



Photo source:
Amy Curnock,
2023

“Children cannot bounce off the walls, if we take away the walls”. – Erin K. Kenny, 2013.

Welsh curriculum aims to develop the whole child, with the four main purposes to be the driving force of every learning experience. It is important that outdoor learning isn't viewed as 'extra playtime', but as an extension of the indoor classroom. The outdoor space is a classroom, without a roof! Outdoor provision can be used to optimise the learning experience, that wouldn't be realistic to achieve indoors. Where there is a water tray activity inside, there could be a giant water wall outside with pipes and buckets. Children should be able to further develop their skills, whilst benefiting from all the joyful experiences being immersed in the natural world around them can provide. Upon reflection of the following learning journey, it was observed that the children who may struggle to engage with learning indoors, find the outdoor environment more positively stimulating. Being outdoors provides an inclusive learning environment for all children, where mixed interests, strengths and abilities can thrive. This goes hand in hand with one of the main purposes of the Welsh curriculum, acknowledging our differences and developing ethical, informed citizens (GOV, 2023).

Learning journey with Nursery children.

10am- 'Sticky Story' nature walk activity

Children were taken on a nature walk around the garden area, over the tyres, over the 'bridge' and under the tree, as the adult recited the book of the week, "we're going on a bear hunt" story which the children were familiar with. Children had their piece of card and double sided sticky tape stuck on ready and were instructed to find an item in each area of the story walk. Children were able to explore the environment using magnifying glasses, rulers, and binoculars and chose which items they wanted to put on their sticky story line. Adult encouraged mathematical thought, by asking the children to identify how many birds they could see

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in the sky and count how many conkers they could find under the bushes. Children were connecting with nature and observing the natural world around them, climbing over obstacles and taking risks running across the balance beam bridge. These small moments are all contributing to big learning, and encouraging enterprising, creative contributors; a main purpose listed by the Welsh Curriculum (GOV, 2023). Children were confidently counting from 1-10, exploring different coloured leaves, shapes and textures. The adult was able to explain to the children that the yellow leaves used to be green in the summer, but have changed colour now it is Autumn. The children showed understanding of this life cycle concept, as Child A said, "This is an old leaf.. it's brown". Other children commented on the differentiation between leaf textures, some being rough, some crunchy and some soft to touch. Child B said, "I found a feather". The adult was able to ask follow on questions like, "What animal do you think the feather has come from?" and "where might a bird live?". This began a discussion amongst the children about birds, chicks and eggs. One child suggested that a bird might be living in the garden and maybe it needs a nest to live in with it's baby chicks. This curiosity sparked an entirely child led idea amongst the group, where following the sticky story activity, the children decided to make a bird's nest, independently splitting into pairs they collaborated with one another, making nests out of grass, conkers and sticks. One pair had built their nest under the bush, showing an understanding of shadows, commenting that the bird would be safe under the shade of the bush.

10.45am- Chalking number games

The adult made a hopscotch grid on concrete path using chalk. Wrote numbers 1-10 in grid. Using conkers and sticks, children had to fill each square with the matching number of natural items to number written in grid, i.e., children would put four sticks in number 4 grid, or ten conkers in number 10 grid etc. The adult was able to adapt this activity easily, by adding the giant dice. The children would then throw their stick, conker or leaf onto which number grid matches the number on the dice. Children were fully engaged in practicing number recognition and experimenting with the scientific concept of force and gravity when throwing items onto numbers. This introduced the concept that the bigger the force used to throw, the further in distance the item will travel. The adult was able to reinforce and further develop learning experience, by asking questions like, "which number is bigger?" or consider whether the weight of items influence distance item can travel, "will the leaf get to number 10, or the conker?". From this activity it was evident how much quality learning can happen outside, only requiring a simple piece of chalk!



