

For this assessment I have submitted the following:

**Component 1:** Picture of outdoor environment (\*also included in Sway presentation)

**Component 2:** Outdoor learning experiences (\*also included Sway presentation -Sent via email)

**Component 3:** Risk benefit assessment

**Component 4:** Role of the adult

Please acknowledge this is my own work and AI has not been used.

**Part 1: Picture of a Forest school environment**



Figure 1: Oaten, R (2025) Personal image of Forest School environment.

## **Part 2: Outdoor Learning experiences**

### Session Information

Location: Forest School area

Date: 27.09.2026

Age of children: 3-4 years

Number of children attending: 15

Number of adults supporting: 3

Adult: Child ratio: 1:5

Session duration: 1.5 hours

Lead Practitioner: Rebecca Oaten

### **Inspiration and Approach**

Recent observations show a growing interest in seasonal changes, with children noticing fallen leaves, changing colours and natural treasures. This inspired the theme 'Seize the Season', giving children opportunities to explore these changes through first-hand experiences.

The session is also influenced by Froebel's principles of Life, Beauty and Knowledge, using nature as a rich environment for learning (Froebel Trust, n.d.). Children will be encouraged to explore freely, follow their interests and notice the beauty and patterns of the natural world. Through play, observation, discussion and investigation, they will develop their knowledge while building mathematical and scientific thinking.

**Learning Experience One:** Sorting, classifying and comparing natural treasures

**We are ambitious, capable learners who:** Can explain the ideas and concepts they are learning about. Curriculum for Non-Maintained Nursery Settings (Welsh Government, 2022).

**Developmental Pathway: Exploration**

- **I need to:** compare, sort and classify
- **I am learning to:** notice shape, symmetry and pattern in the natural and built environment
- **My exploration is enhanced by adults who:** support and develop mathematical and scientific concepts and language in meaningful ways.

**Provocation**

Children will be encouraged to explore a range of natural materials found within the Forest School environment, such as leaves, sticks and seeds. Through collecting, handling, observing and discussing their discoveries, children will be invited to notice and describe similarities and differences between objects and to sort and classify them according to their own ideas and chosen criteria. Children may choose to group objects by colour, shape, size, texture, weight or other features they notice. The experience will remain open-ended, allowing children to develop their own classifications and understand that objects can be sorted in different ways.

**Resources**

- Leaves
- Sticks
- Pinecones
- Seeds
- Stones
- Buckets baskets, trays and hoops to support collecting, grouping and
- Sorting
- Pencils
- Clipboards and paper
- Tarpaulin

**The Role of the Enabling Adult**

Adults will support and extend children's learning through open-ended questioning, encouraging children to explain and justify their thinking. Adults will observe children's interests and respond to their ideas, building on their existing knowledge and extending their understanding. Children will be supported to make comparisons between objects, considering features such as weight, texture, colour, shape, size and length. Adults will introduce and model language such as same, different, heavier, lighter, larger, smaller, longer, shorter, curved and straight. Throughout the experience, adults will engage the children in a shared dialogue, encouraging them to explore ideas, solve problems, clarify their thinking and reflect on their discoveries. Adults may support children to develop their ideas by asking questions such as:

- "I wonder why these belong together?"
- "Could we sort them another way?"
- "What do you notice about these?"
- "How are they the same? How are they different?"

**Reflection**

Children will be supported to observe each other's collections, sharing thoughts and explaining their thinking. Adults will model 1:1 Counting as they help the children explore their treasures. Adults will provide mark-making resources such as clipboards, pens, paper and pencils for children to make jottings, represent their findings and record their collections.

**Learning Experience Two: Patterns in Nature**

**We are enterprising, creative contributors who:** Connect and apply our knowledge and skills to create ideas and products. Curriculum for Non-Maintained Nursery Settings (Welsh Government, 2022).

