Outdoor Learning
Practical guidance, ideas and support for teachers and practitioners in Scotland

Section 2: Making connections across the curriculum

Education Scotland
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www.educationscotland.gov.uk
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Practitioners possess skills and approaches to learning, teaching and assessment that are valid and useful in an outdoor context. The abilities of educators enable them to be effective outside as well as indoors. All subjects, all ages and all levels can be taught outdoors.

Many current themes in education can be taken outside with a little thought and creativity. For example, enterprise in education or citizenship activities can be effective and meaningful when undertaken outside. Access to Scotland’s natural, built and cultural heritage brings a unique dimension to learning which helps young people learn and understand the contributions they can make to society. International education and global citizenship themes taken outdoors add perspective to children and young people’s appreciation of Scotland’s relationship with the wider world.

Whilst learning outside is relevant across the curriculum, the following sections cover specific approaches and themes where outdoor learning has a unique and enhanced role in meeting the learning needs of children and young people. These sections are:

- A whole-school approach.
- Early years outdoors.
- The health and wellbeing of children and young people.
- Sustainable development education and outdoor learning.
- Fostering creativity through learning outdoors.
- Skills for learning, skills for life and skills for work.
- Informal outdoor learning opportunities for children and young people during and beyond the school day.
- Bridging the Gap outdoors for young people.
- ICT and digital technologies.
- Interdisciplinary learning.
A whole-school approach

Everyone within each learning community, whatever their contact with children and young people, should be proactive in promoting the benefits of being outdoors in the classroom, the playground and the wider school community. The adults involved can encourage and capitalise on the potential of the outdoor context to provide new challenges and ways of learning. Practitioners need to ensure that the outdoor experiences provided engage children and young people, and that they take account of their views.

Learners can benefit from a wide variety of outdoor experiences within and beyond the formal curriculum. Look for opportunities that make the most of the wider knowledge and skills of practitioners. Examples include:

- catering staff using vegetables grown in the school garden in their menus
- a social inclusion worker leading Forest School activities as part of an S4 Biology course
- a science technician taking a lead role on the school grounds development committee
- a depute headteacher leading a low-level hill-walking club after school in the summer term
- a janitor developing a hot composting system to support the school in recycling garden waste
- transition activities that take place outdoors and involve partner organisations, including community learning
- an after-school club holding weekly outdoor free-play sessions all year round and during the holidays in the wildlife garden belonging to a secondary school
- parent councils assisting with the funding of outdoor clothing for the school to enable outdoor learning to take place in all weathers

‘We found out that our catering manager is a passionate gardener and she has worked with our pupils creating a vegetable growing area for the different classes to grow and eat their own vegetables.’

St Dominic’s RC Primary, Airdrie, North Lanarkshire
Early years outdoors

There are an increasing number of early years settings throughout Scotland demonstrating leading practice outdoors. In line with the medium-term priorities stated in the Early Years Framework, there are established outdoor and nature kindergartens where children are outside all year round in almost all weathers. Many other centres are incorporating aspects of this philosophy and approach in their routines.

Quality practice in outdoor learning through play is often characterised by:

- knowledgeable and enthusiastic practitioners who collaboratively plan, facilitate and enable children to develop their skills, knowledge and understanding through child-initiated, play-based experiences – this is developed from observing and consulting children using a variety of approaches

- the development of outdoor spaces within settings as stimulating play environments that include many open-ended resources, natural materials and opportunities to engage in risky, challenging and adventurous play

- the indoor and outdoor spaces given equal consideration and being simultaneously accessible to children

- opportunities for children to experience natural places which give a feeling of wildness through regular and frequent off-site visits to woodlands, beaches or other areas of greenspace – this also includes time to visit and get to know the local community, its people and its services

Practitioners who are willing, keen and interested in working with children outside can make a positive difference to the quality of outdoor provision. Even a small outdoor space has the potential to be developed on a low budget using cheap or unwanted items. The organisations listed in Appendix 1 can help committed practitioners to do this using a participatory approach that fully involves young children. Making outdoor spaces as safe as necessary and not as safe as possible is an important step when allowing children more freedom to self-assess risk in their play.

Giving the indoor and outdoor play environments equal consideration is helpful. Little steps make a big difference. For example:

- allowing parents to drop off or collect their child from the outdoor space rather than indoors

- having snack outside

- holding circle times or reading stories outside

- planning for outside as well as inside, for example rather than having an outdoor box on a planning sheet, ensure that half the activities offered take place outside
Regular visits to local woodlands, beaches or other greenspaces help young children learn and make connections across all curriculum areas. There is a whole world beyond the indoor space waiting to be explored. Look at the issues around off-site visits and ways of solving these to enable the activity to happen on a frequent basis.

A useful starting point for improving outdoor play provision is the Education Scotland Supporting the Early Level DVD28, which has a section about learning environments and the need to maximise the potential of the outdoors. www.educationscotland.gov.uk/earlyyears/curriculum/supportingearlylevel/implementation/environmentsforlearning.asp

The Early Years area of the Education Scotland website has comprehensive support for childhood practitioners working in the early years, both indoors and outdoors. www.educationscotland.gov.uk/earlyyears/

Possible lines of development for outdoor play
When considering possible lines of development for outdoor learning and play, these should be based primarily on the children’s interests interwoven with seasonal and ongoing events and celebrations. Developing meaningful connections between the curriculum areas is paramount. Every experience and outcome can be developed outside in a bigger, better or different way than when being developed inside.

