Literacy and Numeracy through Block Play







Leaders of Early Learning









House Keeping

Restrooms



Fire Safety



Tea/Coffee



















Aims

- Explore the far reaching impact of block play on a child's development
- Dip into the history of block play
- Familiarise ourselves with the role of the adult in block play
- Explore the opportunities to promote literacy and numeracy through block play
- Explore the holistic opportunities within block play to develop the 4 Capacities, Meta Skills and life long learning.









Contents

Introduction to Block Play

Stages of Block Play

Schematic Play

Role of the Adult

Literacy through block play

Numeracy through block play

Learning Across the Curriculum







Connected Learning









Introduction to Block Play





Achievement and Progress

Networked Learning Organisation

Connected Learning







'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)









Connected Learning











Friedrich Fröbel



- Friedrich 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 Gifts

The kindergarten was sourced with specially devised materials for children's play and learning which Froebel called 'gifts and occupations'.

- Soft crocheted balls on string
- Weaving materials sewing
- Drawing and painting
- Wooden pattern boards and sticks for construction
- Clay
- Sand
- Water
- Wooden blocks











Froebelian principles



Wellbeing and Learning Achievement and Progress

Networked Learning Organisation

Connected Learning

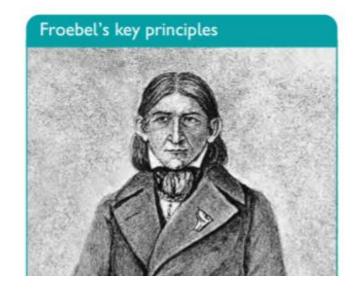








Froebelian principles



Freedom with guidance

Unity, connectedness and community

Engaging with nature

Learning through self-activity and reflection

The central importance of play

Creativity and the power of symbols

Wellbeing and Learning

Achievement and Progress

Networked Learning Organisation

Connected Learnina Knowledgeable and nurturing educators





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.











Caroline Pratt



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)

















Realising the Ambition: Being Me

Section 9.2 p.102-103



Realising the Ambition: Being Me



9.2 Friedrich Froebel and Froebelian practice today

[™]
3 ... a good framework transforms itself and is as relevant today as it was when it was first formed. QQ

Friedrich Froebel was born in 1782 in the German village of Oberwissbach in the Thuringian Forest. In 1840 he established the first kindergarten (garden for children) in Blankenburg. Through his work and writing. Froebel succeeded in changing the way we think about childhood and the education of young children. His ideas about learning through nature and the importance of play spread throughout the world and continue to have relevance today.

Much of what we now take for granted in early learning and childcare has its origins in Froebel's ideas. Outdoor play is an obvious example. Other examples include play with blocks, sand, water, clay, finger rhymes, painting, and drawing. Familiar practices, such as observation-led planning, and partnerships with parents and the wider community, can be traced back to Froebel's pioneering work.

Challenge questions

Reflect on your observations of children and what you do with the information you gather to plan future provocations/activities.

Think about how you record those 'aha moments'. Do you write down what you observe or what you will do as a result of what you



Wellbeing and Learning

Achievement and **Progress**

Networked Learning **Organisation**









Modern Froebelians

Many practitioners today identify themselves as Frobelians, meaning that their practice is informed by values and principles first established by Froebel almost 200 hundred years ago. Modern Froebelians sometimes refer to their approach as 'principled practice' to indicate their strong belief that effective practice is grounded in values, and on a sound understanding of how young children learn.

Helen Tovey expresses this clearly when she writes:

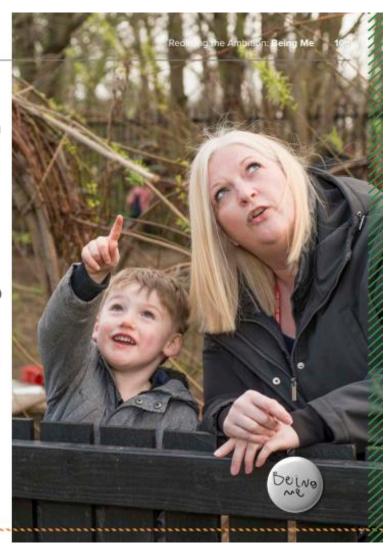
A Froebelian approach is not a method. There is no formula or recipe to follow or set of equipment to purchase or prescribed curriculum to adhere to. Nor is it a series of ideas and activities which practitioners can dip into and out of. Rather it is a whole way of thinking about children and childhood, based on a set of values and principles.