**Developmental Pathway:** Exploration

**I need to:** Explore, investigate and discover.

**I am learning to:** Develop my creative and critical thinking through my explorations.

**My exploration is enhanced by adults who:** Support, celebrate and encourage my curiosity.

**Provocation**

Take the children to the Forest School area and sit together around the log circle. Begin by sharing the book 'Swirl by Swirl' by Joyce Sidman. Encourage the children to look closely at the illustrations and talk about the different patterns, shapes and spirals they can see. Invite the children to explore the Forest School area and look carefully for patterns in the environment. Encourage them to notice spirals, lines, swirls, spots, stripes, repeating shapes and colours. They might discover patterns in snail shells, flowers, leaves, tree bark, feathers, stones or the veins of leaves. Encourage the children to look underneath logs, stones and pieces of bark to see whether they can find insects or other minibeads with interesting patterns on their bodies. Provide opportunities for children to collect and use natural materials to create their own patterns and transient art. They could arrange leaves, sticks, stones, pinecones and other natural materials into repeating patterns, symmetrical designs or spirals. Use the iPads to photograph interesting patterns discovered during the exploration and the children's own transient art creations. The photographs can be used later to revisit what patterns the children found.

**Resources**

- Natural materials gathered within the environment- Leaves, sticks, stones etc.
- iPads
- Large tarpaulin to provide a space for children to create their transient art and patterns
- Collection baskets

- Bug viewers/magnifying pots
- Magnifying glasses
- Swirl by Swirl book by Joyce Sidman

### **The Role of the Enabling Adult**

As children explore, adults can introduce and discuss mathematical ideas such as repeating patterns, symmetry, shapes and sequences. Encourage children to describe what they notice and explain how they know something is a pattern.

Adults will support children to share their ideas and explain how they have organised their materials. Adults to use open ended questions to spark discussion:

- What pattern have you found?
- What do you notice about it?
- Can you find something that repeats?
- Is your pattern symmetrical?
- What comes next in your pattern?

Adults should follow children's interests and fascinations, allowing them time to explore, investigate and revisit their discoveries.

### **Reflection**

Children will be encouraged to revisit and share photographs of the patterns they discovered and the transient art they created. Using the floor book, children can reflect on their findings, compare patterns and discuss their ideas with their peers.

Adults will support children to talk about what they noticed, what interested them and what they would like to explore further. Children may be encouraged to look for similar patterns within the indoor environment, at home or during future Forest School sessions, helping them to make connections between their experiences and the wider world.

**Learning Experience Three: Nature Shelters**

**We are ambitious, capable learners who:** Set themselves high standards and seek and enjoy challenge.

Curriculum for Non-Maintained Nursery Settings (Welsh Government, 2022).

**Developmental Pathway: Exploration**

**I need to:** Develop my imagination in a variety of ways

**I am learning to:** Explore the properties of materials

**My exploration is enhanced by adults who:** Support and develop mathematical and scientific concepts and language in meaningful ways

**Provocation**

Take the children to the Forest School area and provide natural loose parts, fabrics, ropes and pegs. Ask, "I wonder what we could create with these?" Invite children to share their ideas with the group.

Encourage children to create something of their choice, independently or collaboratively. Invite them to explore the environment and collect natural resources, such as sticks, leaves, stones and bark, to enhance their creations.

As children build, arrange and manipulate materials, encourage them to explore position, balance and different ways of joining materials. Children may create dens, shelters, animal homes, pathways, or little worlds of their own.

Encourage the children to photograph their creations using iPads to revisit and discuss their ideas later.

**Resources**

- Branches
- Logs
- Stones and pebbles
- Bark

- Pine cones
- Leaves and flowers
- Collection baskets
- iPads
- Large tarpaulin
- Fabric pieces, blankets, scarves and camouflage netting
- String and rope
- Wooden pegs and clips
- Crates

### **The Role of the Enabling Adult**

Adults will support children to explore mathematical concepts including shape, space, position, comparison and measurement through meaningful hands-on experiences. Children should be encouraged to describe the shape, size and position of objects and explain their thinking as they build and create. Adults should support children to try things out, test ideas and solve problems. Adults will encourage the children to investigate different materials, modelling new vocabulary. Adults will observe, listen and ask open-ended questions such as:

- What shapes can you see in your structure?
- Which materials work best?
- How could you make it taller?
- How could you make it stronger?
- Who might use this shelter?
- Can you find another material that would work in the same way?

Adults should remain responsive to children's fascinations and ideas, allowing children to direct the experience.

### **Reflection**

Children will be encouraged to revisit photographs of their creations and share their ideas

with their peers. They may describe what they built, how they used the materials and any challenges they may have encountered. Adults will support children to reflect on what they discovered about shape, space and materials, encouraging them to compare structures and consider different ways of building and creating. Children may also be invited to share the stories and meanings behind their creations, recognising the role of imagination and symbolic play within their learning.

