



THE LEARNING LANDSCAPE:

A Guide to Designing an Educational Outdoor Playscape





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INTRODUCTION

Play is the foundation of young children's learning. Through play, children explore their world, build relationships, solve problems, and develop the skills they need to thrive in school and in life. This book offers a collection of playscape design ideas that support meaningful learning through outdoor play for pre-primary and early primary grade students. The playscape elements featured are designed to foster a wide range of play types—including challenging play, social play, pretend play, sensory and constructive play, literacy and numeracy play, musical play, and games with rules.

The inspiration for this design book is the playscape we built at Chang'ombe Preschool, a demonstration school at Dar es Salaam University College of Education (DUCE) in Dar es Salaam, Tanzania. The playscape was designed and constructed through a collaboration between faculty and students at Michigan State University (MSU) and DUCE, and architects at Space for Play and Kindle Architects Limited, with support from the Tanzania Partnership Program (TPP). Drawing on nearly a decade of TPP-supported playground projects in rural communities, the DUCE Playscape transforms community-tested designs into a scalable, research-informed model. It is the first initiative to connect TPP's place-based work in rural districts with national systems. To learn more about the project and partners involved, please visit playteach.org/playscape-design.

Rather than presenting a single model, this book offers a menu of options that teachers, school leaders, and community members can draw from as they plan their own playscapes. Each element can stand alone or be combined with others, depending on local goals, space, materials, and resources. We hope these designs will inspire the creation of unique, locally grounded playscapes that reflect community priorities, take advantage of natural features, and adapt to resource constraints.

The elements in this book were created with the Tanzanian context in mind and with a goal of linking play elements to learning goals in the national curriculum. For each element, we clearly outline the specific competences from Tanzania's national pre-primary curriculum that children are developing through play. The sections in this book were created with the Tanzanian context in mind and with a goal of linking play elements to learning goals in the national curriculum. For each element, we identify the corresponding competency from Tanzania's national pre-primary curriculum that children develop through play. We also identify the types of play each element fosters, the skills children develop through their engagement with the element, and practical construction tips for the purpose of using the most readily available and economically efficient materials.

For users outside of Tanzania, we describe the general learning outcomes associated with each playscape element so that the designs can be easily adapted to align with local curriculum goals and educational standards.

YOU ARE ENCOURAGED TO:

- Select elements that align with your learning goals, available space, and resources.
- Adapt the ideas to reflect the cultural, environmental, and material realities of your school community.
- Involve children, teachers, and community members in the design and construction process to ensure the playscape is meaningful, safe, and sustainable.

You may choose to implement just one element or build a larger, interconnected playscape over time. Technical drawings for all playscape elements are available for download on our website (playteach.org) to assist with construction.

Whether you're designing a new playscape or reimagining an existing one, we invite you to use this book as a starting point for creating purposeful spaces where children can play, learn, and grow.



For more information,
drawings and toolkits, visit:
playteach.org



Children playing at sand table



Example of pavers with numbers



Children playing a group game

CHALLENGING PLAY

OVERVIEW

Children are naturally driven to explore their abilities and test their limits, often by climbing or balancing on objects. When children engage in challenging play that encourages them to try out difficult ways of moving, they develop important physical skills like balance and coordination. As children explore playscape elements that challenge their physical skills, they may fall, get up, and try again. It is important to allow this cycle of trying something new, falling, and trying again to occur because it helps children develop persistence and nurtures their self-esteem. When children engage in challenging play together, they naturally help one another, which contributes to their social-emotional development.

MATERIALS USED

- Tires, concrete and wood
- Culvert
- Mangrove tree logs (coastal areas)
- Large rocks

ELEMENTS

Teachers can foster challenging play by providing **horizontal** and **vertical** challenges on the playscape.