Whilst structured activities are beneficial for some children, most learning takes place through careful consideration of resources, the environment and the interactions of practitioners and children who are embarking on a learning journey together. Interdisciplinary learning through child-initiated play is the norm.

Practitioners may find it helpful to develop possible lines of development (PLODS) through mapping or brainstorming outdoor activities based upon popular child-led themes, schemas observed and activities linked to real-world events such as the weather, seasons and cultural and community celebrations.

The example below indicates how this may happen, clearly linking the different curriculum areas.

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Shapes in the environment
A group of children are fascinated with rolling tyres outside. Their lead adult shows them a book about vehicles and the children notice that the trikes other children are using have tyres as well. One child comments, ‘Those are circles,’ and draws a circle on the ground to show the other children in the group. The lead adult smiles and wonders how many children would fit in the newly drawn circle. The children make estimates, which are chalked on the ground beside the circle. They all crowd into the circle and call on other children to help. The children enjoy counting everyone in the circle to work out the answer.

The next day, the lead practitioner puts out a variety of play objects and asks the children which toys they think can roll or stack. The children sort out the objects and proceed to build a tower with the objects that stack.

Later on in the week the children are going for a walk in the local neighbourhood and notice all the circles and other shapes they can see. As the children pass a church a cross can be seen so the practitioner challenges the children to look for crosses in the environment.

Engaging parents and carers with outdoor play
Fostering close, purposeful relationships between home and the early years establishment provides many benefits for young children. These relationships can help to make sense of the totality of their experiences.

There are many ways of engaging parents and carers to ensure all understand the benefits of outdoor play and are interested, supported and committed to providing outdoor experiences for their child. This could include their involvement in:

- outdoor activities on- and off-site
- developing the outdoor space, from initial consultations and fundraising to implementing changes and celebrating successes
- creating and sharing story sacks that include outdoor activities at home
- looking after a soft toy, such as ‘Outdoor Orla’ and helping their child to record outdoor experiences with the toy at weekends
- sharing events and family activities that happen outdoors such as camping, holidays abroad and barbeques
- early years settings offering outdoor social activities as part of the induction and welcoming process
- setting up outdoor clothing loan systems or developing a stock of secondhand clothing for children to use at the establishment
The health and wellbeing of children and young people

The advice in this section is based upon a wide range of recent and relevant research highlighted in Section 1 about health and wellbeing that suggests that direct, frequent experience of being outside, particularly in contact with nature, produces positive physical, mental and emotional benefits that affect children’s overall development.

*Getting it Right for Every Child* is a national programme that aims to improve outcomes for all children and young people. As part of a holistic approach to *Getting it Right for Every Child*, practitioners should take into account the benefits for children and their families of spending time outside, ideally in natural settings. This can be part of a wider package or approach to providing support and meeting the needs of individual children.

Practitioners can use outdoor learning as an approach to support children and young people in each wellbeing indicator so that they grow and develop through being nurtured, active, respected, responsible, included, safe, healthy and achieving.

**Nurtured**

*Having a nurturing place to live, in a family setting with additional help if needed or, where this is not possible, in a suitable care setting.*

- Adults should listen to and observe children playing outside. The evidence gathered can be used to further develop opportunities for free play based on children’s interests.

- Adults can demonstrate respect for living things and the environment.

- Observing how children respond to nature away from the perceived stress of school can give a measure of how nurtured they are.

- Some children need to run off aggression or anger. Use the school grounds or outdoor space to allow children with this need to do this in line with an agreed approach.

- Working on specific behaviours outside benefits some children. Children can then transfer skills inside, creating a more nurturing environment in general.

- Using open-ended equipment that relies on collaboration between an adult and a child or between children provides opportunities for bonding. This works well with big play equipment outdoors.

- Use nurture group principles and apply them in an outdoor setting.

- Extend children’s opportunities to get to know the community within their local area.

- Be planned, prepared and positive about spending time outside with children. Model appropriate behaviours, including a willingness to try new activities, and rise to challenges.

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28 The Nurture Group Network has more information: [www.nurturegroups.org](http://www.nurturegroups.org)
Active

*Having opportunities to take part in activities such as play, recreation and sport which contribute to healthy growth and development, both at home and in the community.*

- Ensure children have opportunities to spend regular time in a natural setting. This may be parkland, beaches, woods or other areas of greenspace.

- Enable children to have the freedom to enjoy unstructured play, providing physical challenge at a self-chosen level of risk.

- Provide big open-ended resources, such as guttering, planks of wood, bread crates, etc that children can play with, making trails, obstacle courses, etc.

- Ensure children have suitable outdoor clothing and footwear to enable all-year outdoor play and learning to happen.

- Encourage children of different ages to play together.

Respected

*Having the opportunity, along with carers, to be heard and involved in decisions that affect them.*

- Involves the children in outdoor projects that interest them and develop a sense of ownership and belonging, for example:
  
  - growing plants of their choice in containers or gardens
  
  - improving the play facilities in a playground
  
  - participation in schemes such as the John Muir Award, Award Scheme Development and Accreditation Network ASDAN or Duke of Edinburgh’s Award, which set clear goals for achievement for individuals or groups.

- Listen to children and involve them in decisions at their level of understanding in a familiar context. Some children are more talkative outdoors and in play situations.

- Use a variety of consultation techniques so that even very young children or those with limited verbal skills can have their feelings and responses noted.
Responsible

Having opportunities and encouragement to play active and responsible roles in their schools and communities and, where necessary, having appropriate guidance and supervision and being involved in decisions that affect them.