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| Name of activity:             | <b>Part 3: Risk Benefit Assessment</b><br>Forest School- Seize the Season                                                                                                                                                                                                                                                                                                                               |
| Description of activity       | Offering the children a range of exploration experiences in nature                                                                                                                                                                                                                                                                                                                                      |
| Ages of children taking part  | Ages: 3/4                                                                                                                                                                                                                                                                                                                                                                                               |
| Number of children attending  | 15                                                                                                                                                                                                                                                                                                                                                                                                      |
| Number of staff attending     | 3 (this includes additional staff member, Miss B who will be supporting child A).                                                                                                                                                                                                                                                                                                                       |
| Equipment or resources needed | <ul style="list-style-type: none"> <li>• Mobile telephones</li> <li>• List of emergency contacts</li> <li>• First aid kit</li> <li>• Any medication required by the children i.e. asthma pumps</li> <li>• Wet weather gear for staff and children</li> <li>• Wellies for staff and children</li> </ul>                                                                                                  |
| Any adjustments made          | <ul style="list-style-type: none"> <li>• Child A additional support: In line with the support outlined in child A's IDP, an additional member of staff (Miss B) will support him during the transition to Forest School and remain with him throughout the session. His visual schedule and Now and Next board will be used to provide predictability and reduce anxiety around transitions.</li> </ul> |

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|  | <ul style="list-style-type: none"><li>• Staff to review children's medical information and ensure they are aware of any allergies</li></ul> |
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| Risk Level Key |   |
|----------------|---|
| Very Low Risk  | 1 |
| Low Risk       | 2 |
| Moderate Risk  | 3 |
| High Risk      | 4 |
| Very High Risk | 5 |

| The hazard/<br>activity                        | What is the<br>risk?                           | Who is at<br>risk?    | Risk<br>rating<br>before<br>control<br>measures | Risk benefits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Control Measures                                                                                                                                                                                                                                                                                                                                   | Risk<br>rating<br>after<br>control<br>measures |
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| Exploration<br>of the<br>Forest<br>school area | Low hanging<br>branches/<br>broken<br>branches | Staff and<br>children | 2                                               | <p><b>Spatial awareness:</b> Provide opportunities for children to judge height, distance and space as they move over, under, around and through natural obstacles.</p> <p><b>Physical skills:</b> Encourage children to bend, crouch, balance and move their bodies in different ways to navigate the environment.</p> <p><b>Risk awareness:</b> Support children to recognise potential hazards and make informed decisions about how to move safely.</p> <p><b>Developing an understanding of how</b></p> | <p><b>Pre-session site check:</b> Check the area before the session and identify low-hanging branches.</p> <p><b>Remove hazards:</b> Low branches presenting a significant hazard are safely cut back before the session.</p> <p><b>Safety discussion:</b> Children are supported to identify potential hazards and discuss how to move safely</p> | 1                                              |

