OUTDOOR LEARNING SKILLS PROGRESSION IN ARGYLL AND BUTE

Argyll and Bute education policy, ***Our Children, Their Future, Thriving together*** aligns closely with the ***National Scottish outdoor learning policy*** by emphasising the importance of creating inspiring and inclusive learning environments. Both policies advocate for the integration of outdoor learning to enhance educational experiences and foster holistic development. Establishments should focus on providing every learner with opportunities to thrive in safe, motivating spaces, which complements the national policy's commitment to embedding outdoor play and learning as a fundamental part of growing up in Scotland. This alignment ensures that learners in Argyll and Bute will benefit from enriched educational experiences that promote skills development, confidence, and lifelong learning. These rich outdoor learning experiences also ensure the rights of the child are kept at the centre of what we do, in particular ***UNCRC*** Article 29, "*I have the right to an education which develops my personality, talents and abilities*."

Education Scotland's ***Learning for Sustainability, outdoor learning guidance*** also emphasises the importance of outdoor learning as a key component of sustainable education. It advocates for utilising both natural and built environments to enhance the curriculum, ranging from daily outdoor play to adventurous expeditions. This approach aims to foster a socially-just, sustainable, and equitable society by integrating global citizenship, sustainable development education, and outdoor learning into transformative educational experiences.

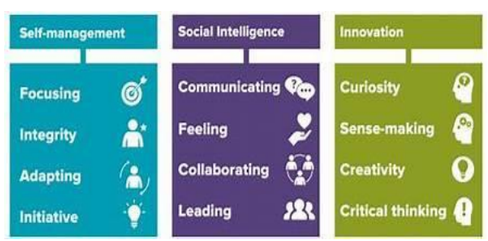






Effective outdoor learning in the ELC powerfully supports the aims of ***Realising the Ambition: Being Me*** by creating rich, responsive environments where young learners can develop holistically through play, exploration, and real-life experiences. Outdoor spaces naturally promote wellbeing, independence, and curiosity, key themes of the guidance, by offering opportunities for children to make choices, take risks, and build meaningful relationships with people and nature. Through hands-on experiences in the outdoors, learners are supported to develop their sense of self, confidence, and resilience, all while being nurtured in line with their individual needs and developmental pathways. Outdoor learning is not an add-on, but a vital and valued part of a child's everyday experience of being, becoming, and belonging.

This approach remains just as vital throughout Broad General Education (BGE), providing authentic, cross-curricular and interdisciplinary learning experiences that engage learners of all ages and stages. Outdoor learning meaningfully supports the ***GIRFEC (Getting It Right for Every Child)*** framework by promoting wellbeing across the ***SHANARRI indicators***, keeping learners Safe, Healthy, Achieving, Nurtured, Active, Respected, Responsible, and Included. Whether through scientific inquiry, creative expression, physical activity, or environmental stewardship, outdoor learning offers inclusive opportunities that meet learners' diverse needs and foster a deep sense of connection, agency, and wellbeing, ensuring every child and young person can thrive.



Argyll and Bute Education recognises the rich potential of the outdoors as a powerful environment for developing essential meta-skills that prepare young people for life, learning and work. In line with ***Skills Development Scotland's Meta-Skills Framework*** and the aspirations of ***Our Children, Their Future: Thriving Together***, we are committed to embedding outdoor learning as a core context for building self-management, social intelligence and innovation. Outdoor learning experiences, whether through forest schools, coastal exploration, or in urban settings, nurture critical meta-skills such as adaptability, initiative, collaboration and problem-solving. These skills are vital in equipping our children and young people to thrive in an ever-changing world. By harnessing our unique natural environment, we aim to provide inclusive, engaging and meaningful opportunities that not only enhance educational outcomes but also support the development of confident, capable, and connected learners, ready for the future and rooted in their local context. ***Link to AB Skills Guidance.***