COMPETENCES ADDRESSED

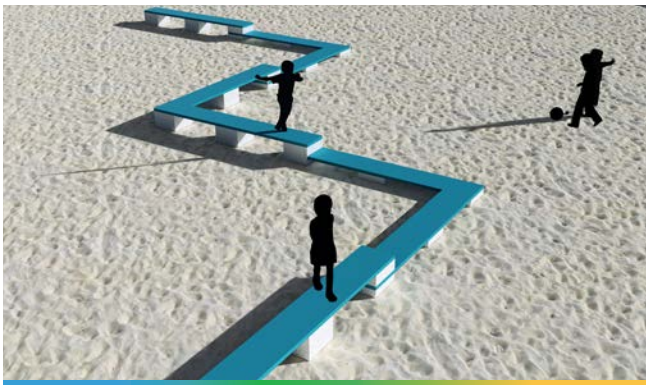
When they engage in challenging play on a **parkours** or **culvert**, children are learning the following competences in the Tanzania national syllabus for pre-primary education:

- 1.3 Use creative skills that involve body movements (using large and small muscles)
- 4.4 Demonstrate mastery of the skills for collaboration
- 4.5 Solve challenges in daily life

DESCRIPTION OF ELEMENTS

1 Parkours/Balance Beam

A parkours or balance beam is a **horizontal challenge** that supports a wide range of developmental goals. It can be made from a variety of materials. As children walk, crawl, jump, or turn along the path, they develop balance and coordination, body awareness, focus and concentration, and an ability to assess risk in a safe environment.



Rendering of balance beam made with wood and concrete blocks



Rendering of balance beam made with tires



Rendering of a culvert



Children playing in a culvert

2 Culverts

A culvert is a **vertical challenge** element. While it looks simple, a culvert offers a wide range of developmental benefits. Whether children climb over it, crawl through it, balance along its edges, or use it as a fort or hiding spot, a culvert invites creativity, movement, and problem-solving. Children's gross motor skills are engaged as they crawl, climb, balance, or jump on and around the culvert. Children develop spatial awareness as they move their bodies through or around tight spaces, and they improve their fine motor skills and strength as they grip the culvert to try to climb to the top.

SAFETY CONSIDERATIONS FOR CHALLENGE ELEMENTS

- Balancing elements should not be higher than 60 cm above ground level. This is enough for preschool aged children to feel challenged.
- There must be a falling space of 150 cm around horizontal and vertical challenge elements that is free from any objects, shrubs, and uneven surfaces. This ensures children who fall off the element will not harm themselves by falling on an object, sharp branch, or edge.
- All elements must have rounded edges with a minimum corner radius of 2 mm to prevent injuries.
- Concrete can sometimes have sharp edges, so the rough parts must be smoothed.
- The culvert can be a maximum of 120 cm above ground level and should be placed alone.

PRETEND PLAY

MATERIALS USED

For the wall:

- Prefab concrete blocks
- Cement (plastered and painted)
- Holes within walls to create pretend windows and doors
- Blackboard paint

For the play corners:

- Tires
- Steering wheels (for the dala dala)
- Market box
- Tables and chairs

OVERVIEW

Children love to engage in pretend or fantasy play, taking full control of their own mini-worlds and the roles they play within them. In this kind of play, children often mimic adult behaviors, which allows them to explore and internalize cultural values and social norms. Pretend play is a vital part of development—it fosters imagination, encourages creative problem-solving, and provides an opportunity to experiment with new ideas. Because it often happens in groups, pretend play also supports the development of communication and social skills through peer interaction.