(Tovey, 2013)

Drawing on the approach Froebel himself used to develop his innovative theories and practice, modern Froebelians stress the importance of careful observation of children. This, together with reflective practice and strong professional learning, is how they are able to translate Froebel's original ideas into practice relevant to children and families today, and into the future.

A Froebelian approach is applicable wherever adults work with children and families. This means that it can be used by practitioners working in rural and urban settings, in outdoor settings, and by child-minders looking after children at home and even in the early stages of our primary schools.

Further reading https://www.froebel.org.uk



Wellbeing and Learning Achievement and Progress

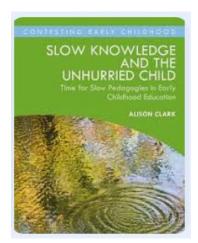
Networked Learning Organisation

Connected Learning









Slow pedagogy...





https://www.tandfonline.com/doi/full/10. 1080/1350293X.2025.2452547?mi=5t0s03



Achievement and Progress

Networked Learning Organisation

connected Learning









Play Time

Select as many blocks/resources as you wish from all of the resources available. You are only allowed **one** trip to collect resources.

Find a comfortable space and quietly explore your chosen items.

- Create what you like
- Be imaginative
- Don't be concerned with what others are doing

How did you feel...

- At the start;
- Whilst building;
- When you finished?











