

Universal Year 2 Session 3



Early Literacy and Numeracy Through Block Play



Aim

- Explore the far reaching impact of block play on a child's development
- Discover the history of block play
- Suggest practical opportunities for supporting your staff team in experiencing block play
- Explore the development of early literacy and numeracy skills through block play



Introduction to Block Play





Frederich Froebel

- Frederich Froebel was the founder of Kindergarten Education. He believed in the value of play to shape behaviour and aid in children's intellectual and emotional growth.
- Froebel believed that even very young children could learn scientific, artistic and natural principles by playing with various physical objects, which he called “gifts”.



Froebel's Blocks

Froebel intended the blocks to be used for children to represent:

- Forms of life
- Forms of beauty
- Forms of knowledge



Caroline Pratt

- Developed teaching methods that focused on play, influenced by Froebel's kindergarten philosophy that suggested that children's play and activity were central to their individual growth and development.
- Her philosophy of teaching was based on the children's interests, and through play she allowed them to learn experimentally through their experiences in their immediate environments.
- Advocate of free play vs 'taught' curriculum
- Developed wooden unit blocks, based on the blocks used by Froebel.
- Froebel (1782-1852) and Pratt (1867-1954) each therefore developed a theory which supported the importance of children learning through **active** engagement in **meaningful play**.

Bruce, T. (Eds) (2012)



The Blocks

- **Unit blocks**
 - solid hardwood
 - sustainable
 - built on the same basic standard of measurement. – ratio 1:2:4
- **Large hollow blocks:**
 - carry with two hands
 - can be stood on
 - can build life-sized structures
 - hollow in order to reduce their weight