- Create a collaborative learning environment, indoors and out, that enables children to have and to take responsibility for themselves, resources and the environment.

- Create opportunities for children to make decisions that have clear consequences. Group challenges or team-building activities can help. Adventurous activities with clear systems and instruction may appeal.

- Develop routines around going outside that encourage responsibility, for example:
  - involving children in the planning of work outside, including risk–benefit assessments
  - ensuring children carry their own snack, water, portable seat and toys
  - learning how to manage in different situations such as walking near a busy road, crossing safely, dealing with different (and uneven) surfaces, appropriate communication with others in the community.
Included

*Having help to overcome social, educational, physical and economic inequalities, and being accepted as part of the community in which they live and learn.*

- All children can succeed outside especially when a supportive practitioner seeks creative ways of engaging children. Look for interests a child displays indoors and extend the possibilities outside. For example, a child who likes cars could take a toy car on a string outside for a walk or simply to participate in a group activity.

- Children often accept each other readily outside whereas they may be competitive inside. Rather than excluding a child from class, try to include them outside first, within a small team.

The outdoor space or school grounds send a strong message about the school’s ethos and whether it welcomes and accepts all children. Ensure the school entrance is bright, welcoming and attractive:

- Keep the grounds well maintained, organised and litter-free.
- Have seating and shelter available. Children need to have all-weather clothing and footwear for being outside. Children need to feel comfortable outside.
- Provide extended opportunities to be outdoors and have lots of multi-sensory experiences.
- Provide a rich range of open-ended play materials.
- Create areas for growing food.
- Ensure there are challenges and risk-taking opportunities.
- Give opportunities for children to be physically energetic and active.
- Plan healthy snacks and food, including produce grown by children.
Safe
Protected from abuse, neglect or harm at home, at school and in the community.

- Enable children to take calculated risks that allow them to feel a sense of achievement, success and exhilaration. Let children develop their own approaches and attitudes towards risk.

- Actively involve learners in the risk–benefit assessment process. For example, in the school grounds, pupils can learn to identify potential hazards and contribute to the development of playground rules to encourage positive behaviour.

- Use free play outside to create trusted bonds between the child and significant professionals who will be involved with the child to keep them safe. Get them outside with education staff to observe the benefits for the child and to engage in a non-threatening way. This fits very much with nurture group thinking and makes bonds easier.

- Use off-site visits as a strategy to get children opening up and feeling safe to express their feelings.

- Seek advice from outdoor education professionals, who can advise on introducing more adventurous activities into the playground and provide access to adventure activities in the local area.

- Provide den-building materials and support children to make shelters. When children engage with their physical environment, turning places into spaces that have meaning for them, they gain a sense of belonging. Den building can lead to children making their own safe space and self-chosen time out.

- Provide nooks, crannies and places where children feel they can hide or be alone when needed, for example willow structures, bushes or landscape features that provide privacy.

- Ensure that health and safety guidelines are followed and interpreted sensibly when taking children outside.

- Ensure that opportunities to learn road safety, appropriate behaviour near water and other practical risk–management skills are taught.

- Be aware that child protection procedures must be in place outside too.

Healthy
Having the highest attainable standards of physical and mental health, access to suitable healthcare, and support in learning to make healthy and safe choices.

- Ensure children have access to outdoor intervals and lunchtimes to play.

- Work with the wider school community to green the grounds and increase the number of natural features.
• When identifying the main barriers to learning faced by a child and putting in place a personalised timetable as an alternative to exclusion, practitioners should identify what can be offered within or through the local community.

• Provide time to walk and talk and spend time just being outdoors, especially in greenspace or nature.

• Find ways to provide regular experiences in natural settings.

• Provide plenty of opportunities for physical activity outside.

Achieving
*Being supported and guided in their learning and in the development of their skills, confidence and self-esteem at home, at school and in the community*

• Plan activities and lessons that appeal to the naturalist intelligence within a young person and allow them to achieve in a range of real-world contexts.

• Provide opportunities for formal recognition of achievement such as ASDAN, John Muir Award, Duke of Edinburgh’s Award, Youth Achievement Awards, etc.

• Find a means to enable a child or group to develop an expertise outside that can be used as a positive focus or distraction if needed. Some children will accept praise outside but not inside. Being praised for having good practical skills can be quite different and more manageable than trying to generally be ‘good’.

• Provide opportunities to access natural areas and attend residential courses or expeditions where young people experience intrinsic rewards through meeting physical or social challenges.

• Involve learners in the development and care of a school garden.

‘One teacher has been rebuilding a bike outside with his ASN class. When a child’s behaviour begins to escalate, he has a great ‘We need a helper’ tactic to distract the child, who is asked to help fix the bike. This turns the situation into a positive matter where the child now feels valued.’

Headteacher, Aberdeen City Council
Sustainable development education and outdoor learning

Sustainable development is about meeting the needs of the present without compromising the ability of future generations to meet their own needs.29

Outdoor learning has an important role to play in helping children understand about our planet and the complex life systems it supports through observation, interaction with and interpretation of natural events and changes all year round.

It helps children and young people make connections to the world in which we live. Outdoor learning can motivate people of all ages to think about and take action at local, national and global levels to live harmoniously and deal effectively with the impact we have on our environments. An appreciation of the natural world and society largely depends on direct personal, aesthetic and spiritual experiences outdoors and in the real world.

This happens through providing outdoor experiences that help children engage with, understand and manage the emotions created by those outdoor experiences. These experiences might be carefully designed programmes, or informal and spontaneous activities. They can be enhanced through multi-sensory approaches such as the use of expressive arts to interpret and communicate findings as part of an interdisciplinary project.