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





Achievement and Progress

Networked Learning Organisation

onnected Learning









Environment, Space and Storage

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





Achievement and Progress

Networked Learning Organisation

connected Learning

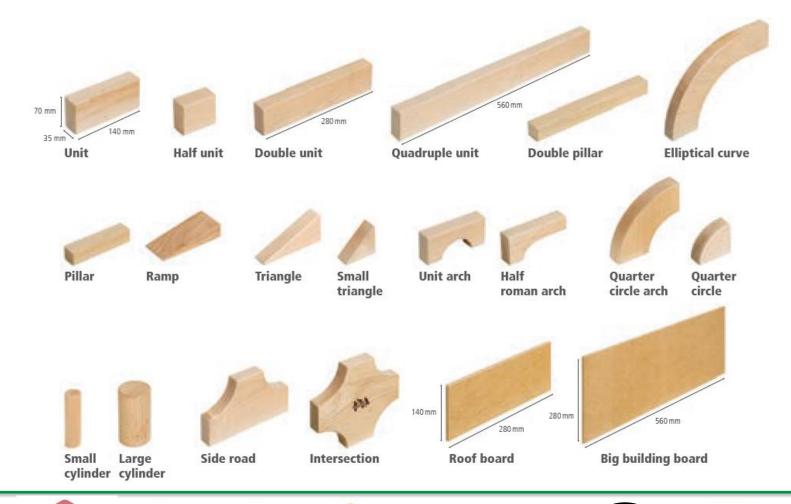








Block Names



Wellbeing and Learning Achievement and Progress

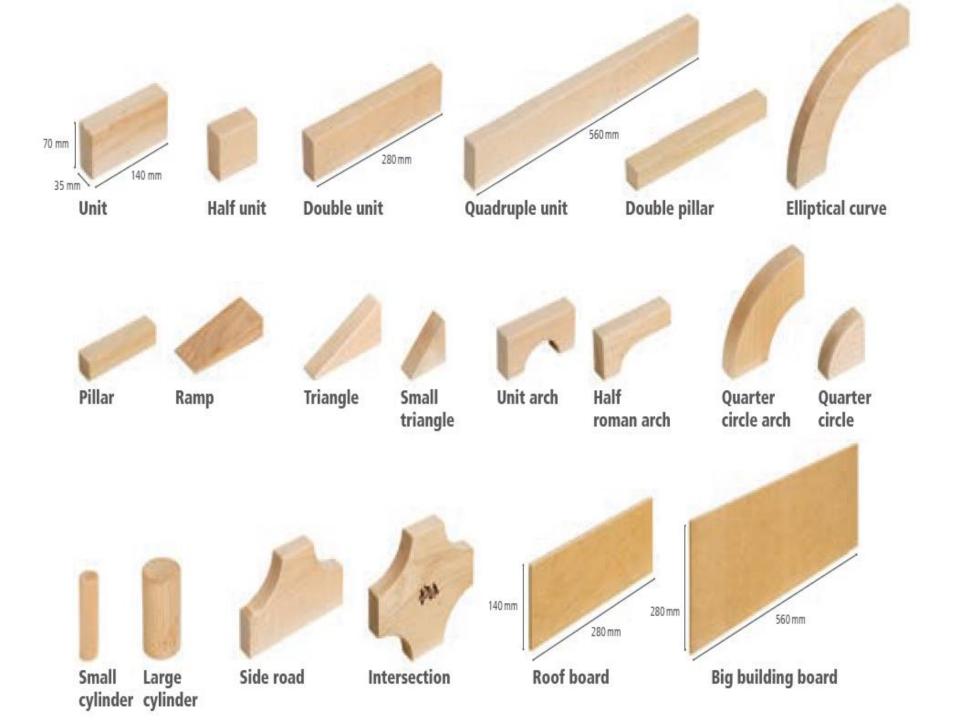
Networked Learning Organisation

Connected Learning









Schematic Play





Achievement and Progress

Networked Learning Organisation

Connected Learning









Schematic Play

- Schemas are patterns of repetitive play.
- Schemas are often seen in block play.
- Observing schemas can help practitioners to support children and provide opportunities to extend and develop their play and learning.







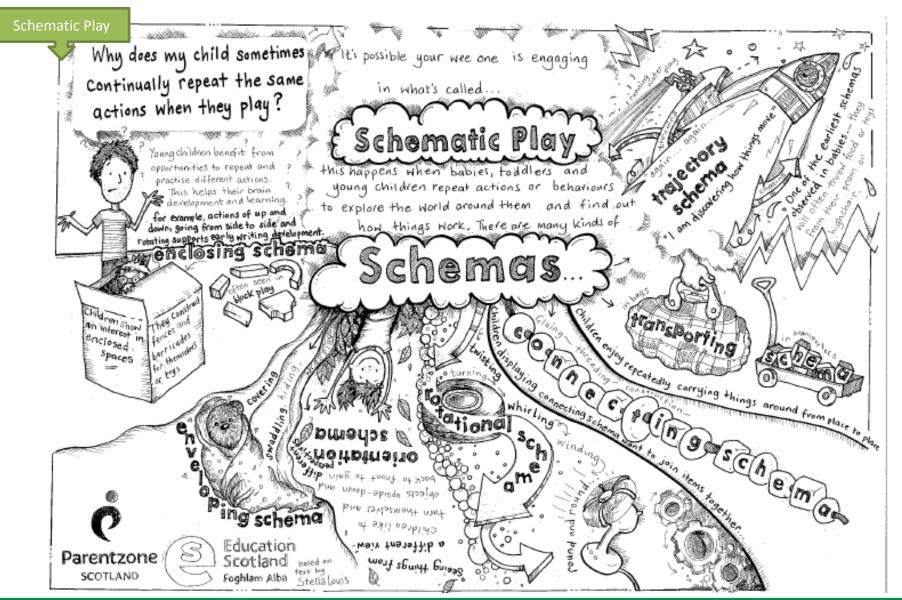
Networked Learning Organisation

onnected earning









Wellbeing and Learning Achievement and Progress

Networked Learning Organisation

Connected Learning







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



Achievement and Progress

Networked Learning Organisation

Connected Learning









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.





Achievement and Progress

Networked Learning Organisation

onnected Learning









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.





Achievement and Progress

Networked Learning Organisation

connected Learning





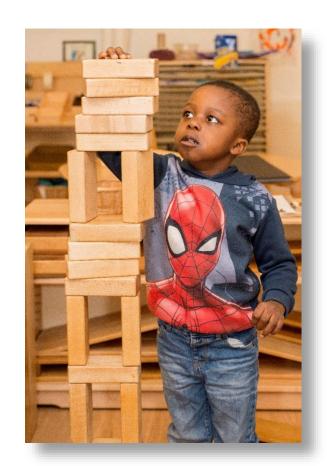




Stage 3 - Bridging

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.









onnected Learning











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.











Connected Learning







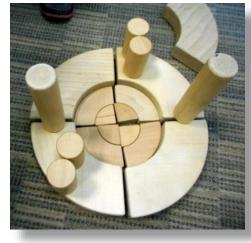




Stage 5 - Patterning

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











Connected Learning











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.







