

Element 1

Activity/ Experience Plan		
Activity/ Experience: An exploration of the properties of water and how we can impact upon it in a natural outdoors environment. The children can interact with the water flowing in a small stream, they may choose to use objects to create a dam, to change the course of the water or to construct a bridge over it.		
Number of children: 10	Age of children: 3-4 years	Number of staff: 3
Location: Grassy field area with small stream and a few trees, hedges, shrubs	Preparation time: Approximately 1 hour	Activity duration: 2- 2 ½ hours (morning session)
Resources: • Waterproof puddle suits • Wellies • Mobile phone • Register • Child record sheets (including emergency contacts, allergies, medical information) • First aid kit • Each child's bottle of drinking water • Fruit for snack time • Compost bag and refuse bag • Hand sanitiser • iPads x 2 • Pull-along wheeled trolleys x 3 • Buckets x 5 • Offcuts of wood • Colanders or sieves x 5 • Other loose parts will be collected by the children during their exploration of the area		

Aims of activity:

The main aim is for the children to be able to explore water and its properties in a natural environment. They will be free to choose the direction of their play and learning and which resources they use, either those we have taken with us or those which they find at the location. They will be able to interact with the water in the stream, using provided and found resources, and observe how their actions impact upon it.

Anticipated outcomes and links to frameworks:

In accordance with the Foundation Phase Framework (Welsh Government, 2015a) the experience is anticipated to provide outcomes related to the 7 areas of learning as follows:

- Personal and Social Development, Wellbeing and Cultural Diversity: Through working co-operatively and respecting the endeavors of others in the group. By being given the opportunity to risk-assess and to ask for help when needed. By exercising physically and recognizing the thirst and hunger this provokes.
- Language, Literacy and Communication Skills: Children will be encouraged to talk about what they are doing, ask and respond to questions, and will extend their vocabulary and understanding of concepts. The activity will be documented and can be revisited to encourage recall skills.
- Mathematical Development: Children will be exposed to mathematical concepts such as more/less, and afforded opportunities for counting items and sorting items according to similarity/difference.
- Welsh Language Development: All aspects of the activity can be carried out in Welsh and it affords opportunities to learn concept words in Welsh and to discuss the landscape and features of Wales.
- Knowledge and Understanding of the World: The experience offers strong opportunity for exploring different features of the landscape, as part of their locality and to assess their impact upon it.
- Physical Development: The experience will involve lots of movement, improve balance and co-ordination and develop fine and gross motor skills through gathering and placing resources.

- **Creative Development:** As an open and child-led experience, it should lead to creative thinking and the range of stimuli available offer opportunity to explore different shapes, textures, smells and sounds and to reflect upon them.

The experience will also support the delivery of ESDGC by allowing children to make choices and decisions, learning about the natural environment and living things and how human actions impact upon environments. It may inspire further investigations of the weather, wildlife, landscapes or health and fitness, and will encourage engagement with the local community in shared space (Welsh Government, 2008).

Differentiation:

Although there are some areas of uneven terrain, such as divots in the field and a downward slope to the stream, it is accessible to those with mobility issues. As the experience is largely child-led, children can follow their own interests and work at their own individual skill level. A high ratio of adults to children means that support can be offered to individuals when they need it. Playing with water and being outdoors in varying weather conditions offers a multi-sensory experience that those with sensory impairments can participate in, such as feeling the running water, the cool breeze, the textures of the resources or smelling the grass, flowers and leaves, in addition to the sights and sounds that others may experience.

Health and safety considerations:

Both the site and the activity undergo a risk/ benefit assessment prior to the experience. A further risk assessment of the site occurs just prior to the experience. All resources provided will be checked prior to the experience.

Parents/ carers of children will be required to give informed written consent and to ensure all medical information and contact details held by the setting are correct prior to the experience.

