

Portfolio

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Part 1-Photo



Source: (Jones,2025).

Part 2

Today four children attended a wellie adventure walk to a local park. Whilst walking around the park the children spotted a fairy tree. The children screamed with excitement at the discovery and ran straight over to investigate what they had found.

All the children walked around the tree and started counting the different items that had been stuck onto the tree. The children found, flipflops, dummies, horseshoes, teapots, gloves and a birdhouse. Child A counted the flipflops and discovered there were four of them in total, which I explain that makes two pairs, child B counted the dummies and found there were five dummies, child C counted horse-shoes and said there were two on the tree and child D counted the gloves and found there to be five different coloured gloves on the tree. We all then counted the teapots together and discovered there were two teapots. Links to Maths and Numeracy AoLEs Curriculum for Wales. The children also explored the texture of the bark on the tree and said it was rough.

Child A asked, 'why there were so many items on the tree?', child B responded with, 'maybe the fairies have got them from the park, because people have forgotten them'. This was a fantastic little conversation between both children, and throughout this discovery all the children were smiling and happy with what they had been able to find independently.

I asked the children, what could be in the teapots, child C said, 'yes all the little bugs are in the teapots, to stay warm and safe', child D said 'the fairies look after the bugs'. We then saw some worms and woodlice at the bottom of the tree, the children were fascinated with how many woodlice were there and tried to count them, but the woodlice were making their way up the tree trunk. Child D said 'they are going to find their Mammy and Daddy in the teapots'. It was lovely to hear the different conversations.

Instead, they counted the worms, which were a little slower and not so many, the children all counted together and counted three worms. The child A asked, 'where do worms live?' I explained to the children that worms live underground in the soil, they make tunnels through the soil which helps the plants and trees to grow.



Source: (CELA,2016).



Source: (Martin,2024).

We then started to discuss the biology of garden worms. The children found this very interesting and were keen to find out, all about the garden worms and how they help gardens. This area also links to another of the AoLEs for the curriculum for Wales in Science and Technology. I observed the children watching the worms, as they wriggled through the soil and then burrowed back beneath the surface. Child B said 'how do the worms know where to go?'. I explained to the children that worms do not have eyes, ears or a nose but instead they feel vibrations in the ground, to keep them safe and use the muscles of their bodies to help them move around. I used my hand to try and demonstrate how worms slither through the soil.

However, the children decided they all wanted to be worms, they laid on the ground in their puddle suits and moved in all different shapes and directions across the grass. The children wanted to see who could go the furthest, we used sticks to mark each child's distance from the fairy tree to the sticks and then measured the distance using my footsteps and counted which child had gone the furthest, this activity links in with mathematics and numeracy. The children then used the sticks to draw on the wet grass, mark making and enjoying the freedom of being at one with nature. The children were very happy pretending to be worms and laughed nonstop during their exploration of moving like a worm. They also enjoyed getting messy and covered in wet grass and dirt.

As children can be curious, so after they had been worms, this is when the children lead their own activity while they were still on the ground. They started exploring the feeling of the wet grass and the texture of the mud with their hands, this was a great sensory experience for the children to have. I asked the children to describe what they were feeling, all the children said they could feel the grass being wet and the mud was like wet biscuits crumbled together. Then the children made grass angels. The children stood up to see the different patterns in the grass they had made, all the children were able to say how different the patterns were, some were bigger than others and so on. Then child D asked if the grass would go back, so I explained when the sun shines again.

After the grass angels had been made, the children made their way behind the tree and sat on the tree stumps that were behind the fairy tree, to listen to how worms help gardens. I explained to the children that worms are like nature's little gardeners, they make tunnels through the soil, which helps the water reach plant roots, worms also leave behind deposits called worm castings which become fertiliser for the soil, which helps the plants and trees grow big and strong.

Child D wanted to know why worms like being dirty, during this discussion I explained that worms breathe through their slippery skin, so they need to stay wet, otherwise if they get too dry it will make them sick. It is also important that when we pick up a worm, to handle it carefully and make sure they go back near soil so they can burrow back underneath the ground to stay safe from birds, hedgehogs and other animals they may want to eat the worms.

This outdoor adventure session can help children to learn new skills and respect nature, as well as having empathy, responsibility and promoting new connections to the world around them. The children were free to explore the area surrounding the fairy tree and enjoyed being able to ask questions, touch, smell and hear what was in the surrounding environment.

However, they were concerned that there was a birdhouse on the fairy tree and that the birds may catch the worms. The children were already showing signs of nurture towards the worms. I ensured the children that only the early bird catches the worm, so that the birds must wake up really early to catch them! I then said remember that the worms will know if there is a bird coming as it will feel the ground moving and they will go back underground to be safe. That put the children's mind at ease, and we then continued to talk about what birds may live in the small birdhouse, as the children could see different birds around the fairy tree.

There were a several different breeds of birds flying around the area, as well as some in the surrounding trees. The children were describing that the birds were different sizes, some were big, and others were small. The children identified the smaller birds as sparrows and the bigger ones as pigeons. Child C said, 'only the sparrows will be able to live in the birdhouse on the tree', to which I replied, 'why do you think only the sparrows can live there?' Child A said, 'because the pigeons are too big and will get stuck!'. These are fantastic observations that the children have made and realised that by using maths they establish that the pigeons were too big, but the sparrows were just right to fit into the birdhouse.

The wellie walk had been a great success, as some children do not have the opportunity to experience being in the outdoor environment, the children were fully engaged and happy to participate in all areas of the activities. It was lovely to see the children making their own judgment and taking own risks to further their knowledge and experience. The children enjoyed asking questions, were keen to learn about the different types of wildlife that were living in and around the fairy tree. Not only did the children learn about science and maths, but they were also able to explore on their own within a safe radius of the fairy tree, with staff supporting and observing from a safe distance. The children listened well to instructions and were aware of where they were allowed to venture and helped each other to stay safe and have fun!

The wellie walk had finished, and the children were still talking about the worms, the birds and the fun they had being worms on the grass. This continued walking back to car and the journey back to the setting, the children were laughing and happy with what they had discovered at the fairy tree and asked when they would be going on an adventure again! It was lovely experience had by me and the children and a lovely way to end the week and the children were leading themselves on their own activities, especially when they decided to make grass angels and feel the grass and mud between their fingers, this was a lovely idea from the children.

Part 3- Risk Benefit Assessment.

RISK BENEFIT ASSESSMENT

Location / Activity:	Wellie Walk/ Taibach Memorial Park	Date:	15/09/2025
Assessor:	Angharad Jones	Review date:	15/03/2026

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
Walking on wet and uneven ground.	Supporting children with feeling of different terrain underneath their wellies. Supporting children's balance and spatial awareness. Children being aware of their surroundings.	Children may fall, trip, potentially causing cuts, bruising, sprains or other injuries.	Children and adults.	Explain to the children that the ground is wet, because it had been raining. The children will need to walk first, before they run around the area. Ensure appropriate clothing are worn, puddle suits and wellies.	L
Handling worms.	Supporting children to be able to handle insects without fear. Supporting children to be kind and have empathy and respecting insects' habitats.	Children may put their hands in and around their mouths after handling the worms. Possible cause illness.	Children.	Discuss with the children about not putting their hands in or near their mouths. Ensure there is wet wipes available for the children to clean their hands after handling the worms.	L
Dogs off the lead.	Supporting children to be aware that all dogs may not be friendly. Also not to be afraid of larger animals. Giving children confidence in the outdoors.	Children may be afraid of the dogs. The dogs may knock the children over, resulting in injuries.	Children and adults.	Explain to the children, they need to be wary of dogs off the lead and away from their owners and not to touch dogs without asking the owners first. Ensure there is enough additional adults present to guide the children to a safe area, if the need arises.	M
Sharp objects, used to stuck items to the tree, such as nails or wood splinters.	Supporting the children for them to be aware of potential hazards with sharp objects, by looking first before they touch anything. It can develop hand eye co-ordination.	Children may touch a sharp object, which is on the tree, potentially causing cuts or splinters.	Children and adults.	Discuss with the children that they do not touch items on the tree, before asking an adult if it is safe to do so. Ensure there is a first aid kit available and a first aider in the group to deal with any injuries should they arise.	L

Part 4- Academic Writing

According to Kiviranta *et al.*, (2023) through studies and research it has been shown that children and young people's contact with nature can increase health and well-being. As learning environments, the outdoors can also influence children's personal and social growth, healthy development, well-being and holistic learning capabilities, through engagement and fun activities for all ages and abilities within early years education.

During the outdoor activity, the children were fully engaged, this was seen through the observations of the practitioners. The enabling adults were there to answer questions, create safe learning environment, that supports the children to be able to express their feelings, along with regulation and positive behaviours (Welsh Government, 2023). The outdoors offers chances for children to explore and be free, which should be made available for children of all ages and abilities to be involved in the outdoor learning environment, this can occur from consistent visits to appropriate local places, if the setting has no outside accessible areas, as well as access to small outdoors areas with the setting (Birth to 5 matters, no date).

A study in 2020 that spanned across one academic year. Children that partook in the programme consisted of biodiversity focused activities, showed considerable improvements in the children's mood and well-being. Children that at first had lower feelings of connections to nature became more related with nature over the year, thus suggesting that when outdoor learning is incorporated into the school curriculum, it expands children's psychological well-being and the readiness to learn all areas of learning experiences (Harvey *et al.*, 2020).

There may be some barriers to outdoor learning across the world, with several countries having to face the same issues, these issues include filling in the necessary risk assessments, organising transport to the locations, having staff members who can drive the transport, specialist equipment to enable pupils with ALN to participate. However, pupils in Finland have compulsory outdoor lessons everyday one hour in the morning and one hour in the afternoon (Rusitoru, 2023). Agreeing with the above Patchen *et al.*, (2024), state that a lack in teachers confidence when teaching outdoors, health and safety issues, school timetables, with a shortage of staff and or resources and support. With more focus on the academic side of education rather than the experiences that staff and pupils can achieve from being outdoors, along with the well-being and focus on sensory curriculum teaching.

Moreover, Fredrich Froebel (1782-1852) founded the kindergarten and was inspired by Johann Henrich Pestalozzi (1746-1827) both strongly emphasized the significance of the outdoor world and nature (Kadimba, no date) . Pestalozzi focused on field trips

and grouped his pupils by ability rather than age, Pestalozzi's theory, was built on that education must be 'according to nature', in other words for pupils to thrive, they must experience the outdoors and learn how to think and process information from observations and trial and error. Many of Pestalozzi's work is still used in education today (Silber, 2025).

Outdoor activities enhance learning opportunities by incorporating science, technology and maths within the natural environment, making the subjects more relevant and applicable to real-world situations. Solving problems outdoors encourages critical thinking, creativity, teamwork and environmental awareness, this helps pupils develop scientific skills, mathematical awareness by asking questions and building knowledge and understanding of the outdoor world (Edwards, 2024).

By introducing concepts during lessons such as change and adaptation, that links in with the Welsh curriculum AoLE's in Science and Technology (Welsh Government, 2025), children will learn that not only plants and animals have to change and adapt to their environment to survive, but humans also must adapt too (admin, 2024). What was discussed in part 2 of the assignment, with how worms live and survive without the use of eyes or a nose, but by feeling vibrations to know when danger is approaching, develops children curiosity with growth and development, the children were excited to learn about the facts regarding the biology of worms, how they moved and survived, this was seen when the children decided to explore becoming worms themselves (admin, 2021).