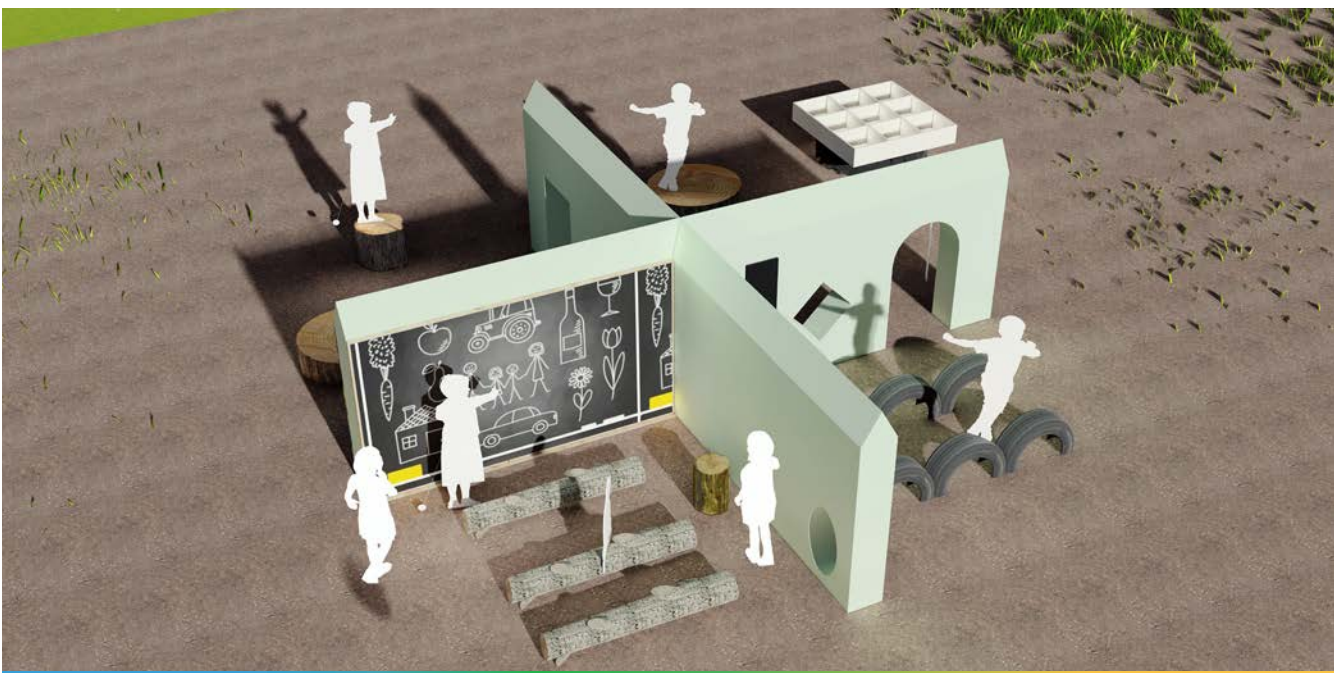
ELEMENTS

Pretend play on the playscape can be supported by the construction of outdoor pretend play corners.

COMPETENCES ADDRESSED

When they engage in **pretend play** children are learning the following competences in the Tanzania national syllabus for pre-primary education:

- 2.0 Appreciate the culture of one's community
- 3.2 Converse in various contexts
- 3.5 Communicate in various contexts
- 4.0 Relate with one another



Rendering of play corners

DESCRIPTION OF ELEMENTS

1 Pretend Play Corners

Constructing two intersecting walls creates four separate learning corners for pretend play. The learning corners can be constructed to prompt children to engage in a variety of imaginative play scenarios. They may play school, play house/family, pretend they are on a bus or another form of transport, or shopping at the market. Through pretend play, children develop a wide range of skills. They enhance their cognitive abilities by problem-solving and expanding their language. Socially, they learn cooperation, empathy, and perspective-taking, while also practicing emotional regulation and building confidence. Pretend play also helps children understand cultural norms, explore different roles, and improve motor coordination.

Corner 1: School

To encourage children to play school, one corner can have a blackboard on the wall and some tire seats behind it. Teachers can also provide chalk and a pointing stick to encourage play in this area.

Corner 2: House

To encourage children to play house, one corner can have a door, windows, and a counter or tabletop. Teachers can also provide plates, pans, cups, brooms, and/or pieces of cloth to support play in this area.

Corner 3: Transport

To encourage children to pretend they are using a form of transportation, including a steering wheel on the wall and tires to sit on. Teachers can provide pretend coins (e.g. bottle caps) and pretend tickets to support play in this area.

Corner 4: Market

To encourage children to pretend they are shopping at the market, including tabletops or a market box. Teachers can provide loose grains, stones, sticks, bottlecaps, shells, etc. to support play in this area.



Children playing school in a play corner



Children playing daladala



Children using a market stall box for pretend play

SAFETY CONSIDERATIONS FOR PRETEND PLAY ELEMENTS

- Maximum height of the wall should be 150 cm, as children will attempt to climb it.
- Provide a soft surface beneath and around the wall to cushion falls.
- Keep any additional elements (e.g., seats, market boxes, tables) at least 150 cm away from the wall to prevent head injuries from falls.
- All elements must have rounded edges with a minimum corner radius of 2 mm to prevent injuries.
- Any holes in the wall located above 60 cm must have a minimum diameter of 23 cm to prevent entrapment.
- For horizontal elements like tires or wooden boxes, drill drainage holes to prevent water accumulation. This prevents mosquito breeding and improves material durability.