GETTING IT RIGHT FOR EVERY CHILD			
Effective outdoor learning should be designed with the learner's best interests in mind, ensuring it is safe, engaging, and beneficial for their overall development. It should support physical, emotional, social, and cognitive development and enhance skills progression. Activities like nature exploration, physical challenges, and team-building exercises contribute to a learner's holistic wellbeing. Outdoor learning can be a proactive approach to improving wellbeing. Regular outdoor activities can prevent issues related to physical inactivity, stress, and social isolation, promoting early intervention and support. Collaboration among educators, outdoor specialists, and community members ensures that outdoor learning is well-rounded and supportive. This teamwork helps create a comprehensive learning environment that meets the diverse needs of learners. By integrating these principles, outdoor learning can become a powerful tool for enhancing children's wellbeing and development.			
UNCRC Article 29, "*I have the right to an education which develops my personality, talents and abilities*."			
SUCCESSFUL LEARNERS	Outdoor learning provides opportunities for learners to develop new knowledge and skills in a real-world context. Activities such as nature walks, environmental studies, outdoor experiments and inquiries can enhance memory and cognition, leading to improved attainment.	**SAFE**	Outdoor environments can be challenging but with proper planning and supervision, they can also be incredibly safe and enriching, also encouraging learners to consider potential hazards and mitigate them.
		HEALTHY	Outdoor learning provides opportunities for physical activity, fresh air, and connection with nature, all of which contribute to improved physical and mental health.
CONFIDENT INDIVIDUALS	Engaging in outdoor activities helps learners build confidence and independence. Challenges like navigating trails, participating in team-building exercises, and overcoming physical obstacles can positively impact attitudes and self-esteem.	**ACHIEVING**	Outdoor learning encourages active exploration and problem solving, leading to a sense of accomplishment and confidence. Areas of the curriculum such as literacy, numeracy, science and expressive arts can be enhanced by being taken outdoors
		NURTURED	Outdoor spaces can be a nurturing environment, providing opportunities for learners to develop their own unique strengths and interests
RESPONSIBLE CITIZENS	Outdoor learning fosters social development and community involvement. Learners can participate in environmental stewardship, participate in community service projects, and develop a sense of belonging and responsibility towards their surroundings	**ACTIVE**	Outdoor learning naturally promotes physical activity and engagement, fostering a love of movement and exploration.
		RESPECTED	Outdoor learning settings can foster respect for nature, the natural environment, as well as for learners through play, collaboration and teamwork.
EFFECTIVE CONTRIBUTORS	Outdoor settings encourage teamwork and communication. Activities such as group projects, collaborative problem-solving tasks, and outdoor sports enhance interpersonal skills and the ability to contribute effectively in various situations.	**RESPONSIBLE**	Outdoor learning can teach learners about environmental responsibility, resource management and the importance of taking care of their surroundings, themselves and others
		INCLUDED	Outdoor learning can be a powerful tool for inclusion, providing opportunities for learners of all abilities to participate and learn together.

OUTDOOR SKILLS							
NAVIGATION	RISK ASSESSMENT	TEAMWORK	LEADERSHIP	ENVIRONMENTAL STEWARDSHIP	WORKING WITH TOOLS	PROBLEM SOLVING	WORKING WITH FIRE

META SKILLS											
SELF MANAGEMENT				SOCIAL INTELLIGENCE				INNOVATION			
FOCUSSING	INTEGRITY	ADAPTING	INITIATIVE	COMMUNICATING	FEELING	COLLABORATING	LEADING	CURIOSITY	SENSE MAKING	CREATIVITY	CRITICAL THINKING

EARLY LEVEL OUTDOOR SKILLS

NAVIGATION

Demonstrate physical coordination; Running, balancing, climbing.

Show an understanding of basic directions; by following directions and using basic directional language. Left, right, up, down.

Navigate by choosing the best route using man-made paths, natural paths, footprints and landmarks.

Explore different terrains e.g., mud, rocks, sand, grass forest, etc.

Make and follow basic maps using drawings and simple symbols.

Explore and identify local natural, rural and urban environments.

Focusing
Sense-making
Curiosity

RISK ASSESSMENT

Plan for being outdoors, experiencing the seasons and different weather conditions outdoors.

Identify suitable clothing and demonstrate basic hazard awareness.

Discuss obvious risks and take appropriate steps to protect themselves and others in different contexts e.g, road safety, water safety, fire safety, climbing, den building, exploring the environment (litter picking), hygiene.

Discuss the appropriate action to stay safe, remain calm and get help in different unsafe or emergency situations outdoors e.g., shout for help, find an adult.

Focussing
Feeling
Adapting
Communication

TEAMWORK

Participate in group or one-to-one activities, playing and interacting with a partner or a group, sharing resources.

Ask relevant questions.

Follow simple instructions.

Have an awareness of how their actions can affect others and listen to others in a group or one-to-one.

Work with a focus, asking and responding to questions to clarify what they are doing, including making simple predictions and suggestions of their own ideas.

Begin to show flexibility and resilience when working with others.

