

Awe and Wonder

Part One



(Source: Dowers, 2023)

Part Two

The curriculum for funded, non-maintained nursery settings emphasises the importance of children being outdoors and supporting their development holistically by exploring and investigating their surroundings (Welsh Government, 2022a). The area that I have chosen for my photograph offers a wide variety of opportunities to support children's learning and development and promotes specific scientific and mathematical concepts.

By accessing this mud kitchen area, children can play and explore freely and develop mathematical concepts such as size and quantity as they gather resources. Children are exposed to the terms more/less by the supporting adult as they scoop mud from the tyre and place it in the pans or bowls. Within this area there are many opportunities to discuss size and volume, as the area is stocked with various resources of all sizes, the children can compare sizes and begin to use language

such as big/small and bigger/smaller. There is also opportunity for children to develop their counting skills whilst accessing this area as they count the herbs that they choose for their activity or count the crockery and cutlery that they use. Mark making tools could be added to encourage the children to mark make whilst representing numbers. The children accessing this area are 2-3 years old so the adult will play a vital role in supporting and enhancing the children's learning, whilst allowing the children to lead the play. The Curriculum for Wales states that children in Early Years need to participate in exciting and engaging play experiences that promote mathematics and numeracy to aid their development and learning (Welsh Government, 2022b).

By using real-life resources such as kettles and jugs in the mud kitchen area children are exposed to and can begin to recognise numbers as they play. They can also develop the concept of weight as they fill these items and discuss whether they are heavy or light. Adults can aid this learning by encouraging children to have more or less water in the kettle and discuss why the kettle will become heavier when more water is added, this will promote children's problem-solving skills and encourage them to consider different properties and weight. If the typical plastic 'children's toys' were used in this area the children may not always have the opportunity to see numbers or consider the different weights of items which is why it is important to use 'real-life' resources as much as possible.

As the children choose and collect herbs to use in their play they can explore different shapes, sizes, and patterns. There will be opportunities for the supporting adult to engage children in discussing the different types of herbs that we grow and compare them, pointing out similarities and differences. The children could complete a grouping activity by sorting herbs into groups based on their shape, pattern, or size. Scissors could also be included in this area so that children can explore the herbs further, develop independence and practice fine motor



(Source : Pinterest, 2019)

Children can also use their senses to investigate the herbs by exploring the difference in smells and textures. The curriculum for funded, non-maintained nursery settings states that children should be provided with opportunities to explore using their senses which will enhance curiosity and develop their understanding of the world around them (Welsh Government, 2022a). Giving children time to investigate this area alone or with other children will allow them to explore and learn at their own pace and share their experiences with their peers. Practitioners in Early Years are aware of when they should allow children to play and learn independently and when to intervene to enhance that learning.

Within this area, there are many opportunities for a practitioner to intervene and extend children's learning by explaining and discussing scientific concepts. Whilst the children are choosing and collecting herbs to use in their activity there are opportunities to discuss the growth of these herbs and encourage the children to help care for them by planting and watering them regularly. By explaining to children, the importance of caring for our environment and including them in activities that promote this, children can begin to understand and take care of their own environment.

As they learn to care for our environment, children accessing this area can learn about the world around them and develop some understanding of scientific concepts. The Curriculum for Wales emphasises the requirement for children to be offered

opportunities to explore and investigate their environment, encouraging them to develop curiosity and problem-solving skills (Welsh Government, 2022c).

Whilst choosing and collecting herbs in this mud kitchen area children will notice different bugs and can explore them with a supporting adult. I would add magnifying glasses, bug catchers and factual insect books so that children can explore for themselves and talk about what they find. Within these discussions children can develop their understanding of living things, considering the bug's habitats, discussing what they eat and learning about how we can care for the living things in our environment. Having factual books in this area will help the children and adults to discuss these points in greater detail and develop understanding. When discussing living things with the children, practitioners can further develop children's knowledge and understanding of life cycles.



(Source: Start Healthy, 2023).

Consistency is another scientific concept that can be explored as the children freely use the area within this photograph. Children are offered the opportunity to mix different components together such as mud, water, and herbs and to witness the change in consistency as they do so. Children may use words like sticky, slimy, wet, and cold as they mix the mud and water together. A practitioner can support this experience by adding words to the children's vocabulary and including other components for them to use and explore in their play. Vegetables can be added to this mud kitchen area to support children's play and curiosity so discussions can also

be had about different textures and shapes and how they change when they are mixed with mud or water.