Research suggests that engagement with the natural world from a very young age may be a prerequisite for the development of critical reasoning skills and proactive positive behaviours and attitudes towards sustainable development.31 This begins with free-play experiences in woodlands, beaches and other areas of greenspace where children can directly experience and interact with nature.33

Sustainability is more than a scientific concept. The Scottish Government’s Learning for our Future document lists its fundamental principles as:

- interdependence
- diversity
- carrying capacity
- rights and responsibilities
- equity and justice
- uncertainty and precaution

Schools and centres can incorporate these sustainable principles into outdoor experiences when the opportunities arise and use partner organisations and professionals to widen learners’ understanding of these issues. Simple actions and decisions can make a positive difference. For example:

- give learners plenty of opportunities to learn about Scottish wildlife and plants. This links to the science experiences and outcomes on biodiversity and connects children and young people to Scotland’s natural heritage

- make connections between nature and children’s lives, in the past, present and future. For example, look at uses of plants and food gathered safely from the wild, undertake felting projects and plant trees

- use recycled materials as much as possible. For example, adopt the principles of permaculture when developing gardens, reusing items for free play and formal learning activities

- enable learners to engage with the key concepts that underpin responsible citizenship, such as democratic and community engagement and responsibility in the context of sustainable development

32 See definition on p37 and at footnote 45.
Examples of interdisciplinary projects with aspects of sustainability woven into the experiences

There are many possibilities for integrating sustainable thinking and action into outdoor experiences. The approach is best undertaken through a series of ongoing linked activities rather than fragmented sessions to allow learners time for ideas and experiences to interact and make connections between nature, people, communities and society. These activities can also include a focus on the positive actions everyone can take, individually and collectively. This can be a context for understanding and learning more about how our society works and promoting a sense of shared ownership and involvement.

Early level – Making homes

During a together time, a child announces that she is moving house. This creates a lot of interest as the other children ask questions. The lead adult asks if the children would like to create a new house outside. A group of children want to do this and start drawing their ideas of what it should look like. Together they think about the materials needed and collect them together.

Before long there are several little dens built from milk crates, umbrellas and old sheets. The adult encourages the children to think about what they need inside their homes. The children have their own ideas and before long are immersed in role-play using shells, bark and other natural materials to represent different household objects.

The next day the children are visiting their local woodland. The adult shows them photos of their new homes in the outdoor space and wonders what they would look like here. Some children decide they want to be squirrels and other woodland animals. One child tries building a drey in a tree but the sticks keep falling out. Eventually he moves the sticks over to a pair of children who have decided that the ‘Gruffalo’ lives in a nest on the ground. Their key worker wonders why the nest on the ground is easier to build. ‘It just is,’ answers the child.

First level – What animals live in or use our grounds?

Undertake a simple investigation, looking for evidence of animals. The animals can be classified simply and the variety noticed and recorded.

If children are interested in wildlife, then suitable homes can be researched and built, such as bird boxes, log piles, hedgehog houses or other places for animals to live. Ideally, locally sourced natural materials and reused household items will be the materials used to create the homes. The children can map where the homes are located. Through asking questions, children can find out more about local wildlife.

The animal homes can be monitored on a monthly basis to see which creatures move into the grounds. The children may wish to experiment with the siting of the wildlife homes to find the most effective place. Invite the local Biodiversity Action Plan officer to meet the pupils to discuss their findings and suggest any further action the pupils could take, such as planting specific plants as food sources and shelter.
Second level – The vegetable plot
This works well linked to, or following on from, a project about World War II and creating a ‘Dig for Victory’ garden.

Discuss the planting of an area of a vegetable plot. Think about what the plants need to grow and discuss the use of fertilisers. Invite a local farmer or vegetable gardener to explain their use of fertilisers, including organic products. Pupils plan how they could investigate which fertiliser is best for their garden. Pupils can take soil samples, test compost from their own compost heap, inspect commercial fertilisers, etc. Prepare the soil in separate plots or containers to allow groups to carry out their investigations. Display their results and produce to the class.

Use mini compost columns set up in different parts of the school grounds to investigate the best conditions for composting. Use the observations to select the site for a full-size compost bin and set up a composting system with the support of the school’s kitchen staff.

Using ingredients from the school garden or grown locally, plan and cook a healthy meal. Ensure that the recipe is balanced and includes ingredients from a range of food groups. Find out the minimum number of food miles it is possible to use to make the meal. Compare this with food eaten during World War II.

Third and fourth levels – An outdoor performance
Find an outdoor place such as a community woodland or local beach that is keen to attract more visitors. Challenge groups to rebrand and promote it in a new way through a performance.

Design the performance as a guided walk with groups taking inspiration from their specific area, using music, visual art, the spoken word and other forms to create site-specific experiences. A focus could be made on spirituality and religion, with the English and art departments working to display key concepts, ideas and values within the performance. The business department can assist pupils in marketing the performance to parents and the local community.

Learners can explore the area looking for ‘found objects’ such as attractive pebbles, sticks, or flotsam and jetsam. Create works of art which can be displayed along the route of the performance to add additional interest.

‘The Executive is keen to raise the profile and uptake of outdoor education as a whole school approach which can effectively knit together many strands of sustainable development in a rich learning environment.’