Role of practitioners:

The first role of practitioners will be to prepare for the activity and to gather and prepare the resources in advance of the session. This will also involve carrying out a risk/ benefit assessment and an environmental audit to ensure the health and safety of all participants in line with the policies and procedures of the setting and with ESDGC. On arrival at the site, practitioners should brief all of the children about

what the expectations are regarding health and safety, this includes advising them of the boundaries they need to stay within and the need to ask one of the staff if they are unsure of anything. They should also inform the children of where their drinks and snacks will be stored, so that they can access them.

As the experience is intended to be largely child led, practitioners may show the children the features of the landscape, i.e. the stream and the trees, and then allow the children to play and discover. When the children are engaged in play, the observations practitioners make may lead to them asking open ended questions or offering support if a child wants it. Adults may scaffold the learning by again asking questions, such as “what do you think will happen?” or “what is happening now?”. If any children seem to be reticent in playing, it may be appropriate to model some play or invite them to join in with what you are doing, such as building a dam or collecting twigs.

Where co-playing with a child or group of children, a practitioner may become involved in sustained shared thinking through discussion and working through problems. This will encourage deep, rich play and learning. A practitioner may use the iPad to photograph or record the activities of the children, or encourage them to do so, in order that the experience can be returned to a later date for expansion, revisiting and discussion.

Activity:

The children can walk the route to the outdoor area in accordance with the risk assessment. On arrival at the site, everyone is to be briefed regarding the health and safety rules for the session. Children are to be shown the stream and the resources which have been provided, buckets, colanders, trolleys and some wood. As the experience is designed to be child-led and free, practitioners may stand back and observe the children, offering assistance when requested and playing alongside or with the children where appropriate and if invited to do so.

It is anticipated that children will experiment with the water in the stream and use the provided resources to explore the properties of water in this natural environment. This experimentation is to be encouraged and extended by practitioners through open questioning, such as “what will happen if we put the wood by there?” or “will this sieve stop the water?”. Where any children seem reticent or unsure what to do, practitioners may model some activities or demonstrate things that can be done.

It is expected that the children will seek to divert or stop the water, they may choose to use provided resources or look to gather other resources from the landscape, such as fallen branches or pine cones from the trees and leaves from the hedges. The wheeled trolleys and buckets may be used by the children to gather and transport resources, this may require co-working with other children or adults, and will encourage language and communication, and social skills, as well as providing physical exercise. Some children may seek to construct a bridge over the stream, which will need both fine and gross motor skills and potentially co-operation with others.

Practitioners can act as the more knowledgeable other to scaffold learning about scientific and mathematical concepts, such as floating/sinking and more/less that this experience offers by providing the correct terminology and language to talk about these things, thus extending their vocabulary and understanding. Practitioners can encourage the children to document their learning through recordings or photographs taken on the iPad, or do so themselves, in order that it can be returned to and reflected upon in later sessions.

Element 2**RISK/ BENEFIT ASSESSMENT**

Location/ Activity	Grassland with trees, hedges and a small stream. An experience to explore the properties of water interact with it using found and provided resources in a natural environment.	Date	18/9/2020
Assessor	Sara Llwyd	Review date	1/3/2021

Activity	BENEFIT provided by this activity	Potential hazards	Who is at risk?	PRECAUTIONS in place to reduce risk	Risk rating (L/M/H)
Water play	A sensory experience that can involve gross and fine motor skills and improve balance. Supports experiential learning of scientific concepts of the properties of water and mathematical knowledge of concepts such as speed and volume.	Clothing getting wet, causing discomfort. Slippery and uneven surfaces around and in the stream, leading to slips, trips and falls. Pathogens in the water. Drowning.	Children and adults	Waterproofs to be worn and spare clothing brought to the session. Waterproof shoes/ boots with good grip to be worn. Nothing in mouth rule to be explained at start of session. Supervision from a high ratio of adults to children	Low