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11.15am- Large loose parts creation

In line with the theme of 'We're going on a bear hunt' to children were shown the box big loose parts and encouraged to make a safe space to hide from the big bear in the story. The group of children used their creativity to think of a design and decided to make a tree house. Child A told the adult, "The bear can't get me up high" pointing to the top of the tree. The children had helmets and tape measures which spurred on their imagination that they were construction workers making the tree house. The children collaborated naturally in pairs and small groups, observing and recognising numbers on the tape measure. They were pulling out slats of wood and pegging the sheets of material onto the wood. Children were using mathematical concepts when arranging the wooden slats. Child B wanted two pieces of wood to match, putting a short slat up against the tree, they commented, "it's too short." Using trial and error, the child eventually found a slat that was equal length to use. The

children said they wanted to make the tree house dark so the bear couldn't see them inside. There was a mixture of yellow, green and black sheets of material. The adult asked which material would make the tree house dark inside? The children agreed that black would be best. The adult was able to extend this thinking process, by prompting a discussion about the differences between the sun and moon, daytime and nighttime and light and dark. Once the children had made the tree house dark inside, they decided to add chairs. They rolled in four tyres to sit on. There were 5 children who wanted to sit inside the tree house. Child B noticed that they didn't have enough chairs. The adult asked, "How many chairs do have?" and "how many children need a chair?" The child was able to solve this real-life maths problem, by using a basic form of data collection, comparing the number of chairs and number of children needing a chair. By having these tangible problem-solving experiences, the children are practicing a crucial skill that contributes to one of the Welsh curriculum purposes of promoting, ambitious and capable learners (GOV, 2023). They soon worked out that they needed one more tyre and rolled an extra tyre into the tree house.

When exploring the outdoors, children are inevitably going to be exposed to risks. As adults, it is our job to manage the risks appropriately rather than eliminate them all together. Children can be taught what to do when they encounter hazards, promoting the life skills of self-awareness, problem solving and independence from a young age.

Risk benefit assessment

Learning experience	Learning skills used/ benefits from experience	Hazards and associated risks	Persons at risk	Precautions taken to reduce risk of injury	Overall risk after precautions (L/M/H)
Sticky story walk	Collaboration with peers, comparing size and length, creating patterns, using mathematical language and observation skills. Understanding natural world and life cycles. Creativity collecting natural items to create sticky story picture or pattern.	Sharp objects, poisonous plants, causing cuts and severe illness.	Children and adults	Garden area visually checked before children are taken outside. Any hazards removed. Children to be adequately supervised during activities to reduce risk of harm. Children told rules of garden before going outside. ALN children to have extra support where required.	Low

Creation with large loose parts	Creativity, exploration, measuring, shapes, collaboration, communication	Splinters, injury from wood planks, injury to hands or feet from dropping logs or tyres, rope burn, falling from heights, causing bruising or severe injury.	Children and adults	Loose part creation activity monitored by adults throughout to prevent injuries. All loose parts to be visually checked for hazards by adult before being used by children.	Low
Planting wildflowers in tyre planters	Collaboration, following instructions, measuring, life cycle, understanding how plants grow, listening skills	Ingesting plants/ seeds or soil, causing illness or poisoning.	Children and adults	Wildflowers chosen for planting are non-poisonous or 'child safe' in case of ingestion. Children to be given clear instruction by adult on how to plant flowers. Adult to monitor activity throughout to ensure children are following instructions accordingly.	Low
Balancing beam games	Gross motor skills, balancing, co-ordination, direction and movement, practicing basic mathematical and positional language; 'on', 'under' and 'beside'.	Falling off balance beam causing harm and hitting head when climbing underneath balance beam, causing bumps to the head, bruising or injury.	Children	Balancing beam is positioned at a low level meaning less impact and injury if a child was to fall. Crash mats underneath beam for both safety and provision purposes. Children monitored throughout activity to ensure safety.	Low
Creating birds' nests	Collaboration, observation, science/ life cycle, identifying shapes and sizes, understanding world around us and using creativity to	Splinters from wood and harm from sharp objects, causing cuts and	Children and adults	Garden to be visually checked for major hazards prior to activity. Activity to be monitored by adult to ensure children are using safe natural materials throughout.	Low

