2017.