SENSORY + CONSTRUCTIVE PLAY

MATERIALS USED

Create a sandbox using:

- Bricks, concrete blocks, tires
- Cement, plaster and paint

Create a horizontal play surface using:

- Bricks or concrete as a base
- Wooden plank or metal countertop for the surface
- Add features to enhance play: holes in the surface to create a sink, plastic tubes, sieves, scales stove-like circles, shapes

OVERVIEW

Through sensory and constructive play, children explore the world using their senses and creativity. Sensory play—touching sand, water, or textured materials—stimulates brain development, supports fine motor skill development, and helps children regulate emotions. Constructive play, like building with blocks or shaping clay, fosters problem-solving, early math skills, and hand-eye coordination. Both forms of play encourage curiosity, persistence, and independent thinking, laying a strong foundation for cognitive and physical development.

ELEMENTS

Sensory and constructive play can be fostered on the playscape through the construction of a **sand table**.

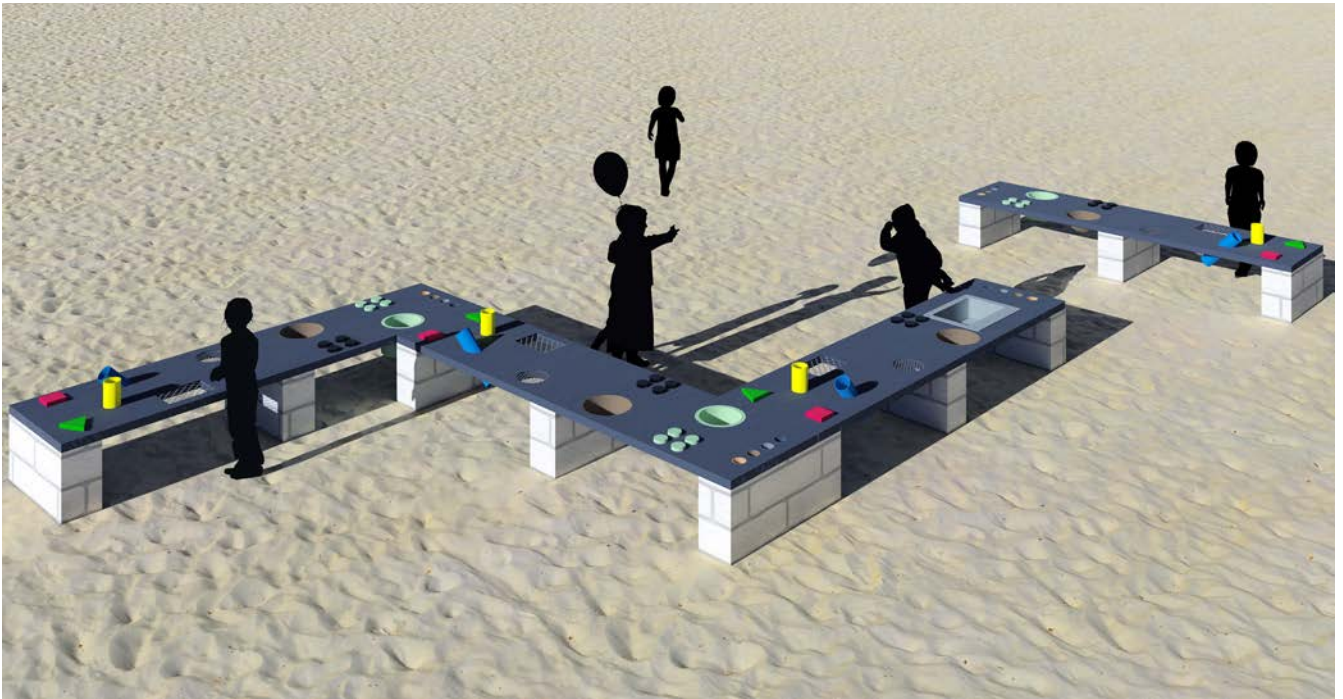
COMPETENCES ADDRESSED

When they engage in **sensory and constructive play** children are learning the following competences in the Tanzania national syllabus for pre-primary education:

- 1.3 Use creative skills that involve body movements
- 3.5 Communicate in various contexts
- 4.0 Relate with one another
- 6.1 Use the environment to develop arithmetic concepts and critical thinking

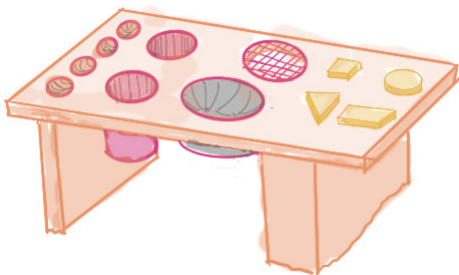


Children playing at sand table



DESCRIPTION OF ELEMENTS

1 Sand Table



Sketch of sand table

An outdoor sand table or sand kitchen supports rich, hands-on learning across multiple areas of development. Children engage in sensory exploration, discovering textures and physical properties through touch. They practice fine motor skills as they scoop, pour, and manipulate tools. Through pretend play, they take on roles and create stories, building language and social skills. It also encourages collaboration, problem-solving, and creativity—whether they’re “cooking,” building, or experimenting with wet and dry sand. Overall, it’s a playful, open-ended space that fosters curiosity, cooperation, and imagination.

SAFETY CONSIDERATIONS FOR SENSORY + CONSTRUCTIVE PLAY ELEMENTS

- To ensure safe sand play, sand areas should be no deeper than 50 cm and must have a solid bottom. This prevents children from digging holes that could collapse and pose a risk of suffocation.
- Since children often climb onto the edges or nearby surfaces, any horizontal structure should be sturdy and surrounded by at least 150 cm of clear fall space to reduce the risk of injury.
- All materials, especially metal, should have smooth, rounded edges with a minimum 2 mm radius to avoid cuts or scrapes.
- If using hollow elements like buckets or sinks, be sure to drill drainage holes to prevent water from collecting, which can attract mosquitoes and affect hygiene.

SOCIAL PLAY

MATERIALS USED

- Cement
- Concrete blocks, cement and plaster
- Stones/rocks
- Tree logs
- Tires placed vertically

OVERVIEW

Social play offers significant developmental benefits, especially when nurtured by purposefully designed spaces like an amphitheatre or outdoor gathering space. These open environments naturally invite children to engage in collaborative storytelling, impromptu performances, and role-playing—activities that support language development, communication, and cooperation. This type of play not only strengthens peer relationships but also cultivates a sense of belonging and community through shared performative and imaginative experiences.

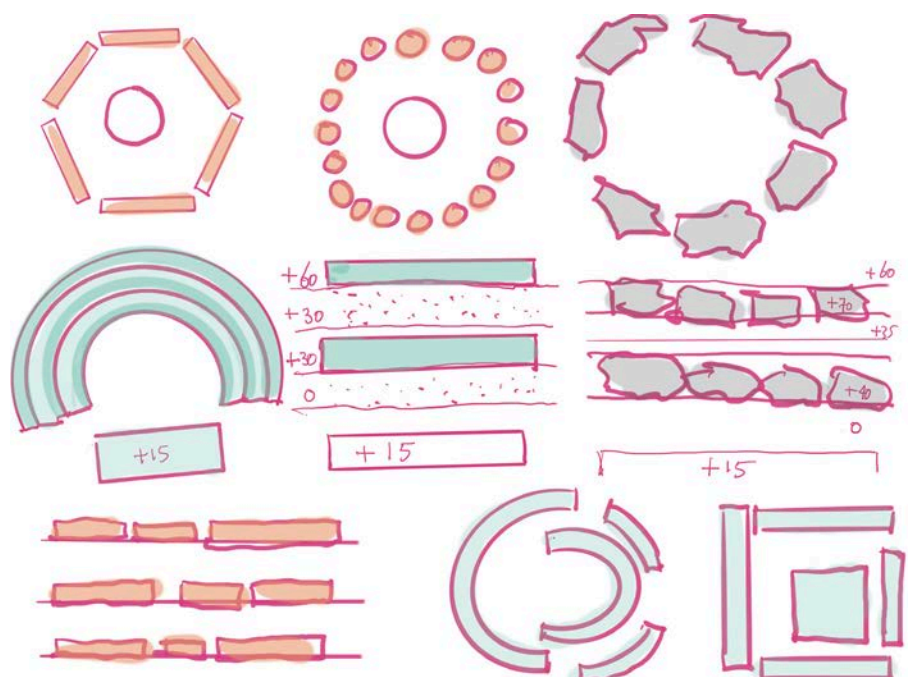
ELEMENTS

Social play can be fostered on the playscape through the construction of a group seating area, such as an amphitheatre, or a seating area with a focal point like a platform or stage.