	assemble homes for living creatures.	minor injury.			
Chalking games	Counting, recognising numbers, position, direction and movement, concept of physics/ force by throwing giant dice, turn taking and collaboration with peers.	Ingesting chalk, trips and falls on concrete, causing cuts and bruises.	Children	Children made aware of outside rules prior to going in garden. Chalking games to be done in a clear space on concrete to allow children to play games without falling into others.	Low
Playdough – animal models	Creativity, sharing, exploration of environment, use of natural materials, measuring quantities, textures, life cycles, counting, recognising shapes and sizes	Ingesting playdough and natural materials.	Children	Children verbally told not to put items in mouth. Playdough made from edible ingredients as extra precaution. Adult to monitor activity throughout.	Low
Puddle activity-floating/sinking activity	Children will use natural objects, to predict whether they will sink or float. Stones, sticks, acorns, conkers, leaves, wood and metal items.	Putting objects in mouth, drinking puddle water, getting clothes wet, slipping in puddles	Children	Children will wear welly boots and waterproofs. Children will be instructed verbally by adults on rules of garden, i.e., “we do not put our hands in our mouths in the garden”.	Low
Making Woodie the tree lunch and presenting it on a plate	Children will use utensils, mud, leaves, grass, water and sticks to create plates of food, using creativity to think of their own dish to make, exploration of natural resources around garden, turn taking, basic mathematical concepts of measuring and amounts. Children will use basic	Ingesting mud and natural objects. Getting mud or objects in their eyes.	Children	Children will be made aware of garden rules before doing activity. Including, no eating outdoor materials, using gentle hands and being aware of those around us. Adults will monitor and intervene where necessary.	Low

	chemistry concepts of mixing and observing physical change.				
Bigger than, smaller than activity	Children will collect items around garden, comparing size and lining up items in order of size. Children can go on to use weighing scales, identifying which natural object is heavier or lighter. Practicing basic mathematical concepts with items from the natural environment.	Ingesting natural items causing illness and encountering hazardous items around outdoor space causing bodily harm.	Children	Children will be verbally informed of garden rules. Adult will be monitoring activity throughout to ensure safety of children.	Low
Rolling down grassy areas	Children will roll down grassy areas. Exploring physics, comparing differing speed and force going up and down gradients in each area. Practicing spatial awareness. Children will also use tyres to roll up and down grassy areas to experiment with differences in gravity, speed and friction. Children can count how long it takes for tyre to reach bottom of hill. Practicing basic mathematical and scientific concept of gauging time.	Children rolling into railings at bottom of garden or into others, causing injury. Hazardous items in garden area. Children getting wet and muddy on grass.	Children and adults	Children will be dressed appropriately according to weather and garden conditions. Waterproofs and wellies if required. Children will be shown where they can roll and encouraged to roll one at a time. Children will be monitored during activity and assisted where necessary. Garden area will be checked for hazardous items prior to activity.	Low

Traditionally, outdoor learning has been a part of children's learning for centuries. Friedrich Froebel, 1826, acknowledged the outdoors to be a place where children can explore experimental learning, self-expression, practice trial and error, and learn a plethora of holistic knowledge from the natural environment they are immersed in (Tovey, 2013).

According to Welsh Curriculum, outdoor learning is especially important for young children. Exposure to the natural environment supports many crucial areas of their development, including their holistic growth as an individual (HWB, 2023). In turn, children become more confident in their abilities, which contributes to higher levels of engagement in activities, subsequently leading to higher levels of learning and overall achievement. All these elements work together to enable the four purposes of Welsh curriculum to be attained (Thomas, & Lewis, 2020). It is also suggested that natural outdoor spaces promote children's independence and encourage a child centred approach to learning. Children develop an awareness of their identity in the world, an understanding of nature, gain a more hands on approach to learning, practice problem solving and develop their ability to take classroom concepts out into the real world (Thomas, & Lewis, 2020).