Within this photograph there are different floor surfaces for the children to access. By exploring the area freely children can learn about the different types of floors and how they may need to adapt the way they move in each area. Children may point out that “it is wobbly” as they walk on the bark area so a practitioner can extend their scientific knowledge by discussing balance and movement and moving to other areas of the garden to access different surfaces and include discussions regarding gradients and uneven surfaces.

Gravity is another scientific concept that can be discussed with children as they access this area. As the children are using the mud kitchen, table, and benches there will more than likely be a time that something is dropped so the practitioner can intervene at that point and explain the force of gravity and why something would drop. This can develop children’s curiosity and knowledge as they explore gravity further and investigate the theory by dropping items from different heights and discussing what happens, including mathematical concepts such as height, weight, and speed.

It is important for practitioners to always use the correct words and terminology when discussing mathematical and scientific concepts with children as they begin to develop an understanding of these words as they hear them in the correct context during their play and exploration. Practitioners also need to consider the age and stage of the children they are working with and adapt their discussions and explanations accordingly to meet their individual needs.

Part Three

RISK BENEFIT ASSESSMENT

Location / Activity:	Mud Kitchen	Date:	21 st September 2023
Assessor:	Lisa Dowers	Review date:	21 st April 2024

The boxes in the table below will expand as you type into them; pre-entered text is simply for illustration. You should delete irrelevant items and replace with text relevant to your circumstances.

Your overall risk rating – Low, medium or high – is based on your judgement about whether the **BENEFITS** of the activity or opportunity outweigh the **RISKS**.

Experience exploring outdoor space in photograph	How will young people BENEFIT from this activity?	Hazards and associated risks	Who is at risk?	PRECAUTIONS in place to reduce the risk of injury	Overall risk after precautions RATING: L/M/H
Children exploring the area independently	Children can develop independence by exploring freely in a safe and secure environment. This area promotes the holistic development of young children.	Children escaping from the play area through garden gates. Rubbish or animal faeces in the garden.	All children	All gates locked using padlock with key kept safely away from children. Staff to complete health and safety checks ensuring gates are locked before every session. Staff to remain vigilant and completing regular head counts when entering/exiting the garden area. Staff to complete health and safety check before each session, removing any rubbish or faeces before children access the area.	Low

Experience exploring outdoor space in photograph	How will young people BENEFIT from this activity?	Hazards and associated risks	Who is at risk?	PRECAUTIONS in place to reduce the risk of injury	Overall risk after precautions RATING: L/M/H
Children accessing the outdoors in different weather conditions	Children can learn about the different types of weather and consider how the weather affects their environment. Children can begin to develop an understanding of the seasons and changes that happen. Children begin to understand the clothing and accessories required for each type of weather.	Children could be too cold or too hot if they are not wearing the appropriate clothing for the type of weather which could cause them to become unwell or cause sunburn. Children could trip and hurt themselves if they are wearing trousers that are too long or shoes that are too big or not suitable for playing outdoors.	All children and adults	Explain to parents during induction that we spend time outdoors every day and discuss the appropriate clothing needed. Ensure that children have suncream applied when required, before attending the session. Provide coats, hats, gloves, waterproofs, wellies, sun hats for those children that may forget to bring them. Staff to check weather and consider reducing time outdoors in extreme heat. Staff to ensure that they are also suitably dressed to play alongside children outside.	Low
Children adding a variety of resources to enhance their play.	Children can choose their own resources from anywhere in the setting to add to this mud kitchen area. Resources help to extend children's play, learning and development.	Broken resources – could cause cuts from sharp edges of plastic or metal resources, or splinters from wooden resources.	All children and adults	Staff to complete health and safety checks before each session, checking resources are suitable and safe. Staff to regularly check resources during the session, removing any broken items immediately. Encourage children to report any broken items to staff where possible.	Low