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34 Scottish Executive (August 2006), Learning for Our Future: Scotland’s First Action Plan for the UN Decade for Sustainable Development, Key Action Point.
Fostering creativity through learning outdoors

Creativity is about generating ideas or producing things and transforming them into something of value, in any field or discipline. Creativity is complex and lots of factors are involved in its development. Being inventive, ingenious, innovative and entrepreneurial is part of being creative. There is also a need for learners to be able to persist when faced with a challenge, for example to see a task through to completion or to be able to work through a difficult social situation that requires negotiation and compromise. Courage, motivation and resilience are part of the creative process.

Everyone has the potential to be creative. It is a skill that can be and needs to be developed but is often a capacity that young children seem to possess naturally and should be nurtured. A learning environment that supports and encourages creative thinking and play makes a difference. Collaborative groups and partnerships within classes and schools, and extending into the community have a positive impact on learners.

Taking learning and play outdoors can help foster creativity, for the following reasons.

Increased knowledge base
Children who spend more time in a natural environment have a better knowledge of nature.35 Time to observe patterns, sequences and events in the world can develop an understanding of relationships, interdependency and cause and effect.

Developing problem-solving strategies
Outdoor spaces and places can present opportunities to develop problem-solving strategies. Learners are exposed to far more varied and multifaceted issues and challenges in an outdoor environment. These can be used skilfully to engage young people in the application of a wide array of skills and knowledge in response to challenges. Creative thinking is about creating ideas that have value; by using skills to implement ideas and solutions young people identify with the value of being creative.

Natural places and materials
Give children and young people opportunities to visit places that have a sense of wildness. By using natural materials for different purposes children are able to make connections and be inventive. Natural materials are more ‘open ended’, requiring greater skill and creativity in use.

Challenge, risk and decision making
Creativity is closely linked to risk taking and learning to manage risk. Ventures and adventures both require creative thinking and associated mental and physical risk taking. A progression of outdoor activities through the different levels can be part of a whole-school approach. Succeeding in a series of physical outdoor activities can have a carry-over effect into academic performance, providing the challenges are appropriate to the age and abilities of the learners. Experiences of risk and reward also empower learners to take risks with their learning, exploring new possibilities and seeking out solutions. Risk is an essential precursor to creativity.

Acquisition of new, specialist and transferable skills
Skills related to subject areas and work can be acquired through outdoor experiences that cannot be learned or practised inside. Skills learned in context become more relevant and applicable across a range of situations. For example, in one rural island school, pupils were involved in a beach clean-up. Using the flotsam and jetsam they picked up, the children made rope crosses for Easter to give as gifts to the older members of the community. Many of the pupils were from fishing backgrounds so the skill of tying knots to make the crosses was a life skill for them.

Communication
The ability to communicate is a necessary part of creativity. Being outdoors can encourage a quiet child to chatter. Much outdoor work relies on group collaboration.

Time to relax and let the focus go
The state of the brain is hugely important for creativity. It is hard to be creative when there is a continued focus only on a task. The powerful subconscious, where much creativity resides, is suppressed. Often the best ideas come when there is not a focus on the problem, but engagement in some other less pressured activity. Having spaces and time for quieter relaxation and observation of people and nature is important to nurture creativity. Being outdoors can provide opportunities for both challenge and reflection.
Developing imagination

Imagination is central to developing creative thinking whether it involves seeking a single solution or a number of alternatives. Developing a capacity to imagine the consequences of a particular action helps with innovation. The outside world provides experiences and events that feed the imagination and provide many settings for creative thought.

In 1971, the theory of loose parts was proposed by architect Simon Nicholson. He believed that loose parts in a play environment empower creativity. Loose parts are materials with no specific set of directions that can be used alone or combined with other materials. They can be natural or synthetic. In an outdoor environment, they could be stones, stumps, sand, gravel, twigs, wood, pallets, logs, stones, flowers, rope, tyres, shells, etc.

In any environment, both the degree of inventiveness and creativity, and the possibility of discovery, are directly proportional to the number and kind of variables in it. Having loose parts available allows children and young people to use these materials as they choose. Nicholson suggested that children playing with loose parts are using more creativity and imagination and developing more skill and competence than they would playing with most fixed resources.

When children play or learn in a space or with an object, they experience it in a unique way. They view it in terms of its ‘affordances’, rather than its common use. The ‘affordances’ of an object or space are all the things it has the potential to do or be. For example, a stick may be a fishing rod, walking stick or many other things. It has a high affordance. A toy car is mostly used as a car. Thus it has a lower affordance.

Natural materials such as stones, sticks and shells are of particular value because they are not uniform. When carefully used within and across different subject areas, natural materials encourage problem solving, high-order thinking and communication. For example, if a Primary 2 class are asked to find out how many Unifix cubes are needed to make one metre, the answer is fixed. If stones are used, the challenge becomes open-ended because each stone is a slightly different size. This gives rise to more discussion and further challenge, such as requesting that all groups use the same number of stones to complete the task.

In natural environments such as woodlands and beaches, the opportunities for using natural materials as loose parts as part of a learning and teaching approach are further enhanced as the scale and quantity of materials available greatly increases. Material should be gathered responsibly.

As practitioners, when working outside, we need to ask:

- can the materials or environment we offer be used in many ways?
- can they be used in combination with other materials to support imagination and develop creativity?
- are the materials freely accessible?
- am I allowing pupils to make connections in the learning environment?

The potential and development of the outdoor space as a place to enrich creative learning and teaching

Creative thinking skills are fostered when learners are given authentic tasks that are relevant and have a real purpose. Developing an outdoor space is an ideal context for this to happen in. Involving children and young people in the process provides opportunities for them to take real responsibility, think creatively and take action.