Gathering resources from the surrounding area. Children may use the trolleys provided.	Provides exercise and opportunities to develop gross and fine motor skills collecting things. Can develop cooperative skills, including development of language. Supports understanding of mathematical concepts (big/ small or heavy/ light). Scientific knowledge can be developed by exploring natural objects and how they can be used. Encourages creative thinking and problem solving. May support transportation schema.	Uneven ground may lead to trips and falls. Risk of splinters or cuts and grazes from rough surfaces such as branches. Potential allergic reactions (known or unknown).	Children and adults	In the briefing on arrival the risks of uneven ground will be explained. Suitable clothing (long sleeves and legs) and footwear to be worn. Fully stocked first aid kit to be carried and staff to be first aid trained. Mobile phone to be carried in case of emergency. Individual child records, including contact details and medical conditions, such as allergies to be carried.	Low
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Exposure to various types of vegetation, including thorn bushes and their fruits or flowers	Opportunities to learn about nature and the correct terminology for various parts of plants and the names of different native species.	Scratches or stings from thorns and nettles. Potential poisoning or stomach upset from eating berries or fungi.	Children and adults	Suitable clothing (long sleeves and legs) and footwear to be worn. Children to be informed of the risk of stings and scratches. Nothing in the mouth rule stressed in briefing on arrival. First aid trained staff, first aid kit and mobile phone being carried to call for help if needed. Child records will be carried, including medical information and contact details.	Low
Using provided resources to explore properties of water	Supports scientific and mathematical knowledge. Develops gross and fine motor skills.	Risk of scratches and cuts from broken resources	Children and adults	All resources to be assessed before the activity, with broken items being removed. Children encouraged to report any breakages to a member of staff.	Low

Building structures (dams and bridges) over and in the stream	Encourages creative thinking, problem solving and experiential learning. May lead to cooperative work with others and resultant language development. Teaches cause and effect and scientific knowledge. Aids mathematical knowledge through counting sorting and identifying shapes. Develops gross and fine motor skills.	Clothing getting wet, causing discomfort. Slippery and uneven surfaces around and in the stream, leading to slips, trips and falls. Drowning.	Children and adults	Waterproofs to be worn and spare clothing brought to the session. Waterproof shoes/ boots with good grip to be worn. Supervision from a high ratio of adults to children	Low
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Exploring the area	Provides the opportunity for exercise and physical development. Increased agency from children being allowed to choose what they do and where.	Risk of getting lost. Area is accessible my members of the public, therefore stranger danger is a remote possibility, as is encountering antisocial behaviour or unrestrained dogs. May encounter litter or fly tipping of potentially dangerous items. Risk of encountering animal faeces, which could have health implications.	Children and adults	Children will all wear high visibility vests to be quickly and easily identifiable and will be made aware of the need to stay in sight of the staff. Staff to remain vigilant and to be aware of the children in their group, and make regular head counts. Children to be made aware of the no material in mouth rule and the need to inform staff if they encounter litter or waste. A risk assessment of the area should be taken shortly before commencement of the session to reduce the likelihood.	Low
Notes: In addition to the full Risk/ benefit assessment carried out as part of planning for the activity, a member of staff will visit the site just prior to the activity to deal with any new hazards that may have manifested. Staff will also remain vigilant to any potential hazards which develop during the experience.					

Element 3

Environmental impact assessment				
Environmental feature or issue	Potential damage	How the negative impact will be reduced	Resources needed	Who is responsible?
Littering	May be harmful to animals and insects or other people.	All waste to be collected and taken away at end of session.	Compostable bag for food waste and recycling bag for recyclables.	Everyone
Stream	Changing the flow or direction of water by blocking or diverting may impact upon flora and fauna and damage ecosystem.	All resources to be removed from the stream and returned to where found.	May use trolleys provided.	Everyone
Stream	Polluting the water system with waste, which could have a negative impact on living things in and around the stream.	All litter and food waste to be collected and composted or recycled. No substances to be tipped into the waterway.	Compostable bag for food waste and recycling bag for recyclables.	Everyone