Following on, amongst the physical and mental benefits of being outdoors it gives practitioners and children additional choice for inclusive activities, there are more possibilities and opportunities for all children to be together, experiencing the same range of activities, thus enhancing the sensory experiences for children with ALN as well as mainstream, this would not be achievable in a classroom setting. All children are different and will engage or be interested in differentiated aspects of the environment, thus giving teachers and practitioners an opportunity to create lessons which are familiar and tailored to meet all children's needs, so the children can thrive whilst having access to outdoor space (Harvey, 2022).

Bruner and Piaget believed that children learnt most efficiently when they get information themselves, which places a smaller amount of importance on the use of instructional dialogue. However, like Vygotsky, Bruner did agree that learning happens within a community situation and believed that a teacher was a central implementor of education. The use of scaffolding in education, where the children learn through modelling and questioning only when it is necessary, whereas Vygotsky viewed the practitioner and teachers as being more involved in the delivering of the activities and verbal instructions (Hodgekiss, 2023).

Additionally, to the above, when temporary support is given within in forest school session, the forest school teacher can help children reach their full learning potential within their ZPD, in other words children not only use social interactions in class, but with help from the teacher (Vygotsky,1920, cited in Kurt,2020). During forest school or outdoor sessions, there are 3 ways for children to learn, by making or building items within their ZPD, then the teacher can facilitate modelling and demonstrate how to build sturdy structures, then prompting, where the teacher can ask the children questions of how can items be held together, what materials are needed and so on, to incorporate maths into the session, with measuring and counting the materials they will need, then fading support so after the children construct the items with sureness, the teacher offers less input, which allows the children to make decisions and take ownership of their buildings (Fedder, 2024).

Furthermore, learning in the outdoor environment can offer an expressive way to engage children in practical science, by giving the children experience of collecting and analysing data, making guesses in the real world elsewhere from the confines of the classroom. The benefits of teaching and learning science outdoors, is the natural environment, which provides children the opportunity to work in together, be motivated and add an interest in practical experiments rather than theoretical work (Association for Science Education, 2018).

Following on, science and mathematics are subjects compiling of researching, discovery and understanding the legislation that oversees the natural world. The objective of learning about natural science is to raise scientific awareness and understanding, this empowers children to develop curious minds and to begin to be captivated with science and the natural environment around them. Not only but also, it gives children the opportunity to solve problems, make informed choices and decisions (Torkos, 2021).

Moffett (2023) published a journal article about maths being everywhere. The paper questioned 15 pre-service teachers to deliver mathematics lessons outdoors, apart from the benefits of obtaining academic content, knowledge and skills, the article also recognised that further support and training would be beneficial for the teachers. This can be said for across the globe, where some teachers may not have the confidence or competence to deliver outdoor lessons.

Agreeing with the journal article above, Borsos *et al.*, (2022) also conducted their own research into how trainee teacher view outdoor education. Borsos *et al.*, surveyed 551 trainee teachers from across five European countries to get their perception on outdoor learning. The results showed that the trainee teachers found outdoor education important and real to get pupils to engage and be acquainted with nature. The trainee teachers stated that, they were not satisfied with the lack of studies regarding outdoor learning they received at university.

Harris (2022) states that during interviews of forest school practitioners, it was discovered that the practitioners identified the focus of leaning at forest school as social development, engaging in teamwork, learning to take risks and self-knowledge. The forest school leaders described learning styles as kinaesthetic, sensory and investigational. These areas of learning link into science and maths, whilst being able to experience the forest school environment. The forest school leaders also deemed themselves as implementers more so than teachers.

To conclude, there are many areas of the Welsh curriculum that can incorporate science and maths into lessons within a classroom. However, when children are learning outdoors, the children are able to make their own judgment, have freedom to explore, take risk and work in collaboration with each other on projects which the children may not have the chance to achieve within a classroom. Moving forward, giving children opportunities to have outdoor experiences has proven through research to be beneficial not only to their well-being, but the way in which children learn holistically and contribute to society and empathy towards each other's needs and abilities. These links in with Welsh Government's four purposes, in which Graham Donaldson integrated the four purposes with the new AoLE's for Wales, reiterating that value of learning through experiences (Dauncey, 2015).

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