

ECEY5005- Awe and Wonder: science, mathematics, and the outdoors.

I have not used AI within this portfolio.

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Part one: Photograph.



(Personal image, 2025)

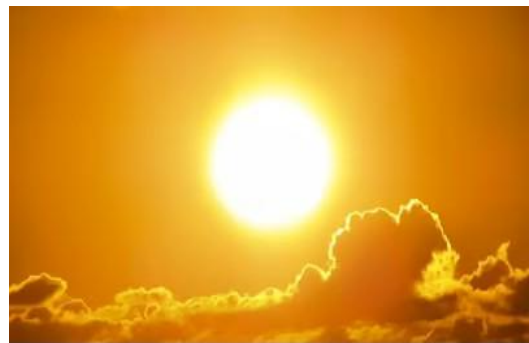
Part 2 - Learning Story: Natures classroom, sunshine, and curiosity.

The photograph taken in the park provides early years children with the opportunity of child-directed play while sparking their curiosity of the outdoors. This photo allows children to explore different textures from the trees, grass, rocks, and sand. This environment allows imaginative conversations to happen between the children and practitioner about the sun, wildlife, and forces. Within my learning story I have included measuring tapes, toy cars, and binoculars for children to include in their exploratory play.

8.45am

Figure 1- (Times of India, 2023).

The children arrived at reception with their backpacks, sunglasses, caps and smeared in sunblock ready to explore the park. The sun was shining, and it was around 25 degrees Celsius. In my group I was responsible for six children all who were five years old. My group of children were a mixture of boys and girls.



The children's excitement was evident by their cheerful laughter. I supported the children in putting on their hi 'vis jackets before we made a line. Before I had the opportunity to speak child A shouted in an excited voice "Miss birds live in the park" followed by child B shouting angrily "Will we see birds, will they steal my sausage roll like the birds in town." I responded to the children "I think this is going to be an exciting day in the park and we will have to find out if the birds are sausage roll thieves."

9.00am

We set off on our ten-minute walk to the park. On the way the children displayed excitement through cheerful laughter, and we sung wheels on the bus. As we started to approach the park, I asked the children to freeze and close their eyes. While they engaged in this child C shouted "Miss, are we close I can hear the birds singing." I then asked them to open their eyes and asked them curiously "what can you see?" In unison the children shouted excitedly in high pitch voices "it is the park! We are here! Look at the trees." We entered the park and were surrounded by the green trees; the hot sun was beaming down on us, and the sound of the tweeting birds

filled the air. We found a shaded place by a tree and placed all our stuff down before we sat for a water break.

9.30am



As we were finishing our water break, I explained to the six children this is now our time to explore and enjoy being in the park. With no explanation or expectations, I took out of my bag measuring tapes, toy cars, and binoculars.

I sat and observed the children from the shaded area as they explored the green grass, the rough rocks in awe and wonder. I listened to their conversations where they were excitedly shouting “feel this the grass is hot” child B was fascinated how rough the rocks were. While I sat an observed child A came over and asked, “Miss what are these,” they picked up the binoculars and

placed them to their eyes the wrong way round. We both chuckled and I helped them to place them the correct way. Child A sat quietly looking through the binoculars while the other children were climbing the rocks. Child C was shouting excitedly “I am the king of the castle miss, look how high I am, I am the king!”

9.45am

Child A gasped in excitement “a squirrel, everyone I can see a squirrel, come and look.” The children run over in excitement and picked up the binoculars. All six children were in complete awe of the squirrel. Not one of the children made a noise, the air was filled by the sound of heavy breathing. I asked the children “boys and girls what can you see” to which child D responded “ssh the squirrel will be scared” child A whispered, “the squirrel is hungry, but where’s his mammy?” The children observed the squirrel for around 5 minutes before the squirrel ran into the woodlands area of the park. This led to children placing the binoculars down and asking was it snack time.