COMPETENCES ADDRESSED

When children engage in **social play** they learn the following competences in the Tanzania national syllabus for pre-primary education:

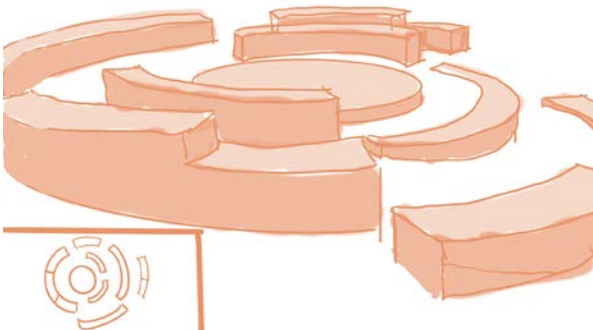
- 1.1 Perform theatre arts
- 2.0 Appreciate National symbols and virtues
- 3.1 Listen in various contexts
- 3.2 Converse in various contexts
- 4.0 Relate with one another



Schematic sketch of group seating areas



Children using an amphitheatre



Sketch of group seating area

DESCRIPTION OF ELEMENTS

1 Amphitheatre or group seating area

An amphitheatre or group seating area promotes social play by creating a natural gathering space where children can see and interact with one another easily. Its circular or tiered design encourages group activities like storytelling, performances, and shared reading, fostering collaboration, communication, and creativity. This kind of setting invites children to take on different roles—such as speaker, performer, or audience member—supporting turn-taking, development of listening skills, and a sense of community through playful interaction.

SAFETY CONSIDERATIONS FOR SOCIAL PLAY ELEMENTS

- If the element is not higher than 60 cm above ground level, it can have a hard surface below. If it is between 60 cm – 100 cm, the surrounding surface must be more shock absorbent (grass/ earth/ sand/ woodchips). The element should not be higher than approximately 90 cm.
- All elements should have free space around it of minimal 150 cm, so that children who walk on top of it will not fall on a nearby element.
- The elements must not have sharp corners (especially watch this when using metal), all edges should have a rounded corner diameter of 2mm.

LITERACY AND NUMERACY PLAY

MATERIALS USED

- Concrete pavers and UV-proof paint (the kind used for roadworks)
- Horizontal tree trunks used as stepping stones painted with numbers/letters
- Logs (partial or full), placed horizontally (for seats and/or painted with numbers and letters)
- Tires placed vertically with numbers painted on the side
- Wall with painted numbers/letters, and a large blackboard

OVERVIEW

Playing with letters and numbers in an outdoor playscape supports early literacy and numeracy development by turning foundational concepts into hands-on, multisensory experiences. Children can hop along a path of alphabet stepping stones, climb a wall marked with numbers, or arrange stones with painted letters on them to form words. These activities build letter and number recognition, support their ability to sequence and order numbers, and foster early reading development. Integrating these elements into the playscape not only reinforces academic concepts but also fosters curiosity and confidence in a joyful, low-pressure environment.

ELEMENTS

Literacy and numeracy play can be fostered on the playscape by including a set of pavers or stepping stones with letters and/or numbers on them. Teachers can also introduce loose parts to the playscape using letters and numbers that children play with and arrange.

COMPETENCES ADDRESSED

When they engage in open-ended literacy and numeracy play, children are learning the following competences in the Tanzania national syllabus for pre-primary education:

- 3.3 Read at early stages
- 3.4 Write at early stages
- 6.1 Use the environment to develop arithmetic concepts and critical thinking



Teacher-led activity with number pavers

Example of pavers with letters



Tree stump stepping stones

DESCRIPTION OF ELEMENTS

An engaging literacy and numeracy area can be created using natural and durable materials like **pavers, tree stumps, and logs** arranged in inviting, purposeful ways. For example, pavers can be etched or painted with letters, numbers, or simple words and arranged in winding paths, hopscotch patterns, or spirals that encourage movement and sequencing. Tree stumps of varying heights can be labeled with letters or numerals and placed in clusters for jumping games, matching activities, or simple word and number building. Logs or low walls can display the alphabet or number lines, creating tactile opportunities for tracing, counting, and exploring simple arithmetic.



