

Section One – Outdoor Photograph



Section Two- Lesson Plan for Outdoor Play.

Today we have planned an outdoor lesson for the children . We will be taking a reception class with children who are aged between four and five. In our group we will have twenty children and we have taken into consideration ratios of children per adults as well as any other requirements needed to follow. Following the Wales guidelines for schools on outings we have made sure we have the correct amount of staff and staff with the relevant qualifications . As our age group falls into the category of 3 years plus our ratio is 1 adult to 8 children, which would give us the guidelines of having around four staff for this outing but as we have a child with additional needs within the group and taking into consideration other factors such as having to walk five minutes from the school to the location we have decided that we will be taking 6 staff to allow the safety of children . We have also asked for consent from parents and guardians .

We have started with our autumnal theme and decided this location would be the perfect place for outdoor learning for the children. In addition to running with our autumnal theme, we have also created some activities that will engage the children in other subjects, such as mathematics and science, whilst using outdoor play. As we are teaching children aged between four and five we believe children learn through play. We have also adapted the outdoor learning for one of our children who has additional needs but thrives in outdoor play and sensory play, which the child will have it to do with the different resources outdoor learning offers. The area pictured is a great environment for sensory engagement in which it provides a variety of diverse textures , sounds and sights that stimulates sensory exploration which for a child with additional needs .

An activity we had planned with the children is to create a pumpkin cardboard cut out and put sticky paper behind the cut out . Then we supervised the children whilst collecting different natural things they could stick onto their cut out . Some of the children counted whilst they collected the leaves and stick them on , some only collected a couple of leaves and stuck them on and then others filled their cut out full of the natural resources they could find , these ranged from leaves that had fallen from the trees to sticks they found on the ground. Some children then starting questioning why the leaves were on the floor rather than the tree and asking about why the trees had different coloured leaves and why some trees had some leaves whilst others had none . Which brought science into this activity with explaining the cycles of trees in different seasons.

We had also bought our magnifying glasses with us, using them in class had them engaged in activities, so we responded to the observations we had made from these and used them to enhance the activity outdoors. Children are so curious

when it comes to outdoor learning and about animals and their habitats. The location also helped us with these activities, as they had some bug houses that the children could not wait to explore. The use of magnifying glasses will foster a love for science for the children, they have the opportunity of seeing the world closely which helps develop a real interest and fascination for nature and science which will spark their curiosity which at reception age children are so curious. It also increases the children's observational skills as they will be looking closer to the things around them, which they would not usually see, they may find objects or creatures they have not seen before . This allows them to develop their attention to detail. Using the magnifying glasses will also encourage children to use more scientific phrases. With the outdoor learning, they may use phrases such as bumpy or even bring in things for the body, such as a skeleton, explaining the nature in more detail. In this activity, we also prepared a picture questionnaire with different animals that they might find whilst using their magnifying glass. They engaged really well with this activity they were able to use their fine motor skills to be able to grasp the pen for the questionnaire , whilst also enhancing their hand to eye co ordination and it also helped with their social skills as they were able to work in groups.

We sent the children in groups of four to collect the best sticks they could use to play pooh sticks , which is a game I thoroughly enjoyed in my youth . This environment encouraged the children's literacy and language skills as they worked along side each other discussing which stick would be the best , a range of vocabulary was used . Once the groups collected their sticks we took them a gorup at a time and we had two on the bridge and to at the side to observe the winning team. Using science to drop the sticks , using gravity to let the sticks go and fall into the river , whilst also discussing the flow of the river using words such as fast or slow. The children also used their numeracy skills to count down to the release of the sticks , counting from one up to three then shouting go .

The children also made use of the natural resources around them to include mathematics in their outdoor play . They observed different trees and discussed that some were big and other small . Also how some of the trees very round and others were not so round. Some of the children even grouped together in held hands around the tree , whilst some of them counted how many of their friends were around the tree , this activity that the children created was a joy for us all to see. Also whilst collecting things the children would comment things such as look at how big my stick is or how small their stick was . Some children would collect resources such as leaves and creating different shapes , these shapes where squares , circles and triangles with most children being confident in identifying each shape. They would also notice different patterns on the leaves , exploring different textures within the leaves that they had collected.

Extending from the pooh sticks activity the children wondered why the sticks floated , so whilst they collected things some of them wanted to see if any of the loose parts they collected would do the same as the stick . One child found a pinecone and wanted to throw it in . With the supervision of one of the staff members the child threw it in and unlike the stick , the acorn sank they wondered why and questioned it. So the child picked up a stick from nearby as well as finding another pinecone and compared them whilst holding one in each hand. They lift it up and down and say the pinecone feels strong and the stick is not so strong so maybe that is why it does not sink . This study opened up numerous questions linking to why things float and linking learning of science to the outdoor play activity .

Section Three- Risk Assessment

Location:	Tredegear House, Newport .	Date:	23 rd September 2025
Accessor:	Emma Jones	Review Date:	23 rd September 2025

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 Ratings:L/M/H
	The children will be able to use their fine motor skills to create the pumpkin shape . They will also benefit from maths with this activity comparing sizes of all the leaves placed on the sticking paper. There mathematical vocabulary will be enhanced. There	Children must be supervised whilst using scissors ensuring they are used correctly and children are sat down whilst using them. Caution must be taken when looking around taking into account its a public area so the danger or stranger as well as being popular with dog walkers so the	Children and Staff.	Before arrival children are reminded on how to use and carry scissors. Children are also reminded to stay in their groups with their member of staff.	Medium

	exploration play will also be enhanced as they will want to explore different natural resources they can use to stick down. They will also use scientific open ended questions about the life cycle of a leaf such as why are they that colour or why are there big and small ones.	hazard of dog mess. Children must be watched in open areas especially near water in case of drowning.			
	Using the magnifying glasses enables them to explore the world with a new perspective, enabling them to transform everyday objects into scientific curiosity. Enhances observation skills which allows the children to look into more detail of the natural resources they find around them, looking into more detail of a leaf, the colours the insects or even the veins they present. By examining the resources closely children begin to notice patterns which will build their capacity for critical thinking and scientific curiosity. Improves fine motor skills, holding and focusing the magnifying glass helps	Children may not take into consideration their surroundings around them as they are focusing on looking through the magnifying glasses, so there could be a trip hazard which could lead to an injury. Also the awareness of strangers as well as dog mess. Littering can also take place so we all must be mindful of that. All children must stay with their adult and remain in their groups ensuring all high visible jackets remain on all children.	Children and Staff.	Children are informed on arrival to remain with their dedicated member of staff as well as told to remain in their groups. Observation is needed at all times once using the magnifying glasses.	Medium

	the children practice co ordination , and also control. Once the children have finished using the magnifying glass the children are able to describe the visual things they have seen . This supports their literacy , descriptive language and also their overall cognitive growth.				
	Children can benefit scientifically from this activity learning about how gravity works and also why certain natural resources float and others sink . The children also used their mathematical descriptive language for the sticks such as big, long ,thin and thick. This activity allowed children to work as a team and they all took their individual roles on confidentially and proudly.	Making sure children don't climb up too high onto the bridge leading them to fall, and also making sure a member of staff is closely observing the children and able to step in if they believe a child is in danger of falling. As were in a popular dog walking area we must be wary of animals around us .	Children and Staff.	All members of staff are first aid training and we have ensured we have the correct first aid equipment . A member of staff before the outing will have completed a risk assessment on every close by obstacle so the bridge would have been included in that assessment .	High

	Benefits of bug hunting is encouraging children to enjoy the outdoors and explore their surroundings. This will help develop their gross motor skills. They will be able to link using their magnifying glasses for this activity observing animals closely and becoming more curious about the various bugs that will be outside in nature. This will lead into a scientific interest wanting the children to know more about the animals they have spotted. Patience and concentration skills will be enhanced as it requires patience and focus to find the bugs and animals.	Take into consideration the environment around them , being vigilant of rubbish or any dog mess that may not be so noticeable. Being considerate of the surrounding especially around water reducing the risk of drowning. Ensuring children remain in sight in their groups as well as with their nominated member of staff.	Children and Staff.	Ensuring staff remain with their nominated group of children . Observation of all children whilst exploring the environment.	Medium
---	---	--	----------------------------	---	---------------

Section Four- Importance of Adults in Outdoor play with mathematical and scientific resources.

It is believed that the subjects of mathematics and science have been confined for too long in just a classroom setting either through textbooks or dry equations. Yet the outdoor world offers a vibrant and dynamic approach to outdoor learning. The outdoor can be classed as a living canvas for the concepts of mathematics. Early practitioners play a vital part of trying to move the STEM education outdoors. The children by embracing outdoor learning , can enhance their curiosity , promote holistic development , also make the subjects more engaging and memorable for every age range.

One of the most important benefits of outdoor STEM education is that it is able to transform abstract concepts into more tangible experiences . Using a natural setting provides the child with a more stimulating learning situation that would occur if using textbooks. Using a scavenger hunt outside in nature can be classed as a lesson on counting, classification , and also repeated patterns. Using tools such as a tape measure to measure the circumference of a tree or even using natural resources such as rope to measure the height of a hill with simple geometrics it will introduce real world applications of measurements. Using the hands on approach of the outdoor world influences the practical applications it strengthens a child's understanding and retention of information far more effectively than being in a classroom environment. By using the outdoors as a way of learning, the adults demonstrate that maths and science are just not academic exercises , but are a powerful resource for understanding and interacting with the world around us .

Outdoor learning uses a different way to engage with children , by using different ways to encourage exploration and a factor of risk taking . Children having the opportunity of freedom from the outdoors can liberate children from feeling constrained into a classroom . When children are freely allowed to explore the outdoors there are more likely to use their exploration , experimental and collaborate skills. Creating a collaborative project with children such as building a den with natural materials and resources promotes team building as well problem solving . The children will work together to find the strongest and most durable materials for building their den , leading to the children using their engineering principles and also developing their crucial social skills. The adults in this activity can provide some gentle guidance , using a scaffolding method to ask questions that will develop the children's critical thinking .

The involvement of adults is important for encouraging crucial development skills that extend further from the academic journey. Outdoor learning has been shown to have a positive impact on mental health in children showing signs of reduction in stress and anxiety . As stated by the Natural Resources Wales(2023) outdoor learning is used as way to promote academic attainment through the use of hands on , experiential learning and enhances cognitive and emotional processes which are important for a child's learning . Play in nature is also a key factor in contributing in the physical, social, emotional, and cognitive development of a child whilst also helping to lay down the lifelong pro environmental and healthy behaviours that are needed for a child's learning journey. Another study from Natural England(2021) showed that 85 per cent of young people stated that when they were outside playing in nature they were happier and more willing to learn . When an enthusiastic adult participates in an outdoor activity can help children develop stronger confidence and self belief in themselves and creates a better self image for them as an individual , which is a great contribution when children may struggle with in a classroom environment.

However by engaging in collaborative, outdoor projects, children develop stronger communication and social skills. Both these skills are essential for a successful academic journey including STEM. Using observational skills and discussing changes in outdoor areas in an educational setting over the course of a year, facilitated by an adult who is interested , can open up multidisciplinary studies that will connect science to numeracy as well as including language and other subjects.

To be able to effectively support the outdoor STEM education , adults need to be able to embrace a dynamic and interactive role . Learning through landscapes(N.D) states that knowledgeable and enthusiastic adults are the crucial part to unlocking the potential of the outdoors. Using this method involves more than just bringing the lesson outdoors , it also requires the adult to engage in the learning process alongside the children. The adults must bring the use of mathematical and scientific language into the lesson , producing posing questions that will extend children's thinking which will get the children interacting. Adults that use these skills in

their outdoor lessons will be able to help their children identify challenges and help them overcome them, also helping them foster resilience and also helping them gain a positive attitude towards problem solving.

Crucially , a practitioners role is to extend observations and the use of sensitive interaction. Practitioners tune into children's play which then leads to the practitioners to be able to find their teachable moments. From these teachable moments , practitioners can extend learning to further learning during activities set up around maths and science. Using this method can enhance mathematical and scientific vocabulary . Also the use of open ended questions that provoke deeper thinking , using questions such as "What shapes will make this tower stronger?", using this interaction which are known as sustained shared thinking will help the children articulate their ideas , help them gain a better understanding, and also make connections they might not have made independently.

In early years education , the role of the practitioner is crucial in facilitating a child's understanding of the foundational concepts especially in subjects such as maths and science. When learning is moved to the outdoors , the role of the practitioner becomes even more dynamic , requiring them to be a pro active planner as well as an active co Ordinator. Using an outdoor environment offers an unique , expansive and natural Labotory for children's exploration. By the practitioner using their engagement , it allows for the transformation of these experiences to become more meaningful and allow learning in deeper lengths.