Trampling of plants	Repeated use of the same areas can damage plant life and change the biosystem.	Try to vary which areas and sites are used. Monitor and avoid areas where the ground looks worn.	N/A	Leader
Picking flowers	Flowers may need opportunity to reseed and could be endangered.	Limit numbers of flowers that are picked and always leave more than are taken. Check whether any of the flowers are protected species to prevent those being picked.	N/A	All staff
Insects	Damaging or killing insects when finding which changes the biosystem.	All children to be reminded of the need to be gentle and to return insects to where found.	N/A	All staff

Element 4

The experience outlined in part 1 of this portfolio is intended to offer an opportunity for child-led experiential learning in a natural outdoor environment. It aims to facilitate holistic development through hands-on experience, involving physical skills and movement, creative thinking and opportunities for collaborative working using loose parts and natural resources.

The benefits of the outdoor learning environment have long been recognised, with Rousseau describing a pedagogy which is based upon a child's reality and their natural surroundings, and Dewey stating that the outdoors enables children to be both active and interactive in their learning (Williams-Sieghfredsen, 2012). The outdoors can be viewed as a "complete learning environment" (Bilton, 2010, p. 1), in that it offers opportunities for physical, cognitive, linguistic and social/ emotional development. Similarly, Hayes (2012), states those benefits and also claims that outdoor learning improves attentiveness and memory skills. Activities in the outdoors can be cross-curricula, covering elements from all or many of the seven Areas of Learning in the Early Years Foundation Phase (Welsh Government, 2015a). The broad and holistic nature of the experience means that it will also cover many elements of the four purposes of the Curriculum for Wales due to be introduced from 2022, including questioning, explaining ideas and concepts, physical activity, thinking creatively and developing as ethical, informed citizens (Welsh Government, 2015b).

Early years pioneers, including Owen and McMillan recognised the importance of fresh air and exercise, which this experience offers, to improve the health of children, which enabled them to engage in learning (Joyce, 2012). A major advantage of the outdoor learning environment is the space and natural variation it affords which lends itself to physical play and movement which is vital for human brain development (Bilton, 2010; Guardino, C. et al, 2019). Slopes, steps and level changes increase affordance and encourage different types of movement (Maynard and Waters, 2014). O'Connor and Daley (2016) state that the vestibular system, which provides balance, and proprioception, or awareness of one's place in the world, are both dependent on movement, and that good development in these areas is also linked to emotional health and wellbeing. Brain research in recent years has made links between movement and enhanced learning (Stevens-Smith, 2016).

The experience has been designed to offer opportunities for a range of different movements, such as bending and stretching to move and gather resources, balancing when walking over bridges or stepping stones that have been created and developing both gross and fine motor skills by manipulating resources. There is potential to extend the experience by providing further resources, such as ropes and tyres, which would allow the construction of swings, possibly over the stream, providing different types of movement. Williams-Sieghfredsen (2012) describes Danish sensory swings, which are large and round, they help to develop kinaesthetic, vestibular and proprioceptive senses. Such provision could also introduce an element of risk to play, which is often attractive to children for the physical arousal it provokes, leading to a paratelic state of being scared but also experiencing fun (Sandseter, 2010).

It is anticipated that the water will draw children to it, with White (2014) expressing how powerful it can be for both wellbeing and learning, water boosts both scientific and creative thought and can be intriguing and soothing. The Danish Forest School approach is based around the 4 elements of earth, air, fire and water, and these elements therefore play an integral role in the outdoor experiences afforded to the children (Sieghfredsen, 2012). Although there are obvious risks when playing in and around water, and these are outlined in a risk/benefit assessment, RoSPA recommend that children and teenagers develop “risk competence” by experiencing risk and learning about safety first hand (RoSPA, 2020). This links with the ESDGC themes of Health, with the responsibility to keep safe, and Choices and decisions, where the role of the adult is to identify and minimise the risk, in order to educate children about making safe choices. Activities around water can also link to other themes of EDGC, The natural environment, Consumption and waste and Climate change (Welsh Government, 2008).