These suggestions are particularly relevant for secondary schools, where the design of the school site may not take account of the creative needs, interests and aspirations of its learners.

In terms of fostering creativity, schools and centres in all sectors may wish to consider the following ideas:

- increase the biodiversity of school grounds to attract wildlife and plant life. They can be a rich learning source about the natural world

- give young people the opportunity to take ownership of their school grounds by generating ideas for their development and then being involved in an interdisciplinary project to implement their vision. More advice is given in the Transforming your Outdoor Space section

- consider the potential of the grounds for learning through exploration and discovery across the curriculum areas. Provide different surfaces, textures and multi-sensory experiences. Create unusual features in interesting places using outdoor art and craft designed and made by learners

- develop more adventurous activities in playgrounds. This helps develop self-confidence and measured risk taking. Allow for progressive challenge and risk taking in the outdoor space

- provide places where children and young people daydream outdoors, invent imaginary games, role-play and read. Nooks, crannies and quiet corners give learners places to be alone. Careful planting of trees and shrubs is one way to do this

- provide loose parts and imaginative play materials during intervals and lunchtimes which pupils can use to create something of their own making. Focus on natural materials and the use of scrap materials

‘To climb a tree is for a child to discover a new world.’

Froebel, Education of Man, 1826

Loose parts text has been adapted, with permission, from Jennifer Kable, Kimna Primary School, New South Wales, Australia.
Skills for learning, skills for life and skills for work

Outdoor learning can provide a range of opportunities for children and young people to develop skills for learning, life and work. Stepping out of the classroom gives access to a range of real-world learning experiences that allow learners to understand the relevance of their existing skills and enable them to understand areas for development.

The outdoor environment opens up opportunities for practitioners and learners to work in new ways. For example, the greater space available outside, the availability of new and natural materials, the freedom to make mess and noise all mean that some of the barriers that might have constrained the structure of learning activities inside are removed. By capitalising on these opportunities practitioners can provide challenges and learning experiences that are particularly relevant when considering skills development and progression.

As an example, practical challenges outside that require learners to solve problems can provide opportunities to develop thinking skills by providing a context that requires learners to analyse the issues, understand the problem, create potential solutions and evaluate those which may be successful before applying them to solve a particular challenge.

Points to think about:

- what area(s) of the curriculum, skills or particular outcomes are learners currently covering?
- identify a problem outdoors that needs to be solved
- explain why this problem needs to be solved
- create success criteria that will indicate what needs to be done to solve the problem successfully
- outline two or three observable behaviours, taking into account the skills that can be developed, which will identify how learners will work together. What will you see and hear?

By providing opportunities to work and communicate in groups, young people also learn that they have different abilities and attributes from others, enabling them to understand that their skills are valuable and relevant. By working practically with others, learners are also able to evaluate their own skills and reflect on next steps.
'All learners should be involved in planning and reflecting on their own learning, through formative assessment, self and peer evaluation and personal learning planning.'

Learning outside and engaging young people with their learning in new ways can provide opportunities to gather evidence of learning and the whole range of skills for learning, life and work. For this reason, when working with children and young people outside practitioners should gather evidence and record developments in the same way as they would for all other learning.

‘For example, evidence of literacy and thinking skills might be gathered and evaluated as part of developing and presenting solutions to problems or investigations in maths or business; evidence of skills in numeracy and working with others might be gathered and evaluated as part of a group task to monitor local weather patterns in social subjects; evidence of literacy and leadership skills might be gathered and evaluated as part of an outdoor expedition or volunteering task; evidence of health and wellbeing and planning skills might be gathered and evaluated as part of a volunteering task.'

For further guidance on developing skills for learning, life and work, please refer to Building the Curriculum 4: www.educationscotland.gov.uk/Images/BtC4_Skills_tcm4-569141.pdf


Informal outdoor learning opportunities for children and young people during and beyond the school day

Children’s access to nature and outdoor play has fallen dramatically. Today in our society, children spend less than half the amount of time playing outdoors that their parents did at the same age, and much of that time is restricted to built playgrounds and structured activities or sports. Research on the John Muir Award found that ‘1 in 10 participants had never visited a wild place before their award involvement’ and that ‘those living in the poorest circumstances were over 6 times more likely to have had no previous experience of wild places’. Working with partner organisations, especially those involved in youth work, to provide access to such places may be a priority for schools in urban and deprived areas.

Making time and space for play

Play is key to physical, mental and social wellbeing for children and young people of all ages. A review of research suggests that:

- playtime could offer children a unique opportunity to advance their interacting skills and social cognitive resources through informal self-directed play
- playtime may have decreased by as much as 50% since the 1970s
- children’s free time at school may decrease as they get older
- reducing break times could impact on children’s anxiety levels
- in the mid-1980s, approximately 21% of children travelled to school without an adult; by 2005, this number had dropped to 6%
- children explore their environment and play more when they travel to school without an adult

Researchers have found that during unsupervised playtimes, children expend around two-thirds of the energy of a formal PE class. Despite this relatively high level of activity in playtimes, researchers have concluded that there is scope to double it.

42 Mitchell, D and Shaw, R (2009), Health Impacts of the John Muir Award, Glasgow University’s Public Health and Health Policy Unit.
For all of the reasons outlined above it is important that those working in formal education understand the importance of informal opportunities for learning outdoors and of outdoor play.