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|  |  |  |  | <p><b>things work:</b> Provide authentic opportunities for children to explore cause and effect as they interact with and navigate the natural environment. opportunities for children to explore how weather and other natural processes can affect the environment.</p> <p><b>Opportunities for mathematical language:</b> Encourage children to use positional language such as over, under, behind, around and through as they explore.</p> <p><b>Curiosity and communication:</b> Encourage children to share observations, ask questions and discuss their ideas about the natural environment, e.g. "What do you notice about this branch?" , "Why is it lower than the others?".</p> | <p>around them.</p> <p><b>Adult supervision:</b> Appropriate adult supervision maintained throughout the session.</p> |  |
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| Exploration of the Forest School Area | Children exploring beyond boundaries/ becoming separated | Children | 4 | <p><b>Developing confidence:</b> Exploring the outdoors independently. Developing independence by making decisions about how to explore within agreed boundaries.</p> <p><b>Well-being:</b> Building self-esteem through managed risk taking.</p> <p><b>Safety awareness:</b> Learning to recognise and respect boundaries and understand ways to keep them safe.</p> <p><b>Mathematical development:</b> Judging distance, navigating space and exposure to mathematical language such as, near and far.</p> <p><b>Observation:</b> Opportunities to observe a wider variety of plants, flowers, insects and habitats.</p> | <p><b>Boundary flags:</b> To clearly define boundaries and explained to all the children before entering Forest School.</p> <p><b>Rules:</b> Adults to revisit and reinforce the rules, including where the children can explore.</p> <p><b>High Visibility:</b> Children to wear high-visibility vests when in the Forest School environment.</p> <p><b>Ratio:</b> Correct adult to child ratios. Adults to remain vigilant and be strategically positioned.</p> <p><b>Headcounts:</b> Regular</p> | 2 |
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|                                       |              |                    |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | headcounts to be made by supervising adults.                                                                                                                                                                                                                                                                                                                                                                         |   |
| Exploration of the Forest school area | Toxic plants | Staff and children | 3 | <p><b>Recognise that some things are unsafe:</b> Develop children's awareness of potential hazards within their natural environment and how to respond to them safely.</p> <p><b>Take care of themselves and their environment:</b> Develop children's understanding of how to safely interact with and care for living things in their environment.</p> <p><b>Develop risk awareness:</b> Provide opportunities for children to identify potential dangers, share their ideas and make informed choices when exploring the natural environment.</p> <p><b>Develop my understanding of how things work:</b> Provides opportunities</p> | <p><b>Pre-session site check:</b> Check the Forest School area before the session and identify any potentially harmful plants.</p> <p><b>Children report unfamiliar plants:</b> Children are encouraged to tell an adult if they see a plant they do not recognise before touching or handling it.</p> <p><b>Adult supervision:</b> Appropriate supervision maintained, with adults intervening where necessary.</p> | 2 |

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|                                       |                                              |                    |   | <p>for children to explore and investigate plants, developing their understanding of the natural world and how living things differ.</p> <p><b>Communication:</b> Encourage children to share their experiences, observations and ideas about the natural environment.</p>                                                                                                                                                            | <p><b>Knowledge of allergies:</b> Staff are aware of any known allergies or relevant medical needs.</p> <p><b>First aid:</b> First aid kit available and first aid trained staff present.</p>                                                           |   |
| Exploration of the Forest school area | Slips and trips. Uneven surfaces/ tree roots | Staff and children | 3 | <p><b>Children are able to manage risks and challenge themselves:</b> Children have opportunities to assess risks for themselves, build confidence, and develop an understanding of their own strengths and abilities.</p> <p><b>Develop their spatial awareness:</b> Presenting opportunities for children to develop their proprioception, helping them understand where their bodies are in relation to other people, objects,</p> | <p><b>Circle time:</b> Take part in a discussion about potential hazards. Show an image of the Forest School environment and ask children to identify potential slip, trip or fall hazards, sharing and discussing ways we can keep ourselves safe.</p> | 2 |

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|  |  |  |  | <p>and the space around them</p> <p><b>Develop balance:</b> Presenting opportunities for children to develop their vestibular system, supporting their balance, body control and awareness of movement while building confidence in their physical abilities.</p> <p><b>Make decisions about how to move safely:</b> Children are encouraged to think about how they can move safely, consider potential hazards, and make appropriate choices for themselves.</p> <p><b>Discuss how they could do it differently or more safely:</b> Adults can encourage children to reflect on their experiences and talk about what they could change or do differently to reduce risk.</p> <p><b>Supports coordination:</b> Opportunities to</p> | <p><b>Appropriate footwear:</b> Children will be provided with suitable, secure footwear with good grip and appropriate support for the outdoor environment.</p> <p><b>Developing children's understanding of risk:</b> Staff will use encouraging language to support children to identify and manage risks for themselves, for example, "How can we move safely through this area?" supporting children's developing independence.</p> <p><b>First aid:</b> A fully stocked first aid kit will be taken to</p> |  |
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|  |  |  |  | <p>climb, jump and run. Helping children to develop their coordination and become more confident in controlling their movements.</p> <p><b>Develop core strength:</b> Presenting opportunities such as climbing, balancing, crawling for children to develop their core strength through a range of physical movements.</p> <p><b>Opportunities to experience joy in physical activity:</b> Encouraging children to experience joy, enjoyment and a sense of achievement through movement, supporting their physical and emotional well-being and helping them to develop a positive relationship with physical activity.</p> <p><b>Develop resilience</b> When children experience manageable challenges, they learn to persevere, try again, accept disappointments and become</p> | <p>the Forest School area.</p> <p><b>First aid-trained staff:</b> Appropriate staff will hold current first aid training certificates.</p> <p><b>Communication:</b> A mobile telephone and relevant emergency contact details will be available throughout the session so that staff can seek additional assistance if required.</p> <p><b>Adult supervision:</b> Appropriate supervision maintained, using professional judgement to balance safety with children's independent</p> |  |
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|                                       |                |                    |   | more resilient learners.                                                                                                                                                                                                                                                                                                                                                                                                                 | <p>exploration and managed risk.</p> <p><b>Pre-session site check:</b> Staff to complete an initial sweep of the Forest School area before each session to identify significant hazards. Identified hazards to be removed.</p>                  |   |
| Exploration of the Forest school area | Rubbish/debris | Staff and children | 2 | <p><b>Environmental Awareness:</b> Developing an understanding of how their actions can impact the natural world and the outdoor spaces they use.</p> <p><b>Respect and Care:</b> Encouraging children to show care, respect and consideration for natural environments, plants and animals.</p> <p><b>Wildlife Protection:</b> Creating opportunities to discuss how litter and waste can affect wildlife, habitats and ecosystems.</p> | <p><b>Pre-session site check:</b> Adults to identify and remove any hazardous rubbish or debris.</p> <p><b>Appropriate equipment:</b> Adults to carry rubbish bags, litter pickers and protective gloves to safely remove any litter found.</p> | 1 |