Davies and Hamilton (2016) highlight the tendency for practitioners to simply transport indoor resources and activities outside, rather than embracing the unique opportunities presented by the outdoor environment, which was partly attributed to the pressure from policy to “teach” rather than allowing children to learn. It should also be recognised that whilst any activity which occurs indoors can be done outdoors, this is not true in reverse (Beatson, 2019). The experience outlined uses a combination of resources found in the environment and those which are provided, namely buckets, colanders, sieves and various offcuts of wood, and some wheeled trolleys used to

transport the resources and to gather found resources. The addition of other loose parts, such as pipes, guttering and funnels could be used to further develop the experience (Earth Day Canada, 2018).

The Theory of Loose Parts (Nicholson, 1971) recognised the way children like to invent, construct and then evaluate and modify their creations. It also recognised that the richest source of loose parts is the environment that surround us every day. Similarly, Daley and Beloglovsky (2015) propose that the outdoor environment dramatically increases opportunities to discover loose parts, including sticks, stones and leaves and that the creativity of children allows them to be used in endless ways. Montessori advocated using simple, natural items in carefully prepared environments, which can be seen as a forerunner for what is now termed loose parts, this is also common to the Reggio Emilia approach where loose parts are used as “provocations” to arouse the interest of children (Smith-Gilman, 2018). The role of the adult in providing these stimulating and interesting environments and resources is therefore key to facilitating learning.

Loose parts also have the benefit of being environmentally friendly, giving another life to items which may otherwise end up in landfill, and they are often made of natural materials. This has links with the Consumption and waste theme of ESDGC (Welsh Government, 2008) and with the purpose of developing “ethical, informed citizens” who show commitment to sustainability in the New Curriculum for Wales 2022 (Welsh Government, 2015b). Loose parts can be anything, the practitioner just needs to consider affordance – what does the object offer to the child? (Gill, 2012). The provision of loose parts can also support children’s schemas, for example, the wheeled trolleys may support transportation schema and constructing dams and bridges may support the connecting schema (PACEY, No date).

Using the outdoors will inevitably bring humans into contact with nature, there is evidence of plant and animal life, even in urban areas, albeit less abundant and of a different type to the rural landscape of mid and west Wales. It has been hypothesised that humans have a natural attraction to and affiliation with nature, termed “biophilia” by Wilson in 1993, which leads to curiosity about life and living things (Gullone, 2000). Pestalozzi believed that education should begin with concrete, natural objects that children can explore at their own leisure, and in allowing nature itself to teach the child

(Joyce, 2012). Froebelian principles state that children should learn “in” nature not “about” nature (Tovey, 2013), and this is also the view in Montessori settings (Montessori Nature, 2020). Use of the outdoors and contact with nature is central to developing empathy, compassion and other pro-social behaviours, such as learning to care for the environment, as well as improving wellbeing (Barrable, 2019; Guardino et al, 2019). This view is echoed in the UNCRC Article 29, which states that a child is entitled to an education which develops abilities, understanding and respect and which teaches them to protect the environment (Unicef, No date).

Learning about science is a natural result of contact with nature, but Froebel recognised that appreciating nature relies upon more than just being outdoors in the fresh air, children may need time and the support of an adult to develop a relationship with the natural world which recognises the unity and interconnectedness which the natural world depends on (Smedley and Hoskins, 2018; Tovey, 2013). However, Piaget believed that children should not be viewed as empty vessels ready for adults to fill with knowledge, rather as active builders of their own knowledge or “little scientists” and that the adult role lies more in providing opportunities and allowing exploration (McLeod, 2018). The need to step back and observe could then be made more explicit in the experience plan.