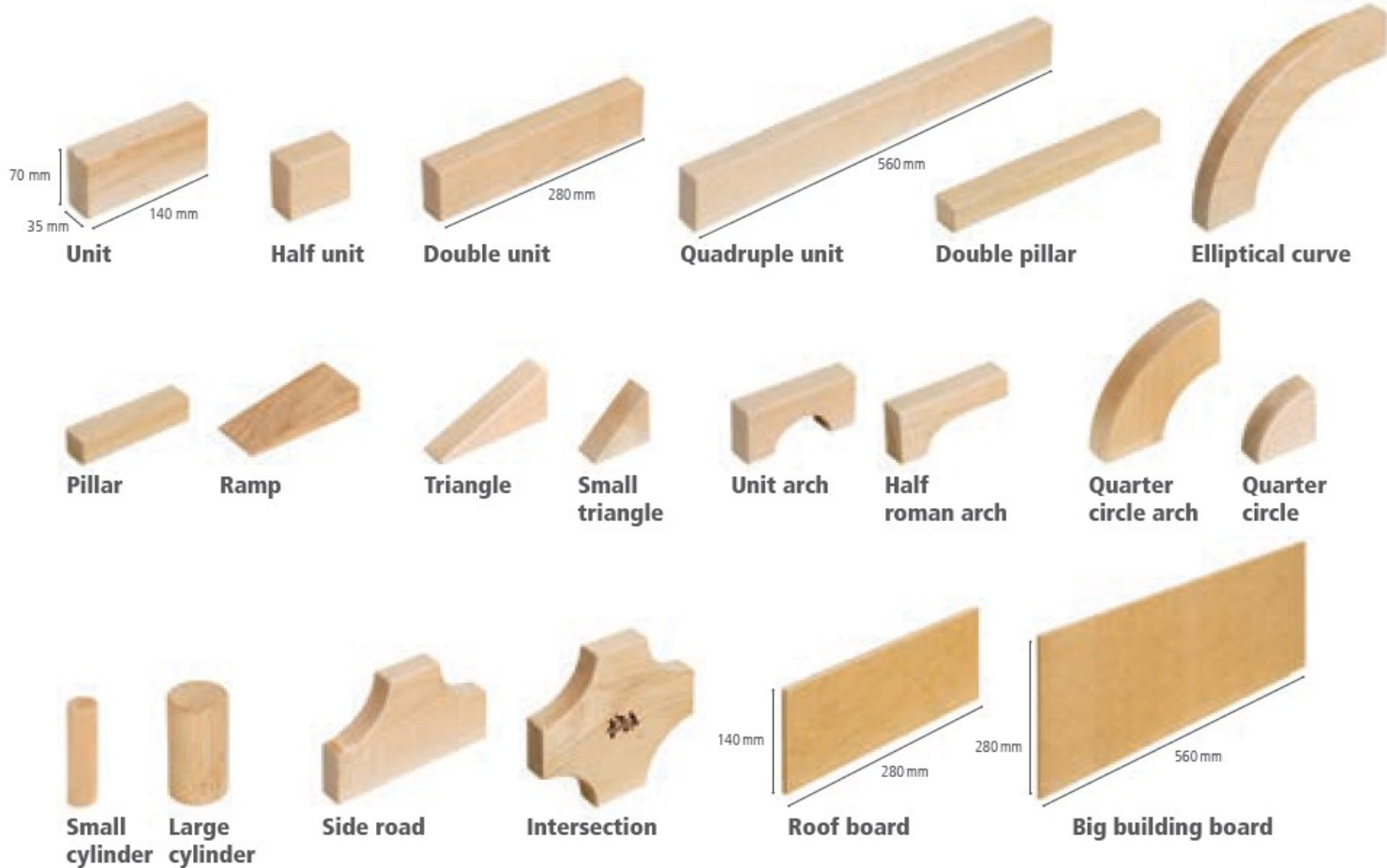


Environment, Space and Storage

- Organised
- Easily accessible, open access storage
- Adequate space
- Sufficient number and variety of blocks
- Different shapes can be seen



Block Names



Stages of Block Play



Stages of Block Play

Children's play with blocks will change over time as their understanding and experience deepens. Knowledge of these stages allows practitioners to support children's learning and provide what they need in order to take the next step.

- Stages of block play include:
 1. Carrying
 2. Stacking
 3. Bridging
 4. Enclosures
 5. Patterning
 6. Building complex structures
 7. Dramatic Play with complex structures



1



2



3



4



5



6



7



8

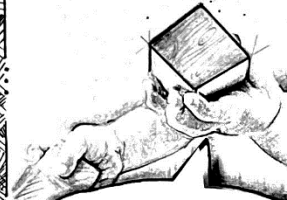


Harriet Merrill Johnson's
7 Stages
 of
Block Play

Adapted by Catriona Gill

STAGE 1 - CARRYING

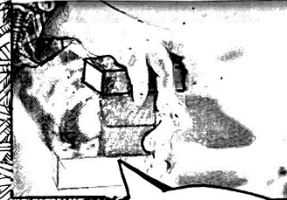
Blocks are carried but not used for construction...



CONCEPTS:
 ATTRIBUTES (COLOUR, SIZE, SHAPE, ORIENTATION, TEXTURE); MEASUREMENT, COMPARISON, NUMBER

STAGE 2 - STACKING

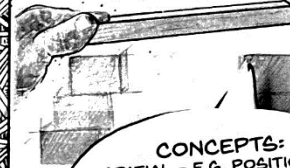
Blocks are placed in horizontal or vertical rows...



CONCEPTS:
 ORDERING/SERIATION, EQUIVALENT LENGTH, RATIO OF LENGTH, SORTING, WEIGHT, CORNERS/EDGES/SURFACES, ONE-TO-ONE CORRESPONDENCE

STAGE 3 - BRIDGING

Blocks are used to bridge the space between other blocks...

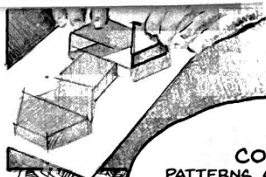


CONCEPTS:
 SPATIAL - E.G. POSITIONAL WORDS, RELATIONSHIPS, MAPS/DIRECTIONS, GEOMETRICAL E.G. RECOGNISING & NAMING SHAPES, TRANSFORMATION

CONCEPTS:
 PERIMETER, MEASUREMENT, PROBLEM SOLVING/COMPUTATION, PARTS-TO-WHOLE RELATIONSHIPS

STAGE 5 - PATTERNING

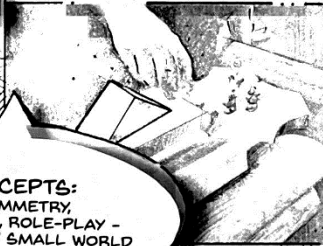
Blocks are placed in patterns or symmetrically when building. Block accessories may be incorporated. Structures are not generally named...



CONCEPTS:
 PATTERNS, SYMMETRY, CLASSIFICATION, ROLE-PLAY - PARTICULARLY SMALL WORLD

STAGE 6 - COMPLEX STRUCTURES (1)

Block structures may be named - with names relating to their function.