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|  |  |  | <p><b>Sustainability:</b> Introducing early concepts of recycling, reusing materials and reducing waste through real-life experiences.</p> <p><b>Sense of Belonging:</b> Supporting children to develop a sense of ownership and responsibility for their Forest School environment.</p> <p><b>Curiosity and Enquiry:</b> Encouraging children to notice, question and investigate changes within the natural environment.</p> <p><b>Well-being and Connection to Nature:</b> Supporting children to develop positive relationships with the natural environment and value outdoor spaces.</p> | <p><b>Adult supervision:</b><br/>Children reminded not to touch rubbish or unknown objects and to inform an adult if they find anything.</p> <p><b>Boundaries and expectations:</b> Class discussion and rules made clear with children before exploration begins.</p> <p><b>Hazardous waste:</b><br/>Removed by adults only, with the area temporarily cordoned off if immediate removal is not possible.</p> <p><b>First aid kit:</b> Staff aware of procedures in the event of cuts, scratches or contact with waste materials.</p> |  |
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#### **Part 4: The Role of the Adult**

Awe and wonder are central to young children's exploration of the world, providing a foundation for curiosity, questioning and investigation (Welsh Government, 2022). Whether observing shadows, digging for worms, or questioning why leaves fall from trees, children are naturally driven to explore, investigate and make meaning from their first-hand experiences. The Curriculum for Wales (Welsh Government, 2022) recognises this curiosity as a valuable tool for developing mathematical and scientific thinking through authentic, real-life contexts, identifying three key enablers: effective environments, engaging experiences and enabling adults. While rich environments and experiences provide the foundations for learning, it is the enabling adult who plays a crucial role in creating the conditions in which children's curiosity can flourish. This involves more than responding to questions or introducing mathematical and scientific concepts, it requires mindful decisions about the resources provided, the environments created and, importantly, the adult's own behaviours and interactions. As the National Day Nurseries Association (2025) highlights, enabling adults can nurture and extend children's scientific and mathematical learning by recognising their curiosities, questions and explorations. The adult therefore supports children to become autonomous learners while transforming everyday outdoor encounters into meaningful opportunities for mathematical and scientific thinking.

This approach reflects Froebel's belief that children's learning should be rooted in regular, first-hand experiences of the natural world (Froebel Trust, n.d.). His emphasis on unity and connectivity highlights the value of children returning to familiar places and noticing change over time. The outdoors therefore provides an authentic context for mathematical and scientific ideas to emerge naturally. Through observing seasonal changes, measuring growth, counting seeds, recognising patterns and investigating decay, children develop understanding through meaningful experiences rather than isolated, adult-directed activities. Everyday encounters, such as seeds growing or fruit becoming compost, can prompt questions, predictions and investigations, helping children experience mathematics and science as interconnected parts of the living world.