Letter stones that can be used indoors or outdoors

SAFETY CONSIDERATIONS FOR LITERACY AND NUMERACY PLAY ELEMENTS

- All elements should have free space around of at least 150 cm so that children who fall while walking on the element do not hurt themselves on another element.
- The stepping stones should not have sharp corners (especially watch this when using metal), all edges should have a rounded corner diameter of 2mm.

MUSICAL PLAY

MATERIALS USED

- Pre-used and painted stell barrels
- Pots and pans of various sizes attached to a fence
- Metal posts and tubes

OVERVIEW

When young children engage in musical play, they are developing a wide range of skills across cognitive, social, emotional, and physical domains. They learn to listen closely, recognize patterns and rhythms, and express themselves creatively. Musical play also supports language development, memory, and coordination. When children sing, move, or play instruments together, they practice turn-taking, cooperation, and self-expression, all while building confidence and joy through shared experiences.

ELEMENTS

Musical play can be fostered on the playscape through the construction of drums and xylophones. Children can also engage in musical play in the amphitheatre or stage area.

COMPETENCES ADDRESSED

When children engage in **musical play**, they are learning the following competences in the Tanzania national syllabus for pre-primary education:

- 1.1 Perform theatre arts
- 3.1 Listen in various contexts
- 4.4 Demonstrate the mastery of skills for collaboration



Children playing the drums



Example of a xylophone



Example of a music wall with pots, pans, and other simple items.



Example of a vertical xylophone

DESCRIPTION OF MUSICAL ELEMENTS

1 Amphitheatre or group seating area

An amphitheatre or group seating area promotes musical play by creating a natural gathering space where children can see and interact with one another easily. Its circular or tiered design encourages group activities like singing, creating music, and performing. This fosters collaboration, communication, and creativity. (See page 13 for examples of amphitheatres/performance areas)

2 Drums

Drums can be constructed from pre-used steel barrels that are painted. If barrels are not available, they can be made with old steel pots/pans of various sizes attached to a fence.

3 Xylophones

Xylophones can be constructed from metal posts, horizontal metal strips, and varying sizes of metal tubes with a diameter of approximately 1 cm each. horizontal metal strips and diverse sizes of metal tubes (diameter approximately 1 cm). These can also be attached to a fence.

PRACTICAL CONSIDERATIONS

- Ensure instruments are in a shady spot
- Protect musical elements from harsh weather (e.g. heavy rains)

SAFETY CONSIDERATIONS FOR MUSICAL PLAY ELEMENTS

- Ensure the foundation is strong enough so the instruments cannot be moved.
- Ensure musical instruments are not too close to classrooms so the sound does not disturb other classes.
- Ensure there is a minimum of 150 cm free space around each instrument/element so that if children climb on the instrument and fall, they will not hit their head on a nearby element.
- Ensure no sharp corners, especially when using metal.

GAMES

MATERIALS USED

- Concrete and paint
- Concrete blocks to create a raised table
- Logs placed horizontally for seating
- Large stumps to be used as tables
- Steel box to store loose parts (that can be locked)

OVERVIEW

Playing games with rules—such as drafts/checkers, bao bao, or other structured group games—helps children develop important cognitive and social skills. These games teach children to solve problems and understand cause and effect as they plan their moves and adapt to others' strategies. At the same time, they practice patience, turn-taking, and communication, learning how to follow agreed-upon rules and resolve conflicts peacefully. A dedicated space outdoors for such games not only encourages active engagement but also fosters a sense of community. Children may gather to watch others play games, support them, and cheer them on.