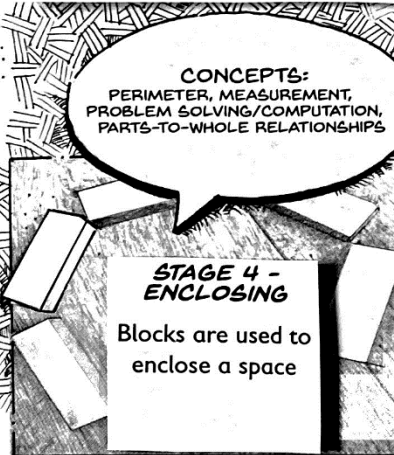


STAGE 7 - COMPLEX STRUCTURES (2)

Block building often reproduces actual structures or experiences. There is a strong impulse for dramatic play around and incorporating the structure(s) Naming may occur as an advance plan.

STAGE 4 - ENCLOSING

Blocks are used to enclose a space



#BEINGME #REALISINGTHEAMBITION @CAFTEAM

Stage 1 - Carrying

Children will:

- explore the blocks using their senses – they examine them closely, touch and taste them.
- hold one block in each hand and hit them together, exploring sound.
- carry the blocks from place to place.
- knock down structures built by others.

No actual building takes place within the carrying stage.



Stage 2 - Stacking

Children:

- Have an intrinsic need to build rows and towers repeatedly – they do this before moving on to build other structures.
- May haphazardly stack blocks until they fall.
- May line blocks up, pushing them into an even line.



When children have mastered building rows and towers they build them in multiples – this can resemble floors and walls.

Stage 3 - Bridging

Children:

- Begin bridging or roofing the space between two upright blocks
- Repeat bridging over and over again.
- Use this skill to build bridges on top of bridges.



Stage 4 - Enclosures

Children:

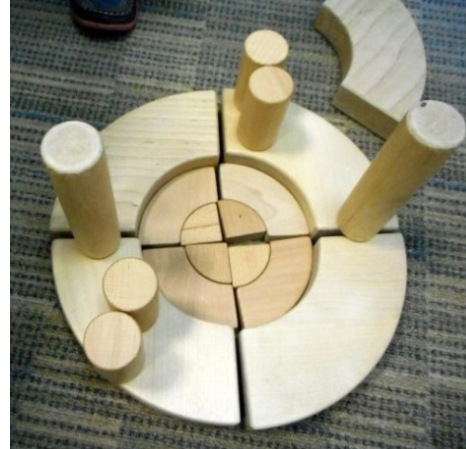
- Use blocks to enclose space.
- Need to practice using four block to create an enclosure in the shape of a square.
- Repeat creating enclosures over and over
- Begin to experiment with the size and shape of enclosures and connect one to the other.



Stage 5 - Patterning

Children:

- Use blocks to create patterns and symmetry when building
- May incorporate some enhancements, such as small world and loose parts.
- Generally do not name their buildings



Stage 6 - Building Complex Structures

Children:

- Use a larger number of blocks incorporating towers, rows, bridges, enclosures and patterns in the same structure.
- Name their structures whilst they are building or after



Stage – 7 Dramatic Play with Complex Structures

Children:

- Tell you what they are going to build before they start, showing they have a plan for their play
- Build familiar structures. The design features of the building represent the actual structure, for example, windows or a drawbridge.
- Create and add their own enhancements to the structure, recycled materials (loose parts) supporting the dramatic play and their interpretation of how the world works.



Learning Dispositions

- Initiative
- Concentration, persistence and perseverance
- Creativity and curiosity
- Innovative
- Critical thinking
- Problem solving and experimentation
- Collaborative and co-operative
- Self-motivation
- Reflective



Schematic Play



Schematic Play

- Patterns of repetitive play.
- Often observed in block play.
- Observing schemas can enable practitioners to support and facilitate children to extend and develop their play and learning.



Why does my child sometimes continually repeat the same actions when they play?



Young children benefit from opportunities to repeat and practise different actions. This helps their brain development and learning for example, actions of up and down, going from side to side and rotating supports early writing development.

It's possible your wee one is engaging in what's called...