Experience exploring outdoor space in photograph	How will young people BENEFIT from this activity?	Hazards and associated risks	Who is at risk?	PRECAUTIONS in place to reduce the risk of injury	Overall risk after precautions RATING: L/M/H
Children using sharp tools in the mud kitchen – knives, forks, scissors.	Children can independently use scissors to collect herbs from the herb garden and use cutlery to cut herbs and other items added to the mud kitchen. Children can develop fine motor skills as they use different tools.	If items are not used correctly children could cut themselves or hurt themselves and others by moving around with sharp items in their hand.	All children and staff.	Staff to model how to use the items correctly and safely. Explain to the children the importance of using these items safely. Extra staff supervision required in this area when sharp items are being used.	Low
Children accessing the herb garden/soil planter to add to their play.	Children can learn about different herbs and plants – shapes, smells, textures, and begin to compare them. Whilst exploring the herb garden children will find bugs and minibeasts so can learn about living things and life cycles.	Toxic/irritant plants could cause children to have a reaction. Bites or stings from some insects, allergic reactions. Children may attempt to eat the soil, plants or herbs which could cause upset stomach.	All children and staff.	Staff to ensure that no toxic or irritant plants are placed in the garden area. Staff to regularly check plants and keep them contained. Discuss with children about the careful way to explore bugs and minibeasts. Any known allergies discussed with parents and information shared with all staff. Encourage children to wash hands after accessing herbs, plants and bugs. Staff to be extra vigilant and discourage children from putting items in their mouths.	Low
Children walking on uneven ground.	Children can begin to develop an understanding of different surface types and the ways to walk on each surface. Children can develop their proprioception and begin to understand gradients and forces.	Children or adults could slip or trip causing cuts, bruises, sprains or broken bones.	All children and staff.	Plan activities to support children's gross motor development, encouraging balancing movements. Extra supervision is required if children are accessing uneven surfaces for the first few times until they develop confidence, encourage children to take their time whilst developing their balancing skills. Staff to be aware of the uneven ground and carefully move themselves to avoid any slips, trips or falls.	Low

Experience exploring outdoor space in photograph	How will young people BENEFIT from this activity?	Hazards and associated risks	Who is at risk?	PRECAUTIONS in place to reduce the risk of injury	Overall risk after precautions RATING: L/M/H
Children can explore this area and play freely.	Children can develop confidence, independence and a sense of belonging as they are included in plans and discussions regarding 'golden rules' for this area.	Various	All children and staff.	Develop a small collection of 'golden rules' that are shared and explained to all children and adults that need to be followed when accessing this outdoor area. The children will be supported to follow and respect these rules to keep themselves and others safe whilst playing and exploring. Some of these rules could be - Always washing hands after playing in the mud kitchen or touching plants and bugs - Only sitting on the benches provided and not the table - Use cutlery and other resources at the mud kitchen, no walking around the garden with these resources - Let somebody know if you find something that is broken.	Low

Part Four

Outdoor play is essential in supporting children's holistic development and should be accessible to young children everyday (White, 2011, Tovey, 2013 and Grigg and Lewis, 2016). Woodland Trust (no date) states that children have more freedom when learning outdoors and are inspired to learn through curiosity and investigation as they feel less restricted as they play and learn. Ryder-Richardson (2013) agrees with this as they believe that all children have the right to enjoy and experience the outdoors as the outdoor environment can offer so much more than indoors as children learn using whole body multi-sensory experiences. The curriculum for funded, non-maintained nursery settings states that being outdoors allows children to feel relaxed and to be themselves (Welsh Government, 2022a). Moser and Martinson (2010) point out that undisturbed play outdoors offers crucial conditions for children's learning, and they emphasise the requirement for children to have space to explore outdoors which supports their holistic development.

Waller, *et al.* (2010) considered the rapid decline in the opportunities for outdoor play as they discovered the overwhelming changes in how children play and access outdoor environments. They point out that English speaking countries focus on academic learning for children, whereas Scandinavian countries encourage natural spaces and undisturbed play outdoors to support learning and development. Moser and Martinson (2010) highlight the way that Norwegian children spend most of their time outdoors in natural environments, choosing their own resources and play whilst assessing their own risks and ability. Scandinavian countries encourage outdoor and risky play as they offer a holistic approach and focus on learning to live together in their communities (Waller, *et al.*, 2010).