Froebel's emphasis on first-hand experiences and returning to the natural world can be further understood through Clark's (2023) concept of the unhurried child and Bruner's theory of the spiral curriculum, as discussed by Gibbs (2014). Clark argues that children require time and space to engage deeply with their environment, allowing opportunities for

sustained observation, questioning and investigation. This highlights the importance of providing children with the time and space to explore at their own pace, while allowing practitioners to respond sensitively to their emerging interests and ideas. Such an approach supports Bruner's notion that understanding develops through repeated encounters with experiences and ideas (Gibbs, 2014). As children return to familiar outdoor environments, they can revisit previous observations, notice changes over time and construct increasingly sophisticated mathematical and scientific understandings. The adult therefore plays a crucial role in facilitating both the time and continuity necessary for awe, wonder and deeper learning to emerge.

However, creating this time and space can be challenging within the realities of everyday early years practice. McNair and Papaspyropoulou's (2025) research into the impact of an 'accelerated childhood' culture in UK ECEC highlights how children can experience pressure to move quickly through their daily routines and transitions. Their findings suggest that children may be hurried to tidy up, get ready, use the toilet, eat or move between spaces, as practitioners work within the time pressures and set routines of the nursery day. This presents a tension for slow pedagogy. While children need time to pause, observe, explore and respond at their own pace, the organisation of the day can focus on prioritising moving from one activity to the next.

For mathematics and science, this challenge may be particularly significant. The concept of 'teachable moments' (Welsh Government, 2022) recognises that meaningful learning can emerge spontaneously from children's interests, questions and discoveries. Within a hurried environment, however, the pace of the day may leave little opportunity for practitioners to pause and further explore these moments. Little and Karaolis (2023) identify the lack of time to 'be with' children as a factor that can obstruct experiences of joy. This is particularly relevant to awe and wonder, which may emerge through children's sustained attention to something unexpected in their environment. It could therefore be argued that the issue is not only whether children have sufficient time to engage in mathematical and scientific enquiry, but whether the pace of practice allows practitioners to recognise when an ordinary moment has the potential to become something more. The Welsh curriculum's concept of sustained shared thinking describes adults and children working collaboratively to solve problems, clarify concepts and evaluate activities, with both contributing ideas towards possible conclusions (Welsh Government, 2022). Such collaboration requires time for children to articulate their thinking and for practitioners to respond, question and extend ideas. However, this does not mean that practitioners

should continually intervene or direct children's learning. Rather, skilled practitioners must make ongoing judgements about their role in the moment, when to participate actively in children's thinking, when to question or extend an emerging idea, and when to 'step back' and allow children the time and space to dwell within an experience and 'wallow' in their thinking (Bruce, 2012). This emphasis on professional judgement is also reflected in the Froebelian principle of 'freedom with guidance', whereby knowledgeable educators carefully observe children and balance autonomy with appropriate support and guidance (Tovey, 2020). In this sense, slow pedagogy complements sustained shared thinking by positioning professional judgement at the heart of responsive practice. The practitioner's role is therefore not simply to extend learning, but to recognise when further intervention may enrich children's thinking and when stepping back may provide greater opportunities for children to pursue their own curiosity, awe and wonder. This requires practitioners to resist the pressure to continually move learning forwards or towards a predetermined outcome, instead responding sensitively to the pace and direction of children's thinking. Such sustained engagement can create opportunities for deeper mathematical and scientific exploration (Bruce, 2012).

When practitioners provide children with time to explore, consideration must also be given to what the environment affords them. Resources can support mathematical and scientific thinking through opportunities to manipulate, combine, construct, compare and investigate. Play Wales (2020), drawing on Nicholson's (1971) theory of loose parts, highlights the value of open-ended resources that can be interpreted and transformed in multiple ways, enabling children to experiment and construct their own meanings. This connects with affordance theory, as the possibilities offered by a material are not necessarily predetermined, rather, children may perceive and use the same resource differently according to their interests, experiences and developing ideas. This is also reflected in the Curriculum for funded non-maintained nursery settings (Welsh Government, 2022), which recognises that loose parts can offer varied possibilities for children to explore mathematical concepts such as counting, measuring, weighing, sorting, symmetry and patternmaking. The same resource can therefore afford different forms of mathematical thinking depending on how children choose to interact with and interpret it. This places the child as an active participant in their learning, rather than a recipient of adult-directed experiences. Daly, L. et al. (2015) suggests that hands-on experiences with loose parts support children's understanding of number, classification, pattern,

measurement, quantity and spatial awareness. Similarly, children can investigate scientific concepts such as gravity, force, weight, movement, balance, light, colour and shadows through stacking, dropping, rolling, pushing and pulling. Importantly, the adult's role is not simply to provide resources, but to intentionally create an environment rich in possibilities and then observe how individual children engage with it.