Schematic Play

this happens when babies, toddlers and young children repeat actions or behaviours to explore the world around them and find out how things work. There are many kinds of

Schemas



trajectory schema
"I am discovering how things move"

One of the earliest schemas observed in babies... they will often throw food or toys from their highchair.

enclosing schema



Children show an interest in enclosed spaces
They construct fences and barricades for themselves or toys



often seen in block play



transporting

Children enjoy repeatedly carrying things around from place to place

connecting schema
Children display connecting schema when they want to join items together.



rotational schema

Children displaying rotational schema when they are turning, twisting or whirling

orientation schema
Children like to turn themselves and objects upside-down and back to front to gain a different view.
Seeing things from a different view.

enveloping schema
Children like to cover, swaddle, hold, hug or wrap objects.



based on text by Stella Louis



Role of the Adult



‘Rich block play does not just occur. It develops when the adult acts as a powerful catalyst working hard to enable it.’

(Bruce in Gura 1992:26)



Role of the Adult

- Knowing about blocks
- Free choice
- Connections
- Space
- Storage which shows the whole and the parts
- Time
- Valuing block play



Role of the Adult

Sensitive Interaction

- Being a participative observer
- Listening
- Protecting children's block play
- Being a play partner
- Putting actions into words
- Questioning
- Supporting and extending



Coffee Break



Learning Across the Curriculum



Learning in all areas

- Communication and Language Development
- Physical Development
- Personal, social and emotional development
- **Literacy**
- **Mathematics**
- Understanding of the World
- Expressive Arts and Design.





imagination
collaboration
co-ordination
classification
balance
gross motor skills
negotiation
language
colour
cause and effect
storytelling
space size
number
texture
position
size
height
estimation
trial and error
spatial awareness
area
measure
fine motor skills
problem solving
sequencing
weight
co-operation
direction
fractions
ordering
sorting
mapping
shape

Numeracy Learning through Block Play



When Children Play with blocks they are learning...

shape, height, colour, size, patterns, symmetry,
quantity, numbers, weight, order, classification,
sorting, sequencing, co-operation, co-ordination,
concentration, collaboration, leadership, fine motor
skills, trial and error, spatial awareness, pretending
negotiation, persistence, cause and effect,
directionality, addition, subtraction, multiplication,
division, fractions, imagination, logical reasoning,
measurement, prediction, estimation,
experimentation, creative thinking, self expression...



Experience and outcomes

- MNU 0-01a
- MNU 0-02
- MNU 0-03
- MNU 0-07
- MNU 0-11
- MNU 0-13
- MNU 0-16a
- MNU 0-17a
- MNU 0-19a
- MNU 0-20b
- MNU 0-20c

Numeracy and Mathematics



Numeracy

Block play helps to develop:

- Maths in outdoor spaces
- Open mathematical minds
- Mathematical concepts and skills
- Problem solving and creativity