Adventurous activities offer children new experiences, learning opportunities and help to build character so risks should be considered by weighing up the benefits and completing risk assessments, involving children in the process, to effectively manage risks and encourage children to take responsibility for their own safety (Gill, 2010). Risk taking includes children making choices based on their previous experiences and characteristics which emphasises the need for children to be provided with opportunities for outdoor play, allowing them to take the lead and experiment in their own way (Little, 2015, and Little and Eager, 2010).

Little (2015) found that the parental concern for risky play potentially impacts children's activities as there are reduced opportunities for children to explore independently and take risks without adult supervision. Little and Eager (2010) point out that risks are often removed by practitioners due to the fear of litigation and that some adults focus on health and safety issues, or cleanliness so will not allow the children to fully engage and explore the outdoors (Wilson, 2018). According to Waller, *et al.* (2010) adults need to see children as competent, rather than vulnerable and in need of adult protection and provide opportunities for risky play, allowing children to take the lead. Practitioners in Scandinavian countries are more liberal in allowing risky play and encourage children to climb trees and assess their own risks (Waller, *et al.* 2010, and Moser and Martinson, 2010). The curriculum for funded, non-maintained nursery settings in Wales supports this as it encourages children to explore what they can do with their own body, testing their capabilities and challenging themselves (Welsh Government, 2022a).

RSPB (2013) discuss the importance of nature in supporting children's health, wellbeing, and education. To develop an understanding of the world around them children need frequent positive experiences allowing them to be immersed in nature which stimulates all senses (Ernst and Tornabene, 2012, and Tovey, 2013). However, Waite (2011) points out that significant changes in recent years have had an impact on children's exposure to the natural world, parents working has reduced the amount of quality time spent exploring outdoors as they are often in a rush, so the child is strapped into a buggy or car, missing vital learning opportunities. Cohen and Waite-Stupiansky (2020) state that as children engage with nature, they can develop mathematical and scientific concepts by experimenting and problem-solving, as well as discussing various topics such as plants, life cycles and weather. They state that nature is full of surprises as it is constantly changing which enhances children's curiosity of maths and science concepts, this can be supported by adults to enhance their learning. A Froebelian garden includes a nature area with opportunities for children to care for their environment which will make them more likely to want to help shape a sustainable future (Tovey, 2013). Froebel emphasised the importance of children playing in the outdoors to support their learning and understanding by accessing real-life and first-hand experiences (Froebel Trust, no date).

According to Wilson (2018) children already have the desire to explore their outdoor environment, they need an interested adult to support, encourage and enhance their learning. Adults should provide stimulating outdoor environments that will support children's learning and development and make themselves available to interact and enhance learning when required (Bilton, 2010). Vygotsky's scaffolding theory states that children gain information from more knowledgeable others which can be adults or other children and adults can foster children's development by engaging children in challenging and meaningful activities (McLeod, 2023). Practitioners need to promote metacognitive talk with children as they interact during play as this will encourage children to build resilience and challenge themselves. When attempting new activities or challenges for the first time, children will often say "I can't do it", the practitioner should support that child and help them to attempt the skill again by managing the child's feelings, encouraging them, and using positive language to promote metacognitive thinking (Jacobson, 2023).

Child-led play outdoors is vital for children's learning, practitioners need to observe the play and intervene when necessary to support sustained shared thinking, extend vocabulary and explain concepts (White, 2011, and Robertson, 2017). Ryder-Richardson (2013) and White (2011) discuss the importance of having knowledgeable and enthusiastic adults to support children's learning and experiences in the outdoors. The curriculum for funded non-maintained nursery settings (Welsh Government, 2022a) explains that the adult role is significant in supporting outdoor learning in Early Years as their role is to encourage and support children's natural curiosity, follow children's interests and plan future learning experiences. Ernst and Tornabene (2012) also emphasise the need for early years practitioners to understand the value and benefits of outdoor play as the attitude of practitioners will impact the experiences that children have (White, 2011). Children are more likely to explore effectively and attempt challenges when supported by positive practitioners, whereas children could lose out on vital learning experiences if a practitioner's negative attitude placed doubt and fear in their mind (Tovey, 2013). Some adults see outdoor learning as 'just play' and tend to monitor or supervise the children rather than getting involved and supporting the children's self-initiated exploration (Tovey, 2013, and Wilson, 2018).