Networked Learning Organisation

onnected Learning









Role of the Adult





Achievement and Progress

Networked Learning Organisation

Connected Learning









Role of the Adult

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







Connected Learning











Role of the Adult

Sensitive Interaction

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



Achievement and Progress

Networked Learning Organisation

Connected Learning







Video





Achievement and Progress

Networked Learning Organisation

onnected Learning







Literacy Learning through Block Play









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





onnected Learning











Wellbeing and Learning Achievement and Progress

Networked Learning Organisation

onnected Learning Participation and Inclusion







The Learning Environment







Education Scotland, Realising the Ambition- 2020



Achievement and Progress

Networked Learning Organisation

earning

ingagement, Participation and Inclusion







Communication and Language

Communication

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



Achievement and Progress

Networked Learning Organisation

Connected Learning Engagement, Participation and Inclusion







Developing Children's Language

Modelling

Scaffolding

- Showing an example
- Using 'think alouds'

Plan your strategy or at

- Reviewing actions or steps
- Break ideas or tasks down
- provide cues and prompts

Extension

- Providing suggestions
- Prompting children to explain their thinking
- Helping children to think through alternatives



Achievement and **Progress**

Networked Learning **Organisation**





First, I will put two unit blocks

on top of one another here and

here, and then I will put a unit

block across the top to make a

bridge, and then I can drive the

car through the tunnel, I

wonder if it will fit.



Developing Children's Language

Modelling

- Showing an example
- Using 'think alouds'

What do you need to do?

What have you tried so far?

You might need to ... to get it to work.", "Looks like you need to to ...

Scaffolding

- Plan your strategy or app
- Reviewing actions or stell
- Break ideas or tasks down
- provide cues and prompts

Extension

- Providing suggestions
- Prompting children to explain their thinking
- Helping children to think through alternatives









Developing Children's Language

Modelling

- Showing an example
- Using 'think alouds'

Scaffolding

- Plan your strategy or approach
- Reviewing actions or steps
- Break ideas or tasks down
- provide cues and prompts

That would be one way, what's another way we could try?

Extension

- Providing suggestions
- Prompting children to explain their thinking
- Helping children to think through alternatives



Achievement and
Progress

Networked Learning Organisation

Connected Learning ngagement, Participation and Inclusion







Supporting Sustained Shared Thinking

Refrain from closed questions and statements:

- "Nice building."
- "What are you building?"

Use open-ended questions and model thinking aloud:

- "What would happen if...?"
- "Tell me about..."
- "What else could you try?"
- "How did you...?"







Connected Learning











Story Telling and Role Play

Block play can:

Develop children's abstract thinking and use of imagination

Enable children to represent their ideas symbolically through arranging and manipulating blocks

Develop oral language and literacy learning as children take on roles and develop their own story narratives

Foster social interaction between children as they plan, negotiate and create together.







