

EAEY5005/C - Awe and Wonder: Science, Mathematics, and the Outdoors

Section 1- Natural Learning Environment



(Source: Bing, 2020).

Section 2 (1200 words, 30 marks)

- The local field was chosen for this experience after considering the opinion of Beames, Higgins and Nicol (2012) who believes that practitioners should chose outings and locations which can be easily accessed from their own setting as this means it can be a frequent learning experience and become a regular part of practice, using a location which is in the child's own environment provides them with opportunities to build a sense of identity.



Providing children with opportunities to explore life cycles focusing on their science development. Bug catching pots, nets, magnifying glasses, and buckets allows children to have a closer look at minibeasts that live in their local area and spark their curiosity. Bug hunting shows links to science and life cycles. Children could see butterflies, talking about what creates a butterfly, look in the long

grass for caterpillars, children could create houses for caterpillars that they think they would be interested in.

Source (Bing, 2021).

The area is near the setting so this area can be visited regularly as part of our learning journey. The area is accessed via a footpath which will take 10 minutes to reach, this allows not only planned visits but also impromptu visits, following the children's interests and if they wish to visit in the afternoon when they come into the setting this can easily be achieved.

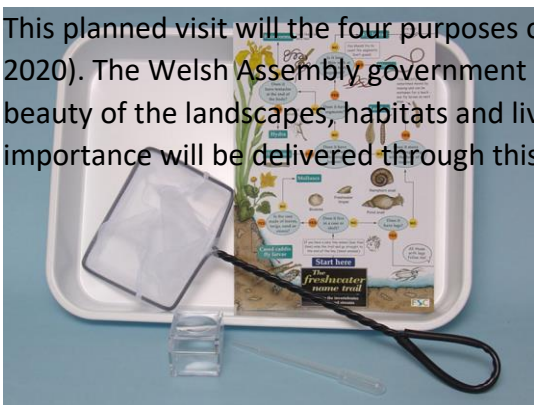
When first approaching the area, children were weary of what to expect, unsure of what play opportunities would be there for them, the children are given free time to explore and learn as they wish during the environment, with the support of adults should they wish to seek it.

The plan for the visit to the environment is to support children's Maths and Science learning in a holistic way, giving them the opportunity to be their own leaders and adults follow the children's wishes to learn. On the first visit to the area, the children were allowed to explore unrushed in the area, and the adults observed, ensuring the children were not in any danger and listening to what the children wanted to learn/explore/experience in that area. After the first visit the children were asked what they would like to take with them next time they visited, many children expressed interest in minibeasts, and others expressed wanting to play in the stream and take nets and buckets. This was noted by practitioners and resources were gathered to take on the next visit.

The children will be allowed to freely explore the environment and play will not be interrupted, unless necessary. Ideally children will have a full afternoon to explore the area, weather dependent

Combined with the philosophy that underpins The Whariki of 'All as One' (Ministry of Education New Zealand 2017). Higgins (2009) argues that developing a connection with children's own environment provides a starting point for developing a connection to the place, a sense of belonging and fosters an ethic citizenship. Forging understanding of the consequences of one's actions and develops an empathy for the environment, supported by Welsh Government (2008). Similarly, Malone (2001) explains that play and learning experiences in a child's environment provides an opportunity for children to develop a sense of belonging, identity, self-worth and become a member of the community. Furthermore, Donaldson (2015) in his review of the curriculum for Wales has placed a focus on each child developing an understanding of where they fit into the world starting at their own local area.

This planned visit will the four purposes outlined in the new curriculum for Wales (Welsh Government 2020). The Welsh Assembly government (2008) skills of developing a sense of awe and wonder at the beauty of the landscapes, habitats and living things and caring for the environment and recognizing its importance will be delivered through this visit.



To support the children to further their learning by playing in the small stream by providing nets, buckets, scoops and funnels for them to scoop and pour the water.

Natural features: the long grass, bugs,

Enhancements: bug catching pots, magnifying glasses,

Natural feature: stream

Enhancement: buckets, scoops, nets, funnels

Allowing the children to explore the water, scooping, and pouring. Some children may want to look at what lives in the water, is there any fish? What else could live near the water, frogs, tadpoles, ducks.