The Go Play programme\(^5\) defines free play as:

‘Freely chosen, personally directed, intrinsically motivated behaviour that actively engages the child. It is performed for no external goal or reward, and is a fundamental and integral part of healthy development – not only for individual children, but also for the society in which we live.’

Play can cover anything from children exploring outdoor spaces to making up new games or finding ways to express themselves. It can be carried out alone or with others, indoors or outdoors.

For children, play generally means some form of physical, creative or imaginative activity where there is no ‘right way’ or ‘wrong way’ to do things and where they take the lead in what happens and how games develop. Possibly most importantly, the play environment is not an adult-led one and children themselves lead what happens.’
Developing outdoor free play during intervals and lunchtimes
Schools have an important role to play here and may wish to consider:

- the importance of free play and highlighting this in school policies and programmes to support pupils’ wellbeing and to meet their needs
- ensuring that intervals and lunchtimes are not cut back or removed altogether from the school day
- working with parents and support staff to ensure that learners have daily opportunities to play outside all year round and in all weathers
- introducing risk-benefit assessments to support more adventurous play
- providing training and support for playground supervisors, pupil play leaders or community play volunteers providing support to enable free play
- the development of school grounds to reduce bullying and violence at playtimes

• in consultation with pupils and other stakeholders, increasing the quantity of natural surfaces, trees, shrubs and other plants which allow children to re-establish a daily connection with nature

• the use of themed boxes to support different types of play outdoors. For example, Cardross Primary School Pupil Council created a box of play resources and activities linked to their woodland area. The whole process was researched and designed by the pupils and the box is conveniently available for all at the entrance to the wood. Other themes can be related to weather, minibeasts, rainy days outdoors, multicultural and seasonal events and celebrations, etc

• the accessible provision of loose parts and natural materials that allow children to play creatively (refer to the section on Creativity)

**Bridging the Gap outdoors for young people**

Bridging the Gap is about ensuring the best outcomes for young people by working in partnership with other organisations and departments. Young people are not just lifelong learners but also lifewide learners. A significant proportion of a young person's learning takes place beyond the setting of a school. Practitioners have a responsibility to recognise this learning as part of the ‘totality of experiences’ a young person has as they progress through their learning journey.

In addition to recognising the learning that is already happening, think about what opportunities are available to work in closer partnerships with youth workers or community learning colleagues. There are many advantages to doing this, for example:

• young people's learning becomes relevant across contexts and enables their knowledge, understanding and skills to be recognised by the wider school community

• the experiences and learning which take place in school can be extended or consolidated when young people are working in their communities or in other settings

• access can be gained to a wide range of expertise and resources that would not be available otherwise. In many cases partners can work with practitioners to look at developing opportunities for working together which fit into school routines

• by engaging with others an insight can be gained into the lives, experiences, skills and attributes of the young people with whom practitioners work

*Bridging the Gap – Improving Outcomes for Scotland’s Young People through School and Youth Work Partnerships* (Education Scotland Report, 2009) gives a wealth of practical ideas through case studies of existing work in schools, as well as the policy background and useful contact organisations to get started.

[www.educationscotland.gov.uk/images/Bridging_The_Gap_tcm4-552837.pdf](http://www.educationscotland.gov.uk/images/Bridging_The_Gap_tcm4-552837.pdf)
ICT and digital technologies

ICT and the use of digital technology can be an important aspect of any outdoor learning experience. Whether this is planning, photocopied letters, taking photos while you are away or sharing your experience with others, technology is an enabler and if used in the right way can add considerable value to the outdoor classroom.

This section outlines some of the ways in which technology may be used to enhance outdoor learning.

Before going outside

The internet has revolutionised the organisation and planning of outdoor learning experiences. Many schools and centres have established outdoor learning opportunities and it may be time to review these in light of Curriculum for Excellence through Outdoor Learning. The Education Scotland (http://www.educationscotland.gov.uk/learningteachingandassessment/approaches/outdoorlearning/placestolearnoutdoors/wheretogomap/index.asp) ‘Where to go in Scotland: Interactive Map’ provides a searchable database of places that schools and centres can visit throughout Scotland and the VisitWoods website (http://www.woodlandtrust.org.uk/en/visitwoods/Pages/get-involved.aspx) can help locate local woodlands.

Satellite imagery in Google Earth (www.google.co.uk/intl/en_uk/earth/index.html), Google Maps (http://maps.google.com) and Bing Maps (www.bing.com/maps/default.aspx?q=&mkt=en-GB&FORM=BYFD) provides a great opportunity to scope out an area before a visit. These tools can also help children understand where the area is in relation to where they live and to places they have visited before. Using satellite imagery and virtual globes before a visit can also help link to other aspects of the curriculum. Obvious links include using the Google Earth ruler and compass tools to reinforce the core skills of distance, direction and orientation. Imagery can also be used to support imaginative and factual writing about an area, as well as to put learners at ease if they are apprehensive about their forthcoming experience.

As tools like Google Earth become more advanced, more digital data is being overlaid on top of digital maps. The potential for using digital mapping for sharing information is likely to develop rapidly along with its potential as an educational tool.
When outside
Most people take many digital pictures these days and any image from an outdoor learning experience is likely to be a memorable one. The trick is to encourage pupils to take quality digital images that capture the beauty, mood and personalities of the experience or journey. Again, there is a lot of advice and ‘top tips’ online about helping children to take good digital photographs. Remember that photographs can help to evidence children’s learning too.