Connected Learning











Story Telling and Role Play

Literacy enhancements

Incorporating blocks into interactive shared story sessions

Block provocations

Adult role – active observer, prompting, guiding







The Learning Environment







Education Scotland, Realising the Ambition- 2020



Achievement and Progress

Networked Learning Organisation

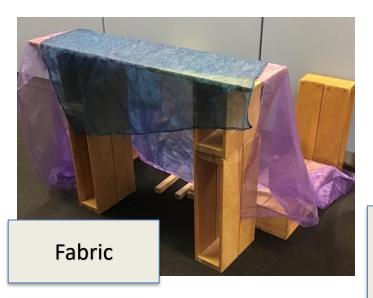
earning

ingagement, Participation and Inclusion

















Wellbeing and Learning Achievement and Progress

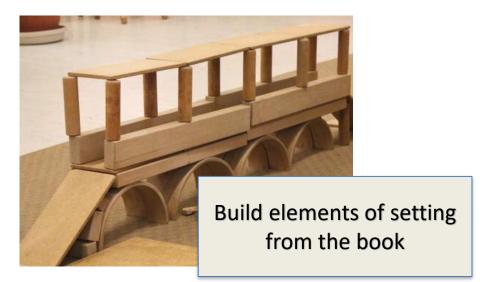
Networked Learning Organisation

onnected Learnina ngagement, Participation and Inclusion

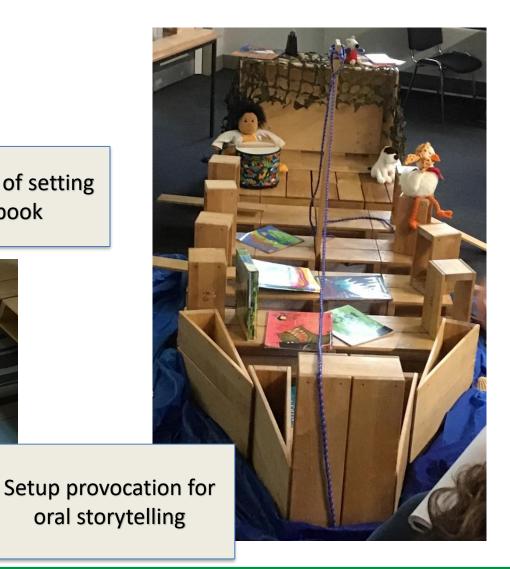












Wellbeing Achievement and and Learning Progress

Networked Learning Organisation

connected Learning ngagement, articipation nd Inclusion









Mark making

Opportunities for mark making

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

















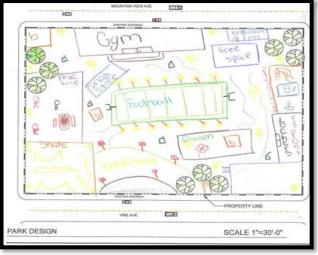


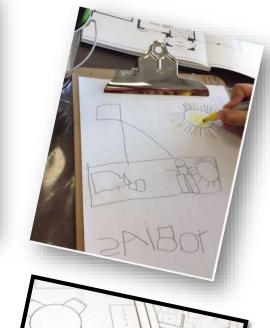
Enhancements

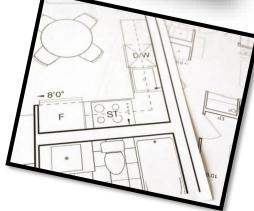












Wellbeing and Learning Achievement and Progress

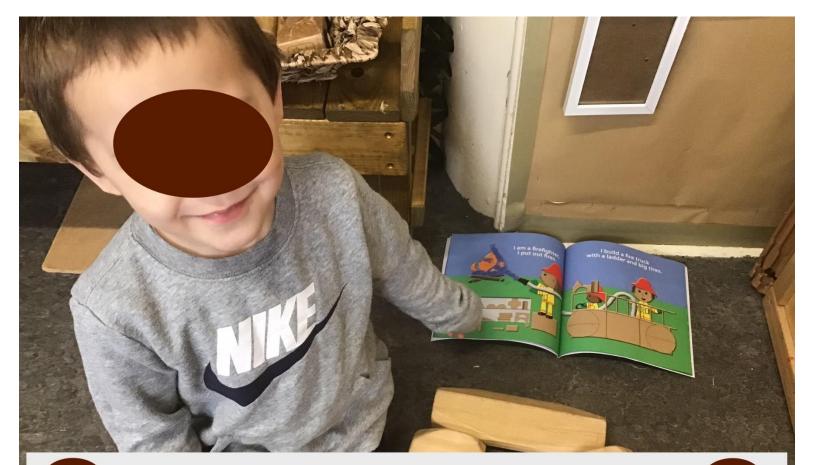
Networked Learning Organisation

onnected Learning ngagement, articipation nd Inclusion









was in the block play area. A friend said they wanted to make a fire engine. then looked through two of the books on display and said "it tells you how to do a fire engine." He kept looking through the books until he found this picture. He then counted the circles and picked out the corresponding blocks to create his fire engine.

8th Sep 2022

Wellbeing and Learning Achievement and Progress

Networked Learning Organisation

Connected Learning ngagement, Participation and Inclusion







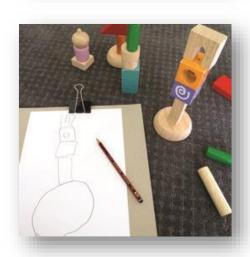
Literacy Learning through Block Play













Wellbeing and Learning Achievement and Progress

Learning
Organisation

onnected Learning rarticipation articipation and Inclusion







Literacy Learning through Block Play













Wellbeing and Learning Achievement and Progress

Networked Learning Organisation

connected Learnina ngagement, Participation and Inclusion









Wellbeing and Learning Achievement and Progress

Networked Learning Organisation

Connected Learning ngagement, articipation nd Inclusion









Writing Stories



The Princess

Once upon a time there was a princess who wanted a new castle, we designed one with tall towers and a look out at the top.

The End







onnected Learning





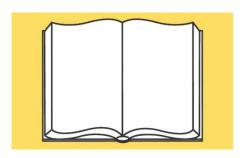






Task

Telling Tales



- Select a traditional/familiar story or rhyme.
- Build a setting as a provocation.
- Use enhancements to retell and recreate the story or rhyme.
- Feedback to the group and show case your story.









Numeracy Learning through Block Play





Achievement and Progress

Networked Learning Organisation

Connected Learning ingagement, Participation and Inclusion







What the research says....