Risks: in the field there could be plants that could harm the children if they put it in their mouths, falling into the stream, uneven flooring which might not be seen in the grass,

Link to schemas

Think about what children can get out of the environment, what could be added to improve the environment e.g., slopes and gradients they could enjoy rolling things down, going down themselves, gravity, push and pull. Pick a certain thing they would do in their play in the environment. You can add conversations, objects, people, resources. Make links to the curriculum, what can support their understanding and learning. Loose parts, varied materials. Add photographs of materials that they could use, printing, collecting in baskets, comparing items, colour matching with leaves, sticks, flowers, berries.

Link to science curriculum, experiencing forces through rolling, pushing, pulling. It needs to be done in a holistic way, being outdoors is good for us and supports our emotional wellbeing. Put some references but do not go into detail about theorists as they go into section 4.

Can talk about forces, size, weight, life cycles, friction, gravity, properties of materials, plant growth. Use the environment in the photo to talk about 1 or 2 of these things, the photo will follow the route of curriculum. Types of ideas: sloping, uneven surfaces, different patterns, textures, grouping of patterns.

Not an academic section so answers can take the form of a learning journal include illustrations, diagrams, imaginary conversations with children, it can also be spoken about in first person if wanted. Imagine what might happen if you took a group of children here and take a perspective of maths or science.

Section 3- RISK BENEFIT ASSESSMENT

Location / Activity:	Woodland	Date:	20/09/23
Assessor:	Samantha	Review date:	

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
Water/ Stream	- Experiment with floating and sinking - Pouring and scooping skills - Social and emotional development - Develop fine and gross motor skills - Water can be relaxing and calming - Builds their language and communication	- Drowning - Wet clothes - Dirty water, when ingested could cause illness - Poor visibility in the water, could be unseen objects which pose a risk	Children and adults	- Ensure the correct ratios are being used for adult to children - Create golden rules with the children so they are aware of the dos and don'ts near water - Model the safe way to play around water – ensure children are aware they do not enter the water without an adult	M
Uneven ground	- Promotes physical development and gross motor skills - Promotes balance and coordination - Develops strength and endurance - Builds core muscles - Promotes confidence in movement	- Sloping slippery surfaces can cause trips and falls - Can cause injury if falling down the slope	Children and adults	- Ensure the correct ratios are being used for adult to children - Create golden rules with the children so they are aware of the dos and don'ts on slope - Assess the children's ability before allowing them on the slope	L
Plants	- Can make potions from plants - Explore and learn about different plants - Compare different plants via look, touch, smell - Increase children's interest in	- Poisonous plants that children might touch/ put in their mouth - Some plants contain allergens, and some may be sensitive to these which	Children and adults	- Ensure the correct ratios are being used for adult to children - Create golden rules with the children so they are aware of the dos and don'ts near plants and that children are not allowed to touch a plant	L

	- consuming fruits and vegetables - Can be used as a decoration or playing tool - Understand how plants are a living thing and can grow	can cause an allergic reaction		- without checking it is safe from an adult - Ensure adults are informed of what plants are safe and what poses a risk - If aware of pesticides being used, then ensure children stay away from plants - Be aware of children with allergies to any plants	
Long grass	- Stimulate their imagination - Educating them with respects to insects and other bugs associated with the habitat - Introduce them to wild habitats	- Uneven ground - Floor can be wet and slippery - Hidden animals/ bugs which could pose a threat to the children - Losing children in the long grass	Children and adults	- Ensure the correct ratios are being used for adult to children - Create golden rules with the children so they are aware of the dos and don'ts - Encourage children to be mindful of other creatures that may be living in the grass such as hedgehogs, frogs, birds, and bugs. - Appropriate clothing and footwear	L
Trees	- Provide shade and cooling during warm weather - Provides habitat for insects, birds, and animals - Children can climb and explore	- Falling branches - Cuts and bruises - Animals who inhabit the tree - Falling out of the tree while climbing	Children and adults	- Ensure the correct ratios are being used for adult to children - Create golden rules with the children so they are aware of the dos and don'ts when climbing the trees - Assess the children's ability before allowing them to climb tree	L
Mud play – soil and utensils	- Supports sensory awareness - Provides opportunity to develop scientific knowledge - Develop gross and fine motor skills using spoons, cups, different sized saucepans, and other materials	- Cuts or bruises from misuse, broken or badly maintained equipment - Illness if they were to eat the mud - Infection/ illness from contaminated soil entering cuts and grazes	Children and adults	- Wash hands thoroughly at the end of the activity - No material in mouth rule for outdoor play - Ensure all equipment and resources are safe and checked prior and at the end of the activity - Ensure children are aware of how to use equipment safely	L

Minibeast collecting	• Develop knowledge and understanding of creatures in the environment • Develop scientific knowledge of life cycles • Develop fine motor skills by using small pots, nets, and magnifying glasses to collect and observe the minibeasts.	• Stings, bites, or allergic reactions from encountering the minibeasts • Cuts or bruises from misuse, broken or badly maintained equipment	Children and adults	• Ensure the correct ratios are being used for adult to children • Create golden rules with the children so they are aware of the dos and don'ts when observing and collecting the minibeasts	M
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Section 4 (1800 words, 30 marks).

Evaluating how adults can support maths and science in the outdoors. Looking at opportunities for adults to support children and barriers they may face. What stops them visiting the outdoors? Weather, funding, parents' refusal, ratios, different views and understanding, not having enough outdoor space.

What kind of practitioner do we want? Curious and encouraging. Not all adults are curious so through training and support we can develop this. Thinking as a child yourself, following their approach.

Theorists:

Maslow: feeling comfortable, needs are met

Vygotsky: more knowledgeable other, scaffolding the child

Bronfenbrenner: child in the middle affected by the things around them, are the adults giving them opportunities to explore

Froebel: believed you should grow children which happens when they are allowed to grow and explore, a garden creates an environment where they can learn about the world, using tools and cooking, construction and being able to build

Montessori approach: child lead, following their interests.

Do not need to mention all theorists just pick ones that are relevant to own picture and exploration.

Adding loose parts, affordance, open ended and child-led play, sustained shared thinking, observation, curiosity, and development.

Analyse and digging in-depth to certain ideas, evaluation of the challenges and opportunities of an idea.

Reference theorists here.

Reference list

Bing Images, (2020). Available at:

<https://www.bing.com/images/search?view=detailV2&ccid=hpKlAtBr&id=33AAB87EBCB94FF84BC66AD3B122536C486E6812&thid=OIP.hpKlAtBrAVRoaTQ2nTbxwHaDq&mediaurl=https%3a%2f%2fthumbs.dreamstime.com%2fb%2fsmall-stream-meadow-rural-york-county-pennsylvania-47849366.jpg&cdnurl=https%3a%2f%2fth.bing.com%2fth%2fid%2fR.86928802d06b0154686934369ff4dbc7%3frik%3dEmhuSGxTlrHTag%26pid%3dImgRaw%26r%3d0&exph=793&expw=1600&q=autumn+meadow+with+stream&simid=608026232776892193&FORM=IRPRST&ck=3F4A1A30F9182599582D90C234DA4AD1&selectedIndex=11&ajaxhist=0&ajaxserp=0> (Accessed 11 September 2023).

Bridgeway Family Centre, (2023). *Benefits of Risky Play: Why Risky Play is Important to Your Child's Development*. Available at: <https://bridgewaycentre.ca/play-idea/benefits-of-risky-play/> (Accessed 18 September 2023).

Bing Images, (2021). Available at:

<https://www.bing.com/images/search?view=detailV2&ccid=VJegmlR1&id=6F5A52A3B083374FA361AD2411C67A161B995928&thid=OIP.VJegmlR1L7TrHRWOKtS54QHaHa&mediaurl=https%3a%2f%2fm.media-amazon.com%2fimages%2fl%2f51gQNaTYY3S.SL500.jpg&cdnurl=https%3a%2f%2fth.bing.com%2fth%2fid%2fR.5497a09a54752fb4eb1d158e2ad4b9e1%3frik%3dKFmZGxZ6xhEkrQ%26pid%3dImgRaw%26r%3d0&exph=500&expw=500&q=bug+hunting+equipment&simid=608000785054453094&FORM=IRPRST&ck=EAD7F4417ADFEDF81B5CCD2ABC5851DB&selectedIndex=4&ajaxhist=0&ajaxserp=0> (Accessed 18 September 2023).

Beames, S., Higgins, P. and Nicol, R. (2012) *Learning Outside the Classroom*. Oxon: Routledge.