10.00am

As we sat down under the tree, listening to the bird's tweet enjoying our snack. I observed the six children engaging in conversation between themselves about where the squirrels live before an excited voice screeched "look the birds live there, theirs a family of birds."

10.30am

After our snack, as the practitioner I thought this was the perfect opportunity to utilise nature as a classroom. The children had been so enthusiastic and engaged about the squirrel and the birds that it was a prime time to explore where they lived. I called the children over and we discussed the concept 'habitat.'

Child A asked in a confused voice "what is that?" We spent a few minutes listening to each other's ideas before I said, 'it's their home' child B shouted, "home it's their home." We used the binoculars to observe the birds. "What are they eating I asked." "Uch they are eating worms" shouted child B. "Look the birds have a home up there in the tree." Child E responded, "what about the squirrel I can't see his home can we make him one?"

11.00am

We came together as a group to plan what we needed. I asked the children to explore the area to look for natural resources we could use to build a habitat for the squirrels but not forgetting to look for food resources.

**11.30am.**

After thirty minutes we grouped back together. "Miss this stick will make a roof" "but miss, this grass will keep the squirrel warm" the children were all joyfully showing the resources they found. "Excellent work boys and girl" I said curiously as we constructed the habitat as part of a team. Child B said "Miss, I am

happy the squirrel has a home and food, can we come back tomorrow to see if they slept here?" before picking up a toy car and running over to the rock.

Even though the children are on school trip to the park due to their excellent attendance it was the prime opportunity to explore the area of learning science and technology within the curriculum for Wales. The children have started to build their knowledge to work towards progression step 2 where they were able to explore living things and habitats (Welsh Government, 2020).

12.00pm

I watched the children playing on the rocks with the toy cars. "Woah, look how fast this goes" shouted child A. "Mine goes faster" child C yelled. I walked over to the children and asked could I have a turn. "1, 2, 3 go" I said excitedly their eyes beamed as the cars whooshed down the rocky hill. "Miss, you lost you lost, can we try racing on the grass" child A asked excitedly "no no on the sand" asked child E.



I said, "How about we race on all the different surfaces, and we will see what is faster." First was the grass we predicted would the car be able to go fast and who's car would be furthest away from the starting line. We sat in line one to seven and after three we raced the toy cars. The car's moved slow and

did not go far. "Miss, I know we will get the soft rulers and see how far the car moved" shouted child A. "That is a great idea" as I walked to get the tape measure.

As a team three children held the tape measure and the starting line while the other three held it at the first car. "It is the number two" shouted child D. "Wow two centimetres is not far" I replied. "How about mine?" child F asked "mine was the furthest. The children measured "6 miss" "wow six centimetres is a lot further".



I suggested that we tried the rock next, we made our predictions and in unison the children agreed that it would not go far because it is bumpy. 1,2,3 whooshed the cars as they rolled down the rocks. “Oh my gosh, look how fast they are going” shouted child F. They got the tape measured and started to measure where the first car had stopped. “It is a 4 and 1” “forty-one” I said excitedly. “Can anyone remember that magic word?” “It is centimetres” shouted child E. I suggested we measured the car furthest away “6 and 1 it is” “sixty-one” I replied, and child E quickly said



“centimetres”. I then suggested that we raced on the sand. We sat on the sand; sun shining down on us and made our predictions. 1,2,3 whoosh. With disappointment child D said “Miss, it is like the grass it did not go very far, the rock wins.” “We measured 3 centimetres” said child A. “The car furthest away from the start line measured 7 centimetres” said child B.

13.00pm.

As we settled down for lunch the children were enthusiastically speaking about the car race. We discussed how pushing the cars made them roll. I introduced the concept of gravity as a magic word that pulls the object down. Child A quickly engaged “so that magic work gravity made it go faster on the rock, but why not on the grass?” Child B said, “because the grass is flat silly.”

Throughout observing the children’s conversation, they were demonstrating that they were developing their understanding and language around forces. The children were starting to explore progression step 2 identifying the effect that forces have in the area of learning science and technology (Welsh Government, 2020). However, the children excelled beyond science and technology and was also exploring the area of learning mathematics and numeracy. They are gradually starting to build their knowledge in progression step 1 using objects to measure and making predictions (Welsh Government, 2020).

14.00pm.

We collected our stuff and made our journey back to school in readiness for home time. On our way back the children were engaging in conversation about building a habitat in the playground for the bugs, birds, and squirrels. Child A was eager for tomorrow’s playtime to race the cars on the concrete. “Miss, can we race cars in the

classroom so we can see if they go fast.” Their minds filled with awe and wonder as the curiously thought of what they could create and race tomorrow.

Throughout our day at the park the children really explored the four purposes of Wales which is the foundations of the Welsh curriculum. They have confidently explored becoming ambitious capable learners through investigating and observing forces and habitats (Welsh Government, 2022). They have worked together demonstrating progression step 1 recognising and following rules in group situations in the area of learning health and wellbeing (Welsh Government, 2020).

We cannot wait to use natures classroom again on our next adventure.

Part three: Risk Benefit.**RISK BENEFIT ASSESSMENT**

Location / Activity:	Park	Date:	05 th September 2025
Assessor:	Katie Taylor	Review date:	05 th April 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 uneven ground.	Children can benefit from this activity as it will improve their balance and spatial awareness while improving their vestibular. Creates an enhanced experience which will prepare them for real life to support becoming healthy confident individuals.	Uneven surface can cause slips, trips, and falls. Hidden holes in the ground could cause the child or practitioner to fall. Fallen twigs, branches and loose soil can cause trip and fall hazards. If a child or practitioner	Children and practitioners	Children and practitioners will wear appropriate clothing. Both practitioners and children will wear appropriate footwear. No open toe or backless shoes will be worn. Walking at a slower pace until children are familiar with the surface and are confident walking over it. Practitioner will have first aid kit, with access to the child's medication if applicable.	L

	Promotes positive mental health and supports building the foundations for cognitive skills such as problem solving. Improves child's coordination and strength.	does fall or slip can lead to cuts, bruises, sprains, and broken bones. Using energy muscles will become tired can lead to child becoming distressed.		Practitioner will have emergency contacts to hand in case of emergency for the children they are responsible. Access to a walkie talkie that works to call for support if required from other practitioners on the trip.	
Collecting materials as bugs, grass, sticks and flowers when they are exploring the environment.	Support the child learning through different schemas. In this activity toy cars will be provide which will support transporting schema. Provides them with the opportunity to connection with nature while becoming aware and respectful of the environment which will also support them in achieving the four purpose ethically informed citizens.	The child/ren may wonder off to explore the environment further. Placing objects in their eyes or ears causing them to get lodged. Swallowing objects they find. Insect bites and stings if disturbing their habitat. Sharp objects such as stones and sticks causing cuts and bruises.	Children	Practitioner will always supervise children. Children will be aware of stranger danger and the importance of not speaking to strangers or wandering off. Children will be set boundaries of area they can explore and what they can / cannot pick up. For example, children will not be allowed to pick flowers or disturb habitats. Children will be set boundaries that they are not allowed to touch any animals they say in the park such as dogs, cats, birds, or squirrels. Children will be reminded of the rule that no objects are allowed to be placed in mouth, in nose or in the ears.	L

	Stimulates the senses which provides a sensory experience. Encourages firsthand experiences which can promote scientific curiosity. Will give the children the opportunity to real life experiences supports them in becoming ambitious capable learners. Promotes development in their gross and motor skills. This is due to bending, picking things up.	Damage to environment if picking flowers or disturbing wildlife. Allergic reactions to flowers, insect bites/stings. Contact with toxic fungi or bacteria.		Practitioner will have first aid kit, with access to the child's medication if applicable. Practitioner will have access to sterile water to wash eyes if something goes in the child or practitioners' eyes. Practitioner will have access to hand sanitiser and children will wash hands before leaving and upon returning. Practitioner will have emergency contacts to hand in case of emergency for the children they are responsible. Access to a walkie talkie that works to call for support if required from other practitioners on the trip.	
Climbing rocks.	Increases dopamine level which promotes overall mood. Supports hand eye coordination while improving both fine and	Trips, slips, and falls which can cause bruises, cuts, sprains, and breaks. Taking risks without adult	Children and adults.	Practitioner will always supervise. First aid kit, with access to the child's medication if applicable. Suitable footwear.	L

	gross motor skills. Provides the child with the opportunity of mental stimulation. Hand on experiences while supporting them appreciating natural resources and building their overall resilience.	supervision such as jumping of the rocks from high height.			
Exploring the area independently	Supports the child in developing their fine and gross motor skills. Allows the child/ren the opportunity to connect with nature. Builds the foundations of the child/ren becoming ethically informed citizens as they become more aware and respectful of the environment.	Child/ren wondering off to explore the area. Children speaking to strangers/ strangers approaching children. Trips and falls due to sharp or uneven surfaces. Contact with toxic fungi or bacteria.	Children and practitioner.	The children will be reminded and aware of their boundaries. This will outline clearly to children the area they are allowed to explore. Children will be informed of the area they are not allowed to explore. All children and practitioners will be wearing a hi-vis jackets so they can be easily identified. Practitioner will have first aid kit, with access to the child's medication if applicable. Practitioner will have emergency contacts to hand in case of	L

	Having the opportunities to be exploring outdoors promotes overall physical and mental health which aligns with them becoming health confident individuals. Promotes respect for nature, living things and natural habitats. Provides the child/ren with real-life firsthand experience which builds on thinking skills and learning through curiosity. This promotes cognitive function. Hand on experiences while supporting them appreciating natural resources and building their overall resilience.			emergency for the children they are responsible. Access to a walkie talkie that works to call for support if required from other practitioners on the trip. Children will be reminded of stranger danger and what to do if a stranger does approach them.	
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Weather conditions.	The sun gives children and practitioners vitamin D. Good for strong bones and supports immune system. Promotes emotional wellbeing and mental health. Children become aware of different temperatures and weather conditions.	If the weather is too hot can cause sun stroke, dehydration, sun burn. Can result in headaches and feeling sick. High winds and rain can cause slip trips and falls. Can lead to objects falling and cause life threatening conditions.	Children and adults.	There will be plenty of water breaks. Breaks will be conducted in a shaded area of the park. Children will be supported and encouraged to reapply sunblock throughout the day. Practitioner will check the weather on met office. Appropriate clothing will be worn including caps and sunglasses.	L
Walk to and from park.	Encourages the child to be aware of surroundings. Promotes physical development through walking. Enhances social skills through real life experiences such as crossing the road.	Falls, slips and trips due to not concentrating. Children running off. Traffic hazards.	Children and adults.	Practitioner and children will wear hi-vis so they can clearly be identified. Head count before, during and when arrived at destination. Appropriate footwear. Expected behaviours explained to children will road safety lesson. Practitioner will have first aid kit, with access to the child's medication if applicable. Cross and the appropriate crossings.	L

Part four- Evaluation.

The role of the practitioner can support early years children to engage with scientific and mathematics concepts in the outdoor environment. Many early years children will require enabling adults to scaffold learning to support developing the foundations of their creative and thinking skills (Early Education, 2022). According to Brodie and Lindon (2016, pp183-186) Vygotsky's theory of Zones of Proximal Development by practitioners scaffolding a child's learning it provides a child with the opportunity to be pushed beyond their current ability's. According to Bilton and Crook (2015, pp. 10) the overall attitude of the practitioner impacts how the early years child experiences the outdoors. Wilson (2018, pp. 45) agrees with the impact the practitioner has on early years children and suggests that the practitioner needs to display encouraging and curious behaviour to allow the child to keep fostering their ability to explore the environment. White (2011, pp38-38) suggests that the role of the practitioner is not to be a supervisor while in the outdoor environment but to step into the children's imagination this allows rich interactions that supports the child to appreciate the natural environment. Waters and Rekers (2019) suggest that a child's social skills and over well-being gained greater benefits when the enabling adult was attuned to the child's questions and promoted the opportunity for child led learning by supporting measured risk taking.

Practitioners nurturing the development with the whole child in mind supports the child developing holistically and providing opportunities to explore the outdoors and learning in a natural environment can support holistic development (Wilson, 2018, pp.58). Practitioners allowing children to learn outside the classroom and explore nature can be traced back to the 18th century, with Pestalozzi Swiss pioneer of nursery education advocated for practitioners to lead children beyond the classroom and out into nature (Grigg and Lewis, 2015, pp.31).

While mathematics and science are separate subjects the Welsh Government (2022) sets out in their curriculum that both areas of learning overlap and can be developed to underpin one and another. According to the Welsh Government (2016) exposing an early year's child to Science, Technology, Engineering and Maths (STEM) influences their development in fostering long lasting knowledge which will support them into adult hood. Early years children are being exposed to mathematical and

scientific concepts is suggested to be an influential educational objective (Clements and Sarama, 2016, pp.75-94). Murray (2016) agrees with the influential impact maths and science has on providing lifelong outcomes particularly for economic, socio-emotional and health and environmental well-being. Practitioners allowing and promoting opportunities for STEM and learning in a natural environment aligns with the Welsh Government vision for children to achieve the four purposes (Welsh Government, 2022). However, Clements and Sarama (2016, pp 75-94) suggest that early year's children are not given ample opportunities to discover or build their knowledge of mathematic and scientific concepts.

Boride (2018, pp135-136) highlights Piaget's theory that children's understanding is developed as early as 0-2 year's old also known as the sensorimotor stage and for an early year's child to develop their understanding of mathematical concepts they need to be provided with hands on experiences. Piaget suggested through his theory that from birth children had the capability to gain knowledge through their environments, through Piaget theory he suggests that by allowing a child to experience new concepts it can place a child in the disequilibrium stage which allows them to develop and be challenged (Burnett and Cremin, 2018, pp.116-117). Frobel had similar beliefs to Piaget with the child leading, Cooper et al (2025, pp.21-32) outlined the inspiration Frobel has made with his philosophy of the importance education during the early years has beyond childhood but into adulthood and for this to be achieved there needs to be opportunities to learn through play and exploring. Practitioners supporting mathematical and scientific concepts through the Frobel approach can provide the opportunities to explore how the child makes sense of the world around them, it provides opportunities of authentic learning of scientific and mathematic concepts through real life experiences (Tovey. H, 2013, pp. 1-10). Frobel's theory suggests that practitioners need to support the early years child by providing them with specific resources that will support thinking creatively, these carefully chosen resources will lead to a deeper level of investigation and exploration while developing science and mathematics concepts however, Frobel's approach goes beyond education and has a spiritual level to it as he believed the resources were spiritual (Joyce, 2012, pp39-43).

The role of the adult to support early years children learning through science is to maximise the use of the outdoors, this allows the opportunity for the early years child

to be exposed to visual and sensory stimulation (Duxbury, 2018). Early years children have an instinct to the outdoors, by adults allowing an early year's child to investigate and explore the outdoor environment it exposes them to natural environments which supports developing scientific concepts as they are experience biological, chemical and earth and physical science hands on (Campbell and Speldewinde, 2021, pp 202-218). Johnson and Watts (2018, pp.130-143) agree with the role of the adult however, they suggest this starts with babies and by them experience opportunities to observe the outdoor environment in all weathers enables them to start visually seeing different tones and shapes which allows the process to begin of building their mathematical knowledge.

Dame Tickell (2011) cited by Sargent (2015, pp.6) highlights how practitioners need to place an emphasis on how children develop their understanding to be able to extend the child's provision through play and exploring, Tickell suggests that being outdoors can promote science and mathematics by the early year's child exploring this supports development cognitively, emotionally and socially. Supporting children to build their scientific and mathematical knowledge through the outdoors is not a straightforward process, and they will revisit the concepts over time to build their confidence, through having access to the outdoors they are able to build their meta-cognition development which allows them to make sense of the world around them (Keith, 2017, pp49-51).

However, Ernst (2013) suggests that adults can be the main barrier to stop early years children accessing the outdoor environment to support their learning as adults are guided by their own beliefs and experiences, so if they have certain views on the outdoors this will be display in practice through the opportunities they provide to the children. In practice this can be displayed through Bronfenbrenner's ecological system, his theory of the microsystem suggests that the adults' attitudes and beliefs can impact what the child is exposed to and the experiences they receive (Strindberg, 2025).

Early years children having access to outdoor environments goes beyond mathematical and scientific concepts but provides the opportunity to explore and investigating the world around them while initiating their own learning in an open space (Yilmaz, 2016, pp.423-437).

References.

- Bilton, H. and Crook, A. (2016) *Exploring outdoors ages 3-11 : a guide for schools*. 1st ed. Abingdon, Oxon ; Routledge. Available at: <https://doi.org/10.4324/9781315747774>. (Accessed: 14 September 2025).
- Brodie, K. (2018) *The holistic care and development of children from birth to three : an essential guide for students and practitioners*. London, [England] ; Routledge.
- Celemnts, D.H. and Sarama, J., (2016). *Math, Science, and Technology in the Early Grades. The Future of Children*, 26(2), pp.75–94. Available at: <http://www.jstor.org/stable/43940582> (Accessed 21 September 2025).
- Cooper, M., C.T, Siu., M.B, McMullen., J, Rockel and S, Powell (2025) *Pedagogies of care with one-year-olds : exploring Froebelian connections in four countries*. 1st ed. London: Bloomsbury Academic. Available at: <https://doi.org/10.5040/9781350367395>.
- Coral Campbell and Chris Speldewinde (2021) *Science Learning through the Environment* pp. 202-218 *Science in Early Childhood* Cambridge University Press. Available at: [Kortext Reader](#) (Accessed: 21 September 2025).
- Duxbury, T. (2018) *Exciting Science how can I make science exciting and inclusive?* Available at: [H83 ExcitingScience.pdf](#) (Accessed: 21 September 2025).
- Early Education The British Association for Early Childhood Education (2022) *Science all around* Available at: [Science all around - Early Education](#) (Accessed: 21 September 2025).
- Ernst, J. (2013) Early childhood educators use of natural outdoor settings as learning environments: an exploratory study of beliefs, practices, and barriers', *Environmental Education Research*, 20(6), pp. 735–752. [doi: 10.1080/13504622.2013.833596](https://doi.org/10.1080/13504622.2013.833596). (Accessed: 21 September 2025).

Grigg, R. and Lewis, H. (2016) *A to Z of learning outside the classroom*. London: Bloomsbury. Available at: [A-Z of Learning Outside the Classroom - EBSCO](#) (Accessed: 21 September 2025).

Jan White (2011) *Outdoor Provision in the Early Years*. Los Angeles: SAGE Publications Ltd. Available at: <https://research-ebSCO-com.ezproxy.uwtsd.ac.uk/linkprocessor/plink?id=0d7b5107-e4d0-30ae-a4ce-d98710d18026> (Accessed: 21 September 2025).

Jennie Lindon and Kathy Brodie (2016) *Understanding Child Development 0-8 Years 4th Edition: Linking Theory and Practice*. Fourth edition. London: Hodder Education Group. Available at: <https://research-ebSCO-com.ezproxy.uwtsd.ac.uk/linkprocessor/plink?id=183c7c8d-5162-30d1-a1c8-15b2cd7301af> (Accessed: 21 September 2025).

Johnson, J. and Watts, A. (2018) *Developing creativity and curiosity outdoors : how to extend creative learning in the early years*. First edition. Boca Raton, FL: Routledge, an imprint of Taylor and Francis.

Joyce, R. (2012) *Outdoor learning : past and present*. Maidenhead: Open Univ Press.

Keith, L. (2017). *Developing Young Children's Mathematical Learning Outdoors: Linking Pedagogy and Practice* (1st ed.). Routledge.
<https://doi.org/10.4324/9781315300672>. (Accessed: 21 September 2025).

Murray, J. (2019) *Routes to STEM: nurturing Science, Technology, Engineering and Mathematics in early years education*, *International Journal of Early Years Education*, 27(3), pp. 219–221. Available at: doi: [10.1080/09669760.2019.1653508](https://doi.org/10.1080/09669760.2019.1653508). (Accessed: 21 September 2025).

Sargent, M. (2015) *Developing early maths skills outdoors : activity ideas and best practice for teaching and learning outside*. London: Practical Pre-School Books.

Strindberg, J. (2025) “It means you can’t see all the children”: analysing school staff’s experiences of tackling pupil loneliness through an ecological systems

lens', *International journal of adolescence and youth*, 30(1). Available at: <https://doi.org/10.1080/02673843.2025.2512845> (Available at: 21 September 2025).

Times of India (2023) *Why is the sun so hot and bright?* Available at: [Why is the sun so hot and bright? - Times of India](#) (Accessed: 13 September 2025).

Tovey, H. (2013) *Bringing the Froebel approach to your early years practice*. Milton Park, Abingdon, Oxon: Routledge. Available at: <https://doi.org/10.4324/9780203818374>. (Accessed: 21 September 2025).

Waters, J. and Rekers, A. (2019) *Young Children's Outdoor Play-Based Learning*. Centre of Excellence for Early Childhood Development. Available at: [young-childrens-outdoor-play-based-learning PUBLISHED.pdf](#) (Accessed: 21 October 2025)

Welsh Government (2016) *Science, Technology, Engineering and Mathematics (STEM) in education and training*. Available at: [STEM Action Plan](#) (Accessed: 21 September 2025).

Welsh Government (2020) *AREA OF LEARNING AND EXPERIENCE 'Health and Well-being'* Available at: [Descriptions of learning - Hwb](#) (Accessed: 14 September 2025).

Welsh Government (2020) *AREA OF LEARNING AND EXPERIENCE 'Mathematics and Numeracy'* Available at: [Descriptions of learning - Hwb](#) (Accessed: 14 September 2025).

Welsh Government (2020) *AREA OF LEARNING AND EXPERIENCE 'Science and Technology'* Available at: [Descriptions of learning - Hwb](#) (Accessed: 14 September 2025).

Welsh Government (2022) *AREA OF LEARNING AND EXPERIENCE 'Science and Technology'* Available at: [Science and Technology: Designing your curriculum - Hwb](#) (Accessed: 14 September 2025).

Welsh Government (2022) *Developing a vision for curriculum design*. Available at: [Developing a vision for curriculum design - Hwb](#) (Accessed: 14 September 2025).

Wilson, R.A. (2018) *Nature and young children: encouraging creative play and learning in natural environments*. Third edition. London: Routledge. Available at: <https://doi.org/10.4324/9781315148533> (Accessed: 14 September 2025).

Yilmaz, S. (2016) *Outdoor Environment and Outdoor Activities in Early Childhood Education*, *Mersin University Journal of the Faculty of Education / Mersin Üniversitesi Eğitim Fakültesi Dergisi*, 12(1), pp. 423–437. [doi:10.17860/efd.80851](https://doi.org/10.17860/efd.80851) (Accessed: 21 September 2025)