"A study that evaluated the block constructions of 4 year olds (in 1982) and compared them with their test scores in high school (in 1998) supported the hypothesis that a child's ability to create complex block constructions can predict mathematical ability."

Cited in Pamela C. Phelps, Ph.D., Laura L. Stannard, Ph.D. June 2012







Why Unit Blocks?

Unit blocks are special because they:

- have a precise mathematical relationship to each other
- are open ended and offer infinite creative possibilities
- have a neutral, natural texture and colour which supports symbolic play
- have weight, which gives structures strength and stability
- do not require a system of joining therefore structures are only limited by the natural laws of gravity and other forces.









onnected Learning ingagement, Participation and Inclusion







Numeracy through the Stages Of Block Play.

- Weighing when carrying.
- Comparing and counting blocks when stacking.
- Measuring distance when bridging.
- Making judgements on shape and space when enclosing.
- Applying symmetry when patterning and building complex structures.
- Classifying and sorting when tidying up!

Remember:

Problem Solving is happening throughout all block play.









Mathematics





Achievement and Progress

Networked Learning Organisation

onnected Learning ngagement, articipation nd Inclusion







The Learning Environment







Education Scotland, Realising the Ambition- 2020



Achievement and Progress

Networked Learning Organisation

earning

ingagement, Participation and Inclusion

















Wellbeing and Learning Achievement and Progress

Learning
Organisation

onnected Learning Participation and Inclusion









Enhancements











Achievement and Progress

Networked Learning Organisation

onnected .earning ngagement, articipation nd Inclusion











Achievement and Progress

Networked Learning Organisation

onnected Learning articipation nd Inclusion







Think Aloud Suggestions

Measure



I wonder whose building has the most blocks...

This tower has more blocks. I wonder why it's shorter...

How could we make sure these towers are the same height?

I see that my block is half the size of yours...



Achievement and
Progress

Networked Learning Organisation

Connected Learning Engagement,
Participation
and Inclusion







Think Aloud Suggestions

Shape and Pattern



I think I need a block with a curved edge...

I wonder how we can continue this pattern?

How would you describe this shape? Is it the same when it's upside down?

I think this building is the same on both sides...



Achievement and Progress

Networked Learning Organisation

Connected Learning ngagement, Participation and Inclusion







Think Aloud Suggestions

Problem Solving



I wonder how we can stop the rain from getting in?

How will we make sure the dinosaurs don't escape?

Could we make a bridge to join the buildings

What could we change about the ramp to speed up / slow down the cars?



Achievement and Progress

Networked Learning Organisation

Connected Learning Engagement, Participation and Inclusion















Let's build a home for:















Wellbeing and Learning Achievement and Progress

Networked Learning Organisation

connected Learning engagement, Participation and Inclusion









Bridge the Gap



Create the longest <u>self supporting</u> single bridge span, you must be able to drive a car from ground level from one side to another.

Points System:

10 points for every metre spanned.

10 points for every 50cm from the ground at the highest point.

20 points if the car reaches the other side.

















"Much research has shown that young children's spatial rather than numerical abilities predict their overall mathematical achievement"

(Young et al 2018)









Learning Across the Curriculum: Meta-skills & 4 Capacities





Achievement and Progress

Networked Learning Organisation

Connected Learning









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.

















Learning across the curriculum..

As an open-ended resource, block play lends itself to any curriculum based on holistic child development. Block play supports all areas of children's development. (Cuffaro 1995)







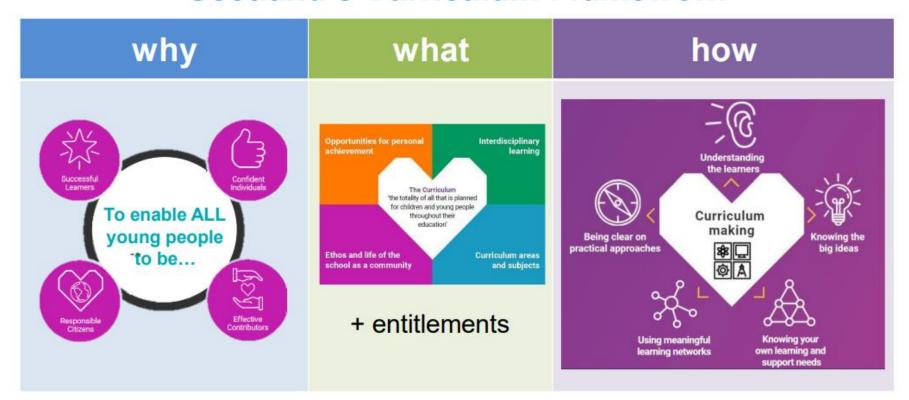








Scotland's Curriculum Framework













why



Wellbeing and Learning Achievement and Progress

Networked Learning Organisation

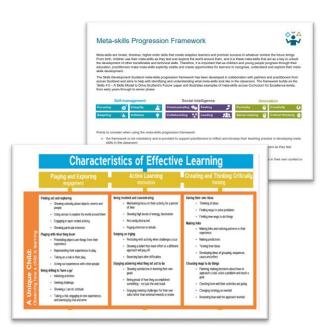
onnected Learning articipation

nd Inclusion







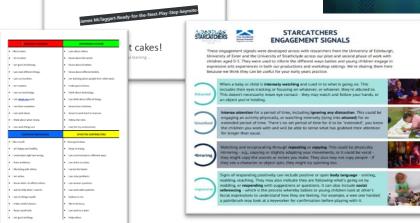


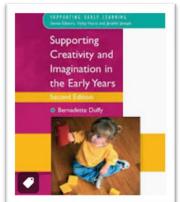














Wellbeing and Learning Achievement and Progress

Networked Learning Organisation

Connected Learning









Wellbeing and Learning Achievement and Progress

Networked Learning Organisation

Connected Learning







Responsible CITIZENS													
To be caring and respectful towards myself and others, be able to follow rules and work in groups I will	Show kindness towards friends, adults and living things.		Look after resources.		Accept responsibility for my actions when I make mistakes.		Talk about my ideas and listen to others.		Initiate play with others	Listen to others and swap ideas.	Join in with group discussions	Recognize that we have similarities and differences, but we are all unique.	
and motivation to	Use my senses to explore.	Choose where I play and learn.	Play on my own.	Play with others	Find new ways to do things through trial and error.	Plan a task to reach a goal	Adapt my strategies to reach a goal.	Think of new ideas in a range of contexts.	Use resources in original ways.	Use my Communica tion skills when playing.	Use my Literacy skills when playing.	Use my Numeracy skills when playing.	Use my Techology skills when playing.
Effective CONTRIBUTORS To be resilient, self- reliant and motivated I will	Be willing to have a go at something new.		Persist with activity when challenges occur.		Focus on a chosen task/activity for a period of time.		Start conversat ions with adults.	Start conversat ions with peers	Show excitement and joy in the unexpected	Take on a role in play- individually or in groups		Initiate my own tasks.	Show pride in my achievem ents
physically and	Describe myself in positive terms.	Engage in open ended play.	Show curiosity in the world around me.	Bounce back after difficulties	Seek challenges and be willing to take risks.		Show pride in my accompli shments.	Make choices and express my preferences	Express a range of emotions	a range of	through ac as mark m	aking, role nging or	

Wellbeing and Learning Achievement and Progress

Networked Learning Organisation

Connected Learning









Meta skills and Block Play

Self-management

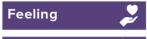
Social intelligence

Innovation

Focusing 6











Adapting











"Whilst we cannot predict the future, we can prepare for a future that is increasingly unpredictable."





Wellbeing and Learning Achievement and Progress

Networked Learning Organisation

Connected Learning







Meta-skills

Self-management

Social intelligence

Innovation

Focusing

You can maintain interest and concentrate on a task for a period of time, and not be distracted.



Communicating

You have the ability to openly share information in the best way that helps everyone understand your thoughts and ideas.



Curiosity

Being curious is the desire to learn or know something in order to increase your Understanding of an opportunity or problem



Integrity

You are guided by your own principles and Values and are considered trustworthy, open and honest by others.



Feeling

You can see things from other people's point of view and this helps you understand their feelings and motivations.



Sense-making

You can determine the deeper meaning of what is being expressed and organise information into an understandable form which is easier to use.



Adapting

You can respond confidently and constructively To new ideas and experiences and unexpected challenges.



Collaborating

You are good at building and maintaining relationships with other people so everyone can work together to achieve shared goals.



Creativity

Using your imagination, you are able to think of new ways of addressing problems and this enables you to visualise solutions.



Initiative

You are confident in your own abilities and judgement. You can take decisions and have responsibility for your own actions.



Leading

By having a sense of direction and purpose, You can encourage and motivate others to work towards agreed tasks and goals.



Critical thinking

You are able to process, analyse and evaluate information to solve complex problems and form an opinion after careful thought.



"As children and young people progress through their education, it is essential that practitioners nurture and develop their meta-skills so they can navigate a world which is increasingly complex and unpredictable."

Wellbeing and Learning Achievement and Progress

Networked Learning Organisation

Connected Learning Participation and Inclusion







Meta-skills progression framework

Adapting

Adapting is the ability and interest to continue to enlarge knowledge, understanding and skills in order to remain adaptive and resilient as circumstances change.

Adapting can include the following:

- Openness: Being open to new ideas and approaches having a growth mindset
- Critical reflection: The ability to critically reflect on new knowledge and experiences in order to gain a deeper understanding embed and extend learning
- Adaptability: Flexibility when handling the unexpected, adapting to circumstances as they arise
- Self-learning: The ability to self educate without the guidance of others
- Resilience: The ability to respond positively and constructively to constantly evolving challenges and complexity



Learners show adapting at Learners show adapting at Learners show adapting at Learners show adapting at Learners show adapting in Early Level by: First Level by: Second Level by: Third/Fourth Level by: Senior Phase by: · asking lots of questions · asking and answering posing interesting questions asking questions, thinking thinking laterally, applying questions to deepen and being curious about and constructively laterally and adapting their understanding in a the world around them understanding and challenging ideas to adapt behaviour to suit a range of wide range of contexts. recognising simple adapting how to play and thinking and behaviour contexts demonstrating initiative and problems and talking · identifying problems and enioving selecting texts or discipline about solutions with identifying and reflecting on researching different ways other relevant information evaluating their own others problems and enjoying to understand and find regularly to inform thinking progress and being able to · being flexible and resilient finding solutions solutions, including using navigating a range of adapt their approach to when faced with novel or online tools overcome unexpected creatively thinking of challenges in order to challenges unexpected situations solutions to a task and understanding and develop a deeper · learning to work and play developing this through use responding to feedback understanding of how to treating others with respect of trial and error when working with their apply skills and seeking effective ways with others. to develop co-operation, adapting their behaviour giving and responding to including resolving conflict and language to suit changing their way of feedback from their peers. working with peers to different situations and working to fit with different and being willing and able activities activities and different to reach agreement devise ways to evaluate and improve their willingly taking turns and aroups through compromise performance sharing co-operatively with · reaching agreements and critically evaluating and others when working on a beginning to manage changing their approach · responding positively and group task. disagreements. when working in a group. influencing others when taking increasing faced with unexpected responsibility if necessary. change.



Achievement and Progress

Networked Learning Organisation

Connected
Learnina

Participation and Inclusion







Final thought...

'Play is the highest level of child development. It is the spontaneous expression of thought and feeling – an expression which [their] inner life requires'. (Froebel in Lilley 1967: 83)









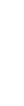






References

- Bruce, T. (Eds) (2012) Early Childhood Practice: Froebel Today. Sage Publications Ltd.
- Gura, P (Eds) (1992) Exploring Learning: Young Children and Blockplay (New Studies in Education) 1st Edition. The Froebel Block Play Research Group. Paul Chapman
- Kieff, J. and Wellhousen, K. (2001) A Constructivist Approach to Block Play in Early Childhood. Delmar Cengage Learning.
- Provenzo, F. Jnr. (2009) Friedrich Froebel's Gifts: Connecting the Spiritual and Aesthetic to the Real World of Play and Learning. *American Journal of Play. 2 (1)* pp.85-99.
- Verdine, B., Golinkoff, R., Hirsh-Pasek, K., Newcombe, N., Filipowicz, A. and Chang, A. (2013).
 Deconstructing Building Blocks: Preschoolers' Spatial Assembly Performance Relates to Early Mathematical Skills. *Child Development*, 85(3), pp.1062-1076.
- 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.





Wellbeina

and

Learning

Networked Learning Organisation

Connected Learning







Contacts

- Ana Gould gw22gouldanastasia@glow.ea.glasgow.sch.uk
- Emma Finlay gw17finlayemma@glowmail.org.uk
- Gemma Macdonald gw21macdonaldgemma@glowmail.org.uk



Blog: Google Leaders of Early Learning

https://blogs.glowscotland.org.uk/gc/gccleadersofearlylearning/









Feedback

Scan the QR code

https://forms.office.com/ e/DKRnxwfQ1u?origin=lpr Link



















Literacy and Numeracy through Block Play







Leaders of Early Learning