Children should be accessing outdoor environments every day and experiencing real-life first-hand experiences as outdoor play will have an impact on their attitude, ability, learning and development (Waite, 2011, and White, 2011). Robertson (2017) believes that children require hands on experiences to understand the world around them as to understand weight, children need to feel different weights and be supported by adults explaining mathematical concepts. By exploring their outdoor environment children can investigate mathematical concepts and develop problem-solving skills (Welsh Government, 2022a). Being exposed to early maths experiences outdoors will support more complex learning as children grow and develop (Robertson, 2017). Piaget emphasises the need for child-led learning and hands on experiences as he believes that children are active learners, and the focus should be on the process of learning rather than an end result (McLeod, 2018). Kolb's cycle of learning states that children need immediate and concrete experiences to allow them to reflect on what has happened and begin to develop an understanding of the world around them. Kolb believes that learning occurs due to genetics, life experiences and the environment (Cherry, 2022).

According to Bilton (2010) children need a wide range of open-ended resources to facilitate their learning in the outdoors. Play Scotland (no date) discusses the valuable learning that can occur when children are provided with loose parts as resources to use during outdoor play as these parts will provide richer learning environments for children. Loose parts can be any items that children choose to use such as natural items that they collect or general items that are found around the home or setting. By using loose parts in their play children can follow their interests, develop curiosity and experiment in their own way (Play Scotland, no date). Children can choose resources, objects and components of the environment and use them in a variety of different ways depending on their interests which can offer many learning opportunities and make children's learning variable and flexible (Lippman and Matthews, 2020). Cohen and Waite-Stupiansky (2020) state that everyone can access nature regardless of their age, stage of development or resources and emphasises the curiosity of maths and science concepts as an outdoor environment is explored. Children develop at different stages, but the outdoor environment is accessible to every child and can support their learning, including children with additional learning needs who may need more support from the adults (White, 2011).

The curriculum for funded, non-maintained nursery settings points out that children should be given time to explore the properties of different materials and use them in their own way, promoting children to explore, investigate and discover (Welsh Government, 2022a). Children need to be given the opportunity to revisit activities numerous times as learning is repetitive, much practice is needed to master skills (Bilton, 2010). Bruner's spiral curriculum supports this as children return to the same topics over again to revisit and practice skills. Bruner believes that children are problem solvers from birth and are capable of learning any topic as long as it is presented in the correct way, supporting their age and stage of development (McLeod, 2023).

Reference List

- Bilton, H. (2010) *Outdoor learning in the Early Years: management and innovation*. 3rd edn. Oxon: Routledge.
- Cherry, K. (2022) *Kolb's Cycle of Learning*. Available at: <https://www.verywellmind.com/kolbs-learning-styles-2795155> (Accessed: 25 September 2023).
- Cohen, L. and Waite-Stupiansky, S. (2020) *STEM in Early Childhood Education: How science, technology, engineering, and mathematics strengthen learning*. Oxon: Routledge.
- Dowers, L. (2023) [personal image].
- Ernst, J. and Tornabene, L. (2012) 'Preservice early childhood educators' perceptions of outdoor settings as learning environments', *Environmental Education Research*. Available at: <http://dx.doi.org/10.1080/13504622.2011.640749> (Accessed: 25 September 2023).
- Froebel Trust (no date) *Training and resources: Children and nature*. Available at: <https://www.froebel.org.uk/training-and-resources/children-and-nature> (Accessed: 28 September 2023).
- Gill, T. (2010) *Nothing ventured.....Balancing risks and benefits in the outdoors* [document]. English Outdoor Council.
- Grigg, R. and Lewis, H. (2016) *A-Z of learning outside the classroom*. London: Bloomsbury Education.
- Jacobson, R. (2023) *Metacognition: How thinking about thinking can help kids*. Available at: <https://childmind.org/article/how-metacognition-can-help-kids/> (Accessed: 28 September 2023).
- Lippman, P. and Matthews, E. (2020) 'Affordance theory in relationship to the learning environment', *Encyclopaedia of Educational Innovation*. Pp.1-6. Available at: https://link.springer.com/referenceworkentry/10.1007/978-981-13-2262-4_190-1 (Accessed: 28 September 2023).
- Little, H. (2015) 'Mothers' beliefs about risks and risk-taking in children's outdoor play', *Journal of Adventure Education and Outdoor Learning*, 15(1), 24-39. Available at: <http://dx.doi.org/10.1080/14729679.2013.842178> (Accessed: 25 September 2023).