Nutbrown (2012) highlights the importance of practitioners making careful observations to develop an understanding of individual children and their learning. Observation enables practitioners to recognise children's interests, interpretations and emerging understandings, allowing them to respond without unnecessarily directing the experience. Vygotsky's sociocultural perspective, as discussed by Eun (2019), emphasises the importance of social interaction and the role of more knowledgeable others in supporting children's learning. In loose-parts play, practitioners can therefore observe first and intervene purposefully through questioning, modelling or shared exploration to extend children's thinking while maintaining their autonomy.

The enabling adult's role extends beyond supporting children's thinking and learning to creating an environment where children feel able to explore with increasing independence. This requires practitioners to make careful judgements about when to intervene and when to allow children the freedom to test ideas, solve problems and take appropriate risks for themselves (Bruce, 2012).

This reflects Froebel's emphasis on allowing children freedom to explore while providing appropriate guidance to support their development (Froebel Trust, n.d.). Within outdoor play, this suggests that adults should not seek to control every aspect of children's experiences, but instead create conditions in which children can investigate, experiment and develop their own ideas. Play Wales (2023) similarly highlights the importance of adults observing children during risky play and considering carefully whether intervention is necessary. Rather than automatically removing potential risks, adults can allow children to assess hazards and make decisions about how to respond, supporting the development of resilience, flexibility and adaptability.

However, research conducted by Little (2015) suggests a contradiction between parents' experiences and their perceptions of risk. Although many parents recall positive experiences of outdoor play during their own childhoods and acknowledge the developmental benefits of appropriate risk-taking, concerns regarding safety can lead them to restrict their children's opportunities for independent outdoor play (Little, 2015). This is particularly relevant as risky play is characterised by uncertainty, challenge and an

element of risk (Little and Eager, 2010). As a result, early years settings may face increasing pressure to minimise risk, despite the recognised benefits of challenging outdoor experiences. At a time when opportunities for independent outdoor play may be becoming less common, the role of the enabling adult in facilitating appropriate risk-taking becomes increasingly important. The role of the enabling adult therefore involves balancing children's safety with opportunities for exploration, ensuring that risk is managed appropriately rather than eliminated altogether.

This balance is also significant for mathematical and scientific learning outdoors. When adults provide freedom alongside appropriate guidance, children can pursue their own ideas, questions and investigations, while practitioners support learning through sensitive observation, questioning and discussion. This creates opportunities for mathematical and scientific concepts to emerge within children's self-directed experiences, rather than being confined to adult-directed activities. The adult's role is therefore not simply to deliver mathematical or scientific knowledge, but to recognise, value and extend the learning that emerges through children's exploration while maintaining their autonomy.

This understanding of the adult as an enabler also connects with children's right to play under Article 31 of the United Nations Convention on the Rights of the Child (United Nations, 1989). Providing children with opportunities to explore, play and experience appropriate risk can therefore be understood as part of creating environments that respect children's agency while supporting their development and learning. A potential solution identified by Little (2015) is for schools and early childhood centres to provide children with greater access to outdoor play environments, both within the safe boundaries of settings and through opportunities beyond them. Such environments can provide the freedom and guidance necessary for children to explore, take appropriate risks and develop understanding through play, while enabling adults to support learning across areas such as science and mathematics. This aligns closely with the Curriculum for Wales (Welsh Government, 2022), which positions children as active participants in their own learning and recognises the importance of authentic experiences, effective environments and enabling adults in fostering curiosity, enquiry and problem-solving. Ultimately, the role of the enabling adult is not to direct children's learning, but to create the conditions in which awe and wonder can flourish, allowing children to exercise their right to play while developing increasingly sophisticated mathematical and scientific understanding through meaningful engagement with the world around them.

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