Collaboration
Communication
Critical Thinking
Feeling
Adapting

LEADERSHIP

Identify and give reasons for their own choices with support.

Begin to show confidence in new and unusual settings or contexts.

Make suggestions in group play or activities.

Make their own instructions for others to follow with support.

Demonstrate genuine concern and responsibility for the welfare of others.

Leading
Feeling
Initiative
Communication
Collaboration

ENVIRONMENTAL STEWARDSHIP

Express an interest and awareness of the natural environment and living things within.

Participate in whole school initiatives e.g environmental improvement/protection projects such as bring your own bottle, no single-use plastics, a beach clean.

Demonstrate a genuine interest in the natural world and ask questions about it.

Demonstrate understanding of caring for the environment e.g. litter picking, leaving no trace

Demonstrate understanding of what is being said in the context of play, stories and real-life events and concepts such as reduce, re-use, recycle.

Exploring science inquiry skills

Critical thinking
Curiosity
Integrity

WORKING WITH TOOLS

Start to experiment with tools with adult guidance and supervision; Hammers and nails, cutting string, trowels for planting and digging.

Identifies an appropriate tool for a task.

Begin to demonstrate dexterity in using various tools with support.

Discuss potential risks and describe how to stay safe while using a tool.

Use tools to express themselves through different types of play such as mark making, role play, making things and tinkering

Demonstrating willingness to take on new challenges

Focusing
Adapting
Curiosity
Creativity

PROBLEM SOLVING

Carry out self-directed play, recognise and resolve related problems with support.

Recognise problems and talk about solutions with others.

Identify materials from their environment, coming up with their own ideas on how to solve problems describing why certain materials should/could be used.

Begin to show flexibility and resilience when faced with novel or unexpected situations.

Begin to use basic knots and structures such as lean to shelter tasks with support from an adult.

Exploring the engineering design cycle

Adapting
Initiative
Sense-making
Critical Thinking
Curiosity

WORKING WITH FIRE

Participate in cooking with fire led by appropriately trained adults in a safe and secure environment with relevant risk assessment undertaken.

Discuss the potential risks of fire and how to stay safe.

Focussing
Communication
Feeling
Integrity

FIRST LEVEL OUTDOOR SKILLS

NAVIGATION

Demonstrate basic navigation using simple maps, landmarks.

Demonstrate an understanding of basic compass directions: North, West, South, East and with support, give and follow basic directions in familiar locations on foot.

Navigate and demonstrate path finding by choosing the best route while comparing man-made paths, natural paths and clearing pathways. Identifies footprints and landmarks, measures distance and features.

Explore a variety of outdoor environments including natural (wild) and managed (e.g., park, woodland).

Make and follow maps using own drawings, symbols and simple maps

Explore and classify a range of local natural, rural and urban environments.

Focussing
Sense-making
Curiosity

RISK ASSESSMENT

Plan for being outdoors, including beyond the school boundaries,basic risk assessment of the journey; including discussing appropriate clothing and equipment for the season/weather/terrain.

When prompted, identify risks and hazards and ensure safe use of equipment, follow directions and procedures. e.g, road safety, water safety, fire safety, climbing, den building, exploring the environment, hygiene, accessibility for all.

Recognise unsafe situations and discuss emergency situations outdoors. Discuss the appropriate action to stay safe, remain calm and get help, find an adult, phone 999.

Identifies and respects the importance of safety and life-saving equipment in the local environment.

With support, give and follow basic directions in familiar locations on foot.

Focussing
Feeling
Adapting
Communication

TEAMWORK

Participate in group activities effectively starting to be more adept at taking turns.

Work with a focus, ask questions to clarify tasks and what needs to be done to plan and to set goals.

Make predictions and suggestions of their own ideas giving justification, begin to test predictions and look for evidence.

Follow procedural instructions, being systematic and working through the stages of a task

Recognise and respect other people's feelings and ideas.

Demonstrate growing flexibility and resilience when working with others.

Collaboration
Communication
Initiative
Critical Thinking
Feeling
Integrity

LEADERSHIP

Identify and justify their own course of action.

Show growing confidence in different situations/contexts.

Show an understanding of different roles during group work and being happy to take on different roles.

Ask questions to generate as many ideas as possible, share ideas with friends and teachers/adults.

Start to create instructions for others to follow independently.

Recognise and respect other people's feelings and ideas.

Leading
Initiative
Feeling
Communication
Collaboration

ENVIRONMENTAL STEWARDSHIP

Develop an understanding of human impact on the local environment.