Studies have emphasised the importance of children being in the freedom of the outdoors for the benefit of their mental health. Not having to refrain from the urge to move around and be active indoors. This enables a reduced level of stress for children, that the confines of four walls often doesn't allow. Breathing in fresh air and being immersed in the calming outdoor atmosphere also benefits children with additional learning needs, who can regularly find a loud, brightly coloured indoor classroom environment highly overstimulating (Fiskum & Jacobsen, 2013). It has been suggested that children with a lower ability in a classroom setting, are more catered for in a hands-on approach, in an outdoor learning environment, where they are fully using their senses of seeing, hearing and touching; often remaining engaged for longer periods of time. This goes on to increase the probability of attainment in learning areas such as mathematics and science (NRW, 2023). Naturally academic children, who can easily work out a mathematical problem on a worksheet, may struggle with a real-life concept of measuring the length of a tree branch. Whereas less academic children often excel in solving hands-on problems, where they can visually see and touch the mathematical problem. Providing these opportunities boosts the confidence of children who may otherwise feel like a failure, if the only opportunities they had were traditional pencil and paper activities indoors (Robertson, 2017).

It has been discussed that often teaching professionals and childcare practitioners can overcomplicate what science-based learning looks like in the early years, possibly only considering big ideas like the understanding the biology of the entire human body or the complexities of the universe and planets. Children between the ages of 3-7 years old can begin to experiment with scientific processes, sometimes without adults or childcare professionals realising. Children are learning about chemistry and physical change when they are mixing water and mud together or moulding natural playdough into a different consistency. Children are showing they have observed the basic human biology of a face, when they give their mud fairy two eyes, two ears, one nose and a mouth. They are understanding physics with the basic idea of force when observing a leaf float and a conker sink in a puddle. When children roll down the grassy hill, they are having a tangible experience of force and gravity, observing the differences in gradients. Furthermore, when children are watering plants or comparing the differing colours in leaves, they are developing their understanding of basic biology and life cycles of plants. It is important that teaching professionals think outside of the box and consider all the ways in which different play experiences are providing thought processes for children to begin to understand the foundational basis of these scientific concepts (Daniel. J, 2014).

Likewise, mathematical teaching has historically been taught sat on a chair, at a table, with a pencil and a worksheet, maybe with the help of a number line ruler. However, it is argued that anything in life can be viewed with a mathematical point of view, therefore the opportunities for mathematics outdoors are all around and can be achieved in a variety of real-life context situations. Often, children will lead the way with creative mathematical based play. In these circumstances, the best role of the adult or teacher is to stand back and observe the natural learning unfold. Children order leaves in the size of biggest to smallest and make natural patterns on the grass using conkers and sticks. They play 'What's the time Mr Wolf?' reciting the numbers from one to ten and matching numbers to each step they take. Children use chalk and a concrete floor to practice number writing and recognition, instead of filling out a worksheet. Children can explore amounts when making mud pies and practice understanding of basic mathematical language; 'more than' and 'less than'. Children identify shapes, by pointing out the triangular shaped roof on the school or the circular tyres used in the den making activity. They can practice basic collection of data by counting the number of cars that drive past the school gates. Teaching professionals can extend the learning opportunities by doing ongoing observations throughout activities and adapting learning provision accordingly (Robertson, 2017).