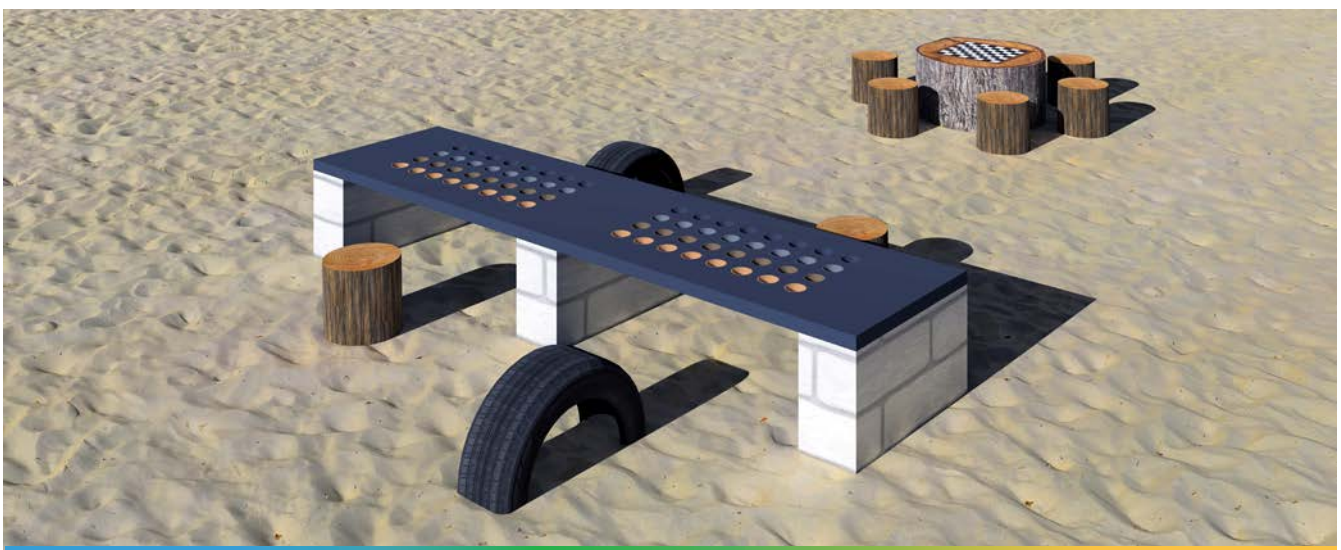
ELEMENTS

Children can be encouraged to play games with rules on the playscape by having dedicated areas for these activities. For example, a concrete table with two bao bao boards carved out in cement or an area of the playscape indicated with low bricks or stones, which is dedicated to group games.

COMPETENCES ADDRESSED

When they play games with rules, children are learning the following competences in the Tanzania national syllabus for pre-primary education:

- 1.3a Play games that involve small muscles
- 3.5 Communicate in various contexts
- 4.4b Taking turns in play and different activities
- 4.5a Play games that develop the skills of solving challenges



Rendering of game elements



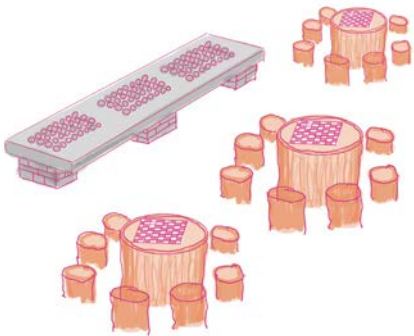
Bao game on wooden table



Bao game made of concrete



Drafts board



Sketch of game elements

ELEMENTS TO FOSTER MUSICAL PLAY

1 Smaller Games

- **Round concrete table** with a game board in it. Around it: concrete circular benches, or tree log seats/ tire seats
- **Horizontal concrete bench** 200 cm x 40cm x 40 cm with one bao and one drafts/checkers board in it

2 Larger Games

Leave one open space, sand/ soil/ grass, where children can play their own games. Open space at least 6 m x 6 m, but preferably 10 m x 10 m.

- **Games to play:**
 - rede
 - local circle games (e.g. ukuti ukuti)
 - rope skipping
 - ball games

SAFETY CONSIDERATIONS FOR GAME ELEMENTS

- Ensure games can accommodate a sufficient number of players. Do not construct only one or two game boards as this might lead to arguments over who gets to play.
- All elements should have free space around it of minimum 150 cm to ensure safety in case children fall.
- The elements must not have sharp corners (especially watch this when using metal); all edges should have a rounded corner diameter of 2 mm.
- Ensure there is enough shade so children can play without getting too hot.



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The authors would like to express their appreciation to Ray Ginther for his vision and support in making this project a reality.

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