The outlined activity benefits from a location which will certainly expose the children to different flora and fauna, some unique to water sources and as such, provide opportunity to discover and learn about them. Such learning opportunities have been embraced by the Forest Schools movement in the UK, which links nature with the curriculum (Joyce, 2012). The benefits of this exposure are numerous and not limited to the learning element, connecting with nature can reduce stress and increase feelings of wellbeing and emotional health (Louv, 2013). The possibilities of exploring nature and living things could be expanded upon in the plan, as the experience is designed to be child-led, and a child’s curiosity could be provoked by any living thing they see (Gullone, 2000). The role of the adult may then be to support that learning through scaffolding, and working at the “zone of proximal development”, as suggested by Vgotsky, to apply adult scientific knowledge to that everyday discovery of the child (Dolya, 2010).

Interactions with nature links closely with interactions with landscapes, and this will be unique to where the setting is located and connects the ESDGC theme of Identity and Culture (Welsh Government, 2008), the areas of Knowledge and Understanding of the World and Curriculum Cymreig element of the Early Years Foundation Phase (Welsh Government, 2015a), and also the “knowledge about their culture, community, society and the world” aim of the New Curriculum for Wales 2022 (Welsh Government, 2015b). In the Te Whariki curriculum of New Zealand, the Ngā hononga strand highlights the importance of a child’s relationships with the people, places and things, which includes their emotional connections to places (Beatson, 2019). In contrast, Leather (2018) expressed concern that this recognition of cultural differences is not reflected in the Forest Schools of the UK, and that in trying to emulate other systems, such as the Scandinavian model, the opportunity to create something new and unique is missed.

It is largely accepted that quality environments and outdoor environments lead to better interactions between people (Tonge et al, 2018). Many pioneers and theorists, including Montessori, Pestalozzi, Froebel and McMillan held the view that simply being outdoors is not enough, and that highly trained staff are key to using the outdoor environment to its full advantage (Joyce, 2012). However, a stocktake of the Foundation Phase in Wales found variation in the level of qualifications and in understanding and implementation of the curriculum. A need for more tailored training and sharing of best practice was identified (Institute of Education: University of London, 2014).

The experience plan recognises that the outdoors largely brings about positive experiences for learners (Guardino, 2019). It also allows a whole session of 2 ½ hours to enjoy the experience, giving children time to find their place and develop their play (Bilton, 2010). In the influential Norwegian preschool system, children spend a significant part of their day outdoors, all times of year and have large outdoor spaces. This time leads to longer periods of undisturbed play, which is largely child-initiated (Moser and Martinsen, 2010). Having sufficient time is important for developing

play and learning, which can be done through the process of “sustained shared thinking”, which is part of the pedagogical approach of the most effective early years settings in the UK (Siraj-Blatchford and Sylva, 2010; Siraj-Blatchford, 2002; Sylva et al, 2004).

Lack of time is regularly identified as a barrier to effective outdoor learning by practitioners (van Dijk-Wesselius, 2020). This extends to a lack of time for planning effective learning environments, reflective practice and making improvements (Hayes and O’Neill, 2019). Ratios of adult to child are high in the experience plan, which recognises the increased challenges and also increased interactions the outdoors may offer. Something which is not possible to include in a plan, and which may prove a barrier to effective use of the outdoors is practitioner attitudes (Waite, 2011), and there is a need for practitioners to relax control if the experience is to be truly child-led (Maynard and Waters, 2014). van Dijke-Wesselius (2020) calls for a change in mindset, where practitioners trust their own professional judgement, make the time and just do it.

In summary, the experience offers opportunities for holistic and cross-curricula development, and the use natural outdoor environments and resources has many benefits. However, the success of the experience will be largely dependent on the skills, knowledge and attitudes of practitioners, and their ability to extend knowledge and allow children to take the lead.

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