Welsh Government were arguably inspired by aspects of the Reggio Emilia approach when publishing the Early Years curriculum, with its emphasis on children learning from their

environment, the psychological benefits of an enriching environment and child centred approach to learning (Reggio Emilia, 2023). Children should have free movement between the indoors and outdoors, where no matter which area they station themselves in, it is positively promoting their learning and development. Adults or practitioners need to be intentional with how their environment is set up and consider whether an activity is being set up purely to tick a box, or whether it is going to embed integrated learning. If a child is using a chalk hopscotch of 1-10, when they can already count from one to ten up and down, the provision needs to be enhanced and numbers eleven to twenty should be added on with chalk. By doing this adaption, the child will further embed their understanding of numbers by using repetition, whilst still enjoying the activity they have chosen independently to play (Robertson, 2017).

Loose parts are a hugely versatile, environmentally friendly and cost-effective resource which arguably have been adopted from the widely famous Montessori approach to learning. Loose parts can be both small and large objects, made up of natural, 'real-life' objects (Isaacs, 2018). It is an increasingly valuable resource in both school settings and private early years settings, such as private nurseries and Flying Start. Unlike static materials, loose parts do not have a purpose on their own. Therefore, they encourage opportunities for imagination, curiosity and support creativity in children's play. The children can use a wooden peg as a doll, a carpet square as a seat, a stack of car tyres as a submarine and a ring of wood as a steering wheel. Children become inventors or scientists and can make their own decisions on what they need the loose parts be for their play (Hyndman and Mahony, 2018).

The practicalities of providing outdoor provision can be complex and there are limitations to consider. There is a wide lack of funding within the state education system, therefore a lack of financial aid for resources, as well as a need for training for early years staff. Curriculum requirements and time-consuming inspections cause pressure on staff. There is a concern over health and safety elements of outdoor provision, whether it be from parents/carers or school staff (Prince, 2020).

Since the Foundation Phase was incorporated for 3–7-year-olds in 2010, the Welsh curriculum have emphasised the importance of play based outdoor learning within a school setting, showing inspiration from the hands on and child centred Forest School approach. This can be somewhat conflicting for teaching professionals, due to the more institutional expectations required in a school of evidencing learning, completing baseline assessments and preparing for local authority inspections. It was discussed that there is more tolerance for children to get messy and take more risks during play in a less formal Forest School

setting, where independence, risk and a child led approach are at the forefront of their philosophy (Wainwright, 2021). Whereas, in a traditional foundation phase school setting, children are expected to practice a more adult controlled, 'careful' state of play, children have less independence and are taught the 'you must keep your uniform clean' narrative from nursery age (Rekers & Waters, 2021). Traditional schools need to be equipped with simple items such as appropriate clothing such as waterproofs and wellies for children and teachers.

For outdoor learning to be beneficial for children, teachers or practitioners leading learning need to fully understand what their role is in facilitating effective play affordance environments. In line with Welsh curriculum, learning needs to be integrated and teaching professionals need to be reflecting on their practice to ensure children are receiving optimum benefits from the environment (HWB, 2023). Past studies have explored how outdoor provision has been used to meet core aims in the curriculum. A percentage of teaching professionals found providing outdoor learning was a concern, as they commented that there is already enough pressure and enough boxes for them to tick to meet institutional requirements to teach areas such as mathematics and science, without the added requirement to provide outdoor time too. This was concluded as a problematic view and it was observed that teaching professionals need more training on how to enhance and incorporate all learning areas into outdoor experiences, rather than viewing outdoor time as an additional activity to be fitted in on top of indoor learning (Shume, 2019). There is further evidence to suggest that when professionals are inadequately trained in outdoor learning, their lack of understanding means they are unable to recognise the learning being displayed in front of them (Rekers & Waters, 2021).

Furthermore, a study into outdoor learning in the early years in Wales, found that the overarching aim for outdoor provision, was physical development with little conscious inclusion of other areas of learning development. The results of this study suggested that teaching professionals within Wales delivered mathematics aims within the indoor classroom, not outdoors (Bilton, & Waters, 2016).

Nonetheless, there is evidence that an increasing number of teachers are passionate about the benefits of providing enriching outdoor learning experiences, despite the challenges they face (Prince, 2020).

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