Discusses the importance of protecting biodiversity within local ecosystems (school grounds and beyond).

Participate in whole school initiatives e.g environmental improvement/protection projects such as bring your own bottle, no single-use plastics, a beach clean with increased responsibility.

Demonstrate a genuine interest in the natural world and ask questions about it and suggest further areas of inquiry.

Make sustainable and environmentally friendly choices within their sphere of influence e.g. active travel (Carbon footprint).

Cares for the extended environment beyond the school e.g. local public spaces.

Developing science inquiry skills

Focussing
Sense-making
Curiosity

WORKING WITH TOOLS

Start to use tools for a specific purpose with adult guidance and supervision; Hammers and nails, saws, drills, various garden tools.

Identify an appropriate tool for a task and explain choices.

Demonstrate growing dexterity in using various tools with support creatively thinking of solutions to a task and developing this through use of trial and error.

Discuss potential risks and describe how to stay safe while using a tool.

Use tools to express themselves through different types of play and activities, role play, making things and tinkering, persisting with and completing a task

Demonstrate growing confidence in taking on new challenges.

Focusing
Initiative
Feeling
Adapting
Creativity

PROBLEM SOLVING

Carry out self-directed play/learning, recognise and resolve related problems with support where required.

Recognise problems and talk about solutions with others, including starting to break tasks into smaller parts in order to plan next steps, be systematic and work through the stages in a task.

Identify materials from their environment, create and plan next steps of an action, identifying the when, what and how in response to a problem.

Explain their methods and opinions when evaluating work, and begin to justify their choices and actions.

Use simple knots, materials and structures in activities such as den building or simple engineering tasks with growing independence.

Use of the engineering design cycle

Adapting
Initiative
Sense-making
Critical Thinking
Curiosity

WORKING WITH FIRE

Participate in cooking with fire led by appropriately trained adults in a safe and secure environment with relevant risk assessment undertaken.

Discuss how to construct a simple fire, contribute to the making of a fire including collecting appropriate fuel, older pupils may start to use a fire flint to light tinder/cotton wool with adult guidance and supervision.

Discuss the potential risks of fire and how to stay safe.

Focussing
Integrity
Feeling
Communication

SECOND LEVEL OUTDOOR SKILLS

NAVIGATION

Demonstrate advanced navigation using compasses, orienteering skills, using maps while recognising and identifying features within and outwith the school grounds.

Use own drawings/symbols to create maps, then recognises standard map symbols to identify and navigate to features of the landscape. Calculates distances.

Experience adventure out with the local area, day trips and residentials including opportunities for bush craft, fire making & safety, climbing and traversing skills, water activities and water safety.

Explore and classify a range of natural, rural and urban environments further afield and makes connections with their learning and sense of place in the wider world

Focussing
Sense-making
Curiosity

RISK ASSESSMENT

Begin to identify risks and mitigations independently. Plans for and applies appropriate safety measures when going outdoors.

With support participate in the creation of risk assessments considering road safety, water safety, fire safety, climbing, den building, exploring the environment, hygiene, accessibility for all etc.

Recognise unsafe and emergency situations identifying the different responses and challenges caused by being outdoors. Identifies, respects, and describes how and when to use safety and life-saving equipment located outdoors.

Give and follow directions to navigate in familiar and unfamiliar environments within a physical boundary (school grounds, activity centre grounds, farm or ecology centre visit, transition to new schools etc.) using maps and other resources.

Plan and experience a trip beyond the school boundaries and local area. Risk assessment of the journey and activities. Identifies required clothing and equipment and checks it is all fit for purpose.

Integrity
Feeling
Adapting
Communication

TEAMWORK

Work within a group taking on different roles with responsibility and remaining focussed on a task, examine options, share their opinions and justify their answers.

Respond to and build on feedback from others, suggesting constructive ways to plan and move forward. Share, explain and justify their views and begin to use language to influence others.

Evaluate what they have learned and be able to compare their approach with others in the group providing constructive feedback.

Communicate confidently in a variety of familiar and unfamiliar situations, in a range of different ways.

Show kindness and respect in interactions with others, including those who may have different ideas or values

Focussing
Collaboration
Communication
Initiative
Critical Thinking
Feeling

LEADERSHIP

Lead groups, make decisions building on the input of others.

Set their own and a group's goals in order to complete a task within a deadline.

Demonstrate confidence in different situations/contexts.

Demonstrate an understanding of different