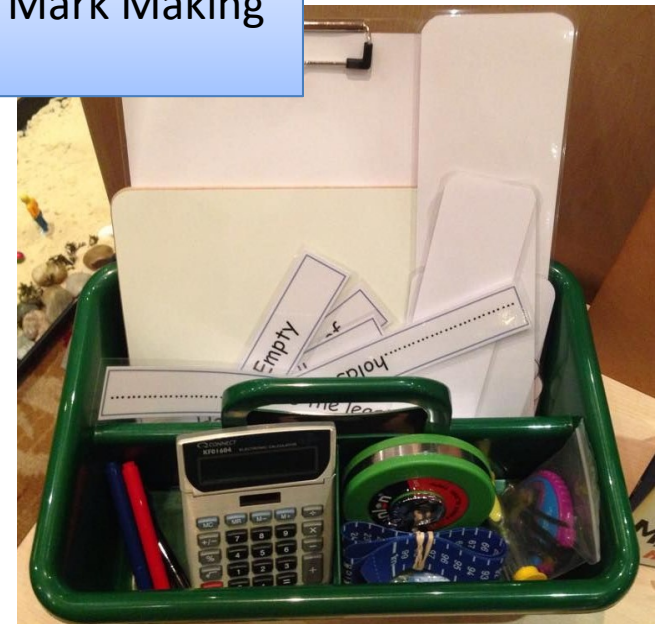


Mathematical Enhancements

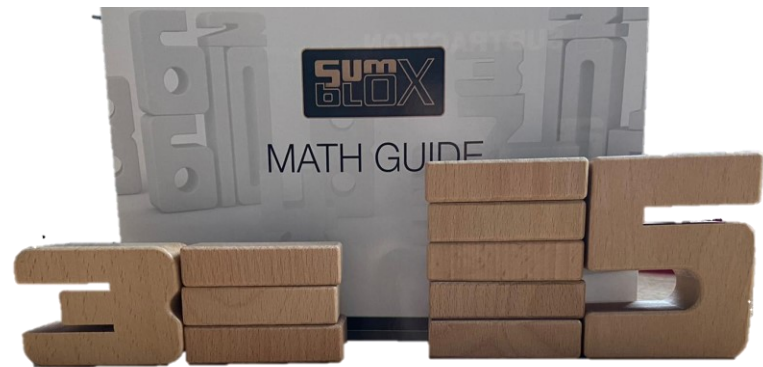
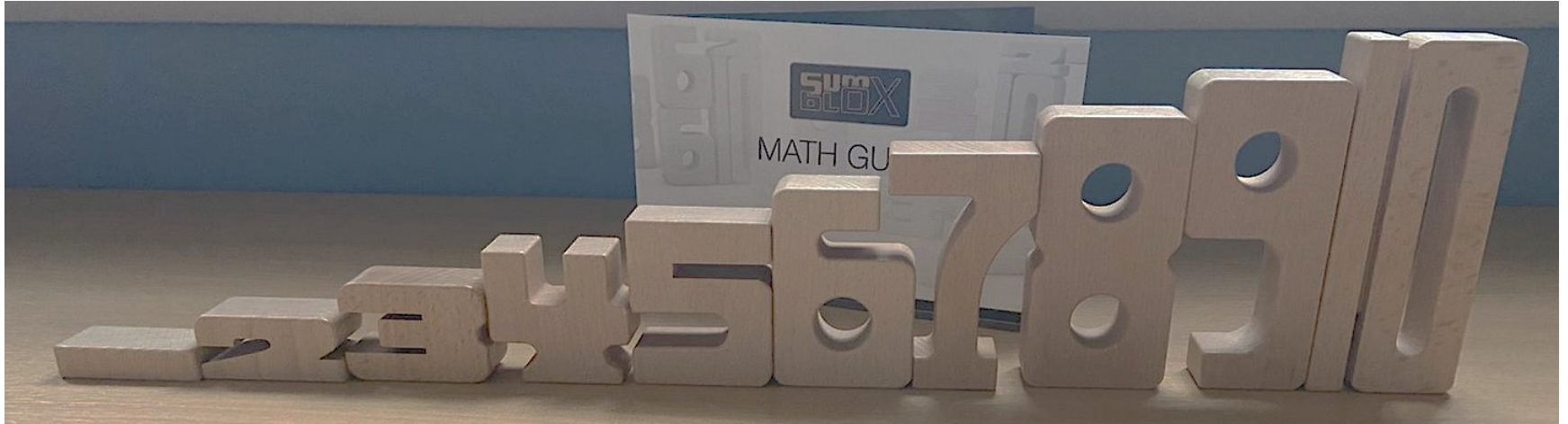
Loose Parts



Mark Making



Sum Blox



Literacy Learning through Block Play



Literacy Experiences and Outcomes

Literacy E's and O's
explored through
Block Play

I explore sounds, letters and words, discovering how they work together, and I can use what I learn to help me as I read and write ENG 0-12a / LIT 0-13a / LIT 0-21a

As I listen and take part in conversations and discussions, I discover new words and phrases which I use to help me express my ideas, thoughts and feelings. LIT 0-10a

Within real and imaginary situations, I share experiences and feelings, ideas and information in a way that communicates my message. LIT 0-09a / LIT 0-26a

As I listen and talk in different situations, I am learning to take turns and am developing my awareness of when to talk and when to listen. LIT 0-02a / ENG 0-03a

I enjoy exploring events and characters in stories and other texts, sharing my thoughts in different ways. LIT 0-01c

I listen or watch for useful or interesting information and I use this to make choices or learn new things. LIT 0-04a

I enjoy exploring events and characters in stories and other texts and I use what I learn to invent my own, sharing these with others in imaginative ways. LIT 0-09b / LIT 0-31a

I use signs, books or other texts to find useful or interesting information and I use this to plan, make choices or learn new things. LIT 0-14a

As I play and learn, I enjoy exploring interesting materials for writing and different ways of recording my experiences and feelings, ideas and information. LIT 0-21b

Literacy Development

Block play helps to develop:

- Creativity and imagination
- Language and communication – vocabulary
- Storytelling and role play (story acting)
- Mark making - representation of own ideas and symbols



Language and Communication

Communication

- Being in control and engaged in interactions
- Using symbols and understanding symbolic relationships
- Use of props
- Using more advanced language
- Sustained Shared Thinking

Vocabulary

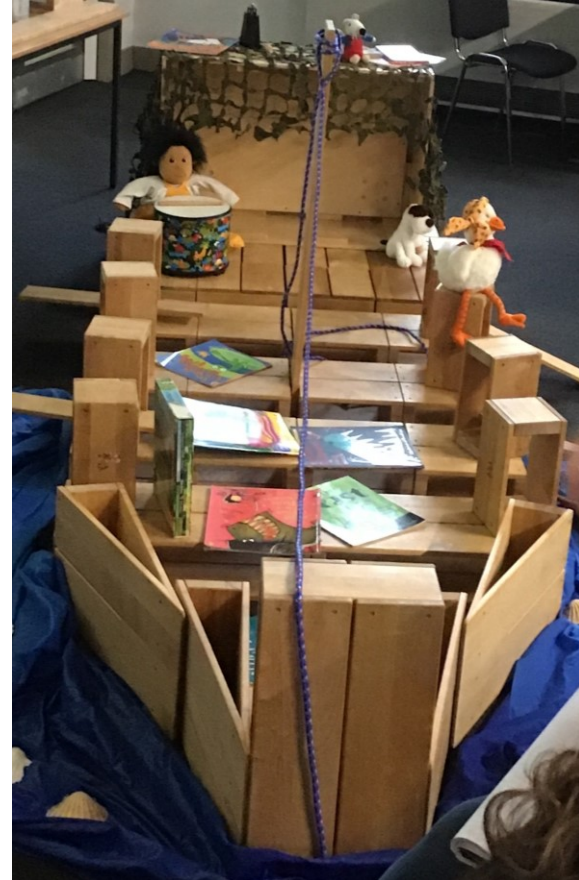
- Sparkle words linked to focus book
- Names of the blocks
- Specialised words vocabulary linked to specific themes or interests e.g. astronaut



Story Telling and Role Play

Block play can develop:

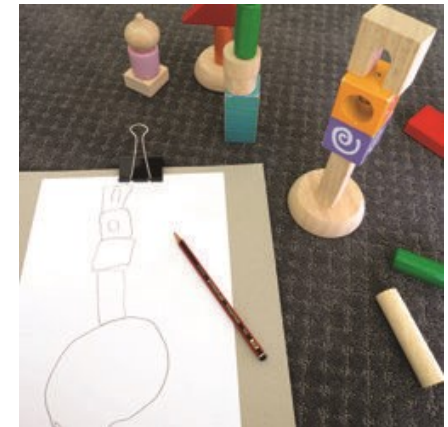
- Abstract thinking and imagination
- Symbolic play
- Oral language
- Social interaction



Mark making

Opportunities

- Planning building /construction
- Record constructions
- Making signs/labels/characters/features
- Making a story about their construction



Suggested activities for staff CLPL



Build a Tower

- In groups build a tower which is 1m high
- It must have the following:
- 4 base pillars
- Bridges to join the pillars
- 3 platforms as landing pads
- An interesting top of the tower
- All team members can only use one arm
- Each team members will have 4 blocks each which have to be used to build
- Each team member is responsible for placing their own block. BUT they can be helped



Telling Tales

The 10 word story

- As a group randomly generate a list of 10 words
- Choose 2 of these words to focus on
- Create a sentence containing these two words, write it down
- A member of the team states the sentence after listening the group start to question the sentence, e.g. why did that happen? Why did it happen? Where was this place? Who was involved?
- As these questions are answered build up your storyline.
- Use the blocks to frame your thinking/back drop
- Feedback your story to the group





Block Play



Final Thought ...

'Play is the highest level of child development. It is the spontaneous expression of thought and feeling. ...It...constitutes the source of all that can benefit the child... At this age play is never trivial; it is serious and deeply significant'. (Froebel in Lilley 1967:84)



References

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- Wolfgang, C., Stannard, L. and Jones, I. (2001). Block Play Performance Among Preschoolers As a Predictor of Later School Achievement in Mathematics. *Journal of Research in Childhood Education*, 15(2), pp.173-180.



Contacts

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