Challenge-based learning with photography is an ideal way to get learners to look more carefully at the environment around them. As well as trying to capture the magic moments, consider making a list of digital challenges for people to record. Examples might include: ‘Take a picture of a cloud that looks like an animal, something that is out of place, a smile, something synthetic but beautiful and something in conflict.’

If organised in the right way and time permitting, it is also possible to work with a whole group to take a lot of pictures and then digitally reconstruct places in three dimensions when back home. Web services like Microsoft’s Photosynth (http://photosynth.net) are useful tools for this purpose.

Disposable cameras have a place in outdoor learning. They are cheap and easy to use in the sand, snow or dirt. The waterproof versions allow you to capture those wet moments that might be missed otherwise.

Images are not the only thing that should be taken away from an outdoor learning experience. Electronic voice recorders can also be used to capture memories and sounds from the place visited. Voice recorders do not have to be expensive. Talking Tins (www.talkingproducts.co.uk/talking_tins.htm) or Easi Speak Microphones (www.rm.com/shops/rmshop/product.aspx?cref=PD1380880) provide cheap, robust commercial solutions. Most mobile phones also have a voice recorder and as long as you have a signal, a variety of apps, including Evernote (www.evernote.com) and AudioBoo (http://audioboo.fm), allow the geo-location of sounds or voices from the field to an online digital map. This can be used when back home or for observers to follow the group’s progress. Other mobile phone apps can turn school playing fields into a huge game of Scrabble (www.seeknspell.com) or local streets into a virtual game of Pac-Man (www.streetpacman.org).

GPS and tracksticks (www.trackstick.com) can also be used to map where the group has been and to share the journey with others. A handheld GPS can also be used to find one of over one million geocaches hidden outdoors as part of the world’s largest global treasure hunt (www.geocaching.com).

Using technology such as some of the examples mentioned above can give learners’ outdoor experiences additional purpose and assist with reflective processes back inside.
Sharing outdoor experiences
Think about the ‘www’ of the internet as the World Wide Wall display. Digital tools allow learners to share their outdoor learning experiences with an authentic audience.

Groups can write up their experiences online and share them using a variety of publication methods such as Glow Blogs. Alternatively, groups of learners can work collaboratively to document their thoughts and feelings using tools to create and edit collaborative documents, such as Glow Wikis (www.ltscotland.org.uk/usingglowandict/glow/index.asp).

Photographs can be uploaded to photo-sharing websites such as Flickr (www.flickr.com) and collected audio or video content can be edited, expanded upon and developed in audio or video podcasts. Audacity (http://audacity.sourceforge.net) and Windows Live Movie Maker for the PC (http://explore.live.com/windows-live-movie-maker?os=other), Garage Band (www.apple.com/ilife/garageband) and iMovie for the Mac (www.apple.com/ilife/imovie) provide free tools to help edit and publish digital content. Many young people will already be familiar with the use of these resources but they might need help to storyboard and structure their digital creations.

Other online tools such as Glogster (http://edu.glogster.com) and Animoto (http://animoto.com/education) provide quick and creative ways to share experiences, while Google Earth (www.google.co.uk/intl/en_uk/earth/index.html), Google Maps (http://maps.google.com) and Bing Maps (www.bing.com/maps/default.aspx?q=&mkt=en-GB&FORM=BYFD) now provide a stimulus for reflection.

Importantly, by sharing their outdoor experiences, practitioners and learners inspire confidence in others, as well as providing advice, inspiration and ideas for further learning outside.
Interdisciplinary learning
Outdoor environments provide firm contexts for interdisciplinary learning. Through interdisciplinary projects and themes learners discover that the whole is more than the sum of the parts. In turn this ensures that learners appreciate the value and place of different disciplines in understanding, managing and making the most of the complex world in which they live.

Being in a different environment can create a ‘need to know’ factor that can be exploited in a number of different ways. Exploring a theme, meeting a challenge or problem solving can all be used as reasons for practitioners from different disciplines to contribute their own expertise and guidance.

Equally, an outdoor situation can be used to highlight and confirm links and explicitly encourage learners to transfer skills and knowledge between discipline areas.

Formats for outdoor interdisciplinary learning can include:

- short-term one-off projects linked to an event, such as a community arts festival
- medium-term shared units of work and residential trips
- long-term projects such as managing allotments, school grounds developments or achieving awards

This curriculum approach can allow children and young people to learn based on their interests and help them make connections between different areas of learning. Being outside the walls of a classroom can be a physical demonstration of the removal of disciplinary walls. This can be further confirmed by ensuring that a range of different professionals or partners participate in the outdoor projects.

Examples of interdisciplinary work

Early level
Enjoy local foods outdoors at a teddy bears’ picnic. Children bring their teddies and healthy snacks are eaten together outdoors. Harvest some vegetables or fruit beforehand to have in some soup or with dips. Talk about the flavours, health benefits and reasons for eating local food. Link to harvest festivals and celebrations in different cultures.

First level
Let pupils observe and discuss the shadows cast by a stick in the ground over the period of a school day. Challenge pupils to make a clock using their results. Use stones and chalk to mark out each hour. Ask pupils to investigate what happens to the shadow if the stick is moved around the playground. Discuss and decide where the most reliable place in the playground would be to locate a sundial. Design and make a permanent sundial for the school playground.
Second level
Combine mapping and art skills to help pupils learn how to sketch landscapes effectively, accurately and aesthetically to record located features. This can also be linked to the use of scale in maths.

Third and fourth levels
What does this place look like? Answer this question from the perspective of different subjects. Within social subjects maps and timelines may be created while paintings may emerge from expressive arts and stories from languages.