- Little, H. and Eager, D. (2010) 'Risk, challenge and safety: implications for play quality and playground design', *European Early Childhood Education Research Journal*, 18(4), 497-513. Available at: <http://dx.doi.org/10.1080/1350293X.2010.525949> (Accessed: 25 September 2023).
- McLeod, S. (2018) *Jean Piaget's Theory of Cognitive Development*. 'Simply Psychology'. Available at: <https://www.fwsolutions.net/wp-content/uploads/2020/01/cognitive-development-theory.pdf> (Accessed: 25 September 2023).
- McLeod, S. (2023) *Vygotsky's Sociocultural Theory of Cognitive Development*. Available at: <https://www.simplypsychology.org/vygotsky.html> (Accessed: 25 September 2023).
- McLeod, S. (2023) *Jerome Bruner's Theory of Learning and Cognitive Development*. Available at: <https://www.simplypsychology.org/bruner.html> (Accessed: 25 September 2023).
- Moser, T. and Martinson, M. (2010) 'The outdoor environment in Norwegian kindergartens as pedagogical space for toddlers' play, learning and development', *European Early Childhood Education Research Journal*, 18(4), 457-471. Available at: <http://dx.doi.org/10.1080/1350293X.2010.525931> (Accessed: 23 September 2023).
- Pinterest (2019) *Lawn and garden* [image]. Available at: <https://www.pinterest.co.uk/pin/339951471852774541/> (Accessed: 21 September 2023).
- Play Scotland (no date) *Loose parts play*. Available at: <https://www.playscotland.org/wp-content/uploads/1-Loose-Parts-Play.pdf> (Accessed: 28 September 2023).
- Robertson, J. (2017) *Messy Maths: A playful, outdoor approach for Early Years*. UK: Independent Thinking Press.
- RSPB (2013) *Connecting with nature*. Available at: <https://www.rspb.org.uk/globalassets/downloads/documents/positions/education/connecting-with-nature-report.pdf> (Accessed: 24 September 2023).
- Ryder-Richardson, G. (2013) *Creating a space to grow: Developing your enabling environment outdoors*. 2nd edn. Oxon. Routledge.

Start Healthy (2023) *Bugs-main* [image]. Available at:

<https://www.starthealthy.com/issue/issue-13/attachment/bugs-main/> (Accessed: 21 September 2023).

Tovey, H. (2013) *Bringing the Froebel Approach to your Early Years practice*. Oxon: Routledge.

Waite, S. (2011) *Children Learning Outside the Classroom: from birth to eleven*. London. SAGE Publications Ltd.

Waller, T. (et al) (2010) 'The dynamics of early childhood spaces: opportunities for outdoor play?', *European Early Childhood Education Research Journal*, 18(4), 437-443. Available at: <http://dx.doi.org/10.1080/1350293X.2010.525917> (Accessed: 23 September 2023).

Welsh Government (2022a) *A curriculum for funded, non maintained nursery settings*. Available at: <https://hwb.gov.wales/api/storage/b1801d78-38c3-4320-9818-d9996c21aef8/220914-a-curriculum-for-funded-non-maintained-nursery-settings.pdf> (Accessed: 17 September 2023).

Welsh Government (2022b) *Curriculum for Wales – Mathematics and Numeracy*. Available at: <https://hwb.gov.wales/curriculum-for-wales/mathematics-and-numeracy/> (Accessed: 17 September 2023).

Welsh Government (2022c) *Curriculum for Wales – Science and Technology*. Available at: <https://hwb.gov.wales/curriculum-for-wales/science-and-technology/> (Accessed: 17 September 2023).

White, J. (2011) *Outdoor provision in the Early Years*. London: SAGE Publications Ltd.

Wilson, R. (2018) *Nature and young children: encouraging creative play and learning in natural environments*. 3rd edn. Oxon: Routledge.

Woodland Trust (no date) *Outdoor learning pack for primary school teachers in Scotland, England, Northern Ireland and Wales*. Available at: <https://www.woodlandtrust.org.uk/media/43645/outdoor-learning-resource-pack.pdf> (Accessed: 24 September 2023).