One of the most important aspect of the role of the practitioner's outdoor role is to establish an enabling environment which is rich with mathematical and scientific possibilities. Which requires the practitioner to carefully select and organise resources that will encourage exploration and problem solving on a large scale than is possible in an indoor environment . Using an example of this method would include the use of natural loose parts such as sticks, leaves or stones for mathematical activities such as counting , shape sorting . Using this will foster a mathematical and scientific disposition in a playful and engaging manner.

Beyond simply providing materials, the practitioner's role requires the involvement of sensitive observation as well as scaffolding during play . This meaning that the practitioner is attuned to the children's curiosities and joining in their play to allow the children to extend their thinking. A practitioner who may be observing a child using a large stick to measure the length of a puddle may extend this by asking an open ended question such as "What if we used another loose part to measure the length, do you believe we would get the same answer?". By the practitioner using their responsive interaction will introduce different methods of measurements and encourages the children to reason their methods. Practitioners also model a child's curiosity and also guide children to explore in more depth.

The practitioner also plays a vital role in embedding the vocabulary of maths and science into the outdoor experience. They provide this by making abstract concepts tangible and memorable. During a mud kitchen activity based around maths, a practitioner may include vocabulary such as thick, thin, heavy or light to describe the properties of mud. Actively using this verbal modelling will help children to connect their physical, sensory experiences with formal scientific and mathematical language. By narrating the learning and describing children's problem solving strategies, the practitioner's role helps the child develop their meta cognitive skills which is their ability to reflect on their own thinking.

Attitudes of the practitioner towards outdoor learning is foundational to its success. Having the ability to be confident and enthusiastic as a practitioner is the key in creating an environment where children feel safe to take risks, also in making mistakes, and embracing the unpredictable nature of the outdoors. Outdoor play for many children provides a less threatening context for learning complex concepts, which will help build confidence for children who struggle in indoor classroom areas.

Fredrich Froebel a German educator and founder of kindergarten believed profoundly in the educational power of outdoor play and the child's connection with nature. Using his philosophy he viewed the child as a developing organism, like a plant in a garden which saw the natural world as an ideal place to learn and play, in which will provide the child for a healthy, holistic growth journey.

The central thought in Froebel's pedagogy is the concept of holistic development, these were encompassing the physical, emotional, intellectual, social and spiritual aspects of a child's growth. He believed that all these aspects were developing for a child through outdoor play. Outdoor play is considered to be free play in where Froebel saw as deeply purposeful as well as a vital activity. Using this self initiated activity allows for the children to set their own pace for learning as well as engaging with the world on their own terms. Using an activity such as engaging in nature walks allows for children to observe the cycle of life and death, foster a deeper spiritual and intellectual understanding of the world.

In conclusion, the role of adults in outdoor play and providing a mathematical and scientific environment is a strong factor to the benefits of a child's development and growth. For early years providing an outdoor play activity that is fun but also using these factors prepares children for open ended questions, and increases their enhancement in wanting to learn. Adults provide different roles from the facilitator, observer and also an active co player based on the children's needs. By the adults creating a rich, child led environments and providing sensitive support, adults enable outdoor play to be a powerful, holistic and also deeply educational experience.

References:

Curriculum for Wales guidance. (n.d.).

~~[Education Resources Wales/sites/default/files/publications/2018-09/curriculum-for-local-authorities-in-Wales-Guidance-\(n.d.\).-Available-at-for-local-](#)~~

Freobel Trust (2022). *Children and Nature*. [online] Freobel Trust.

Gilchrist, M. (2023). *Children & Nature Programme: the Importance of Integrating Time Spent in Nature at School*

Harman, N. (2024). *Outdoor learning is vital for children's mental health*. [online] UK Youth. Available at: <https://www.ukyouth.org/2024/02/outdoor-learning-is-vital-for-childrens-mental-health/>

LtL. (n.d.). *Outdoor Learning and Play Charity | Learning through Landscapes*. [online] Available at: <https://ltl.org.uk>

McHugh, K. (2024). *Exploring the Fantastic Possibilities of Maths Outdoors*.

~~<https://resources.wales.gov.uk/nature-and-landscapes/wales-benefits-for-health-and-learning/benefits-for-health-and-learning>~~

Ryan, P. (2025). *Friedrich Froebel: His Principles, Play Theory, and Legacy in Education*

UNICEF (2025). *The importance of outdoor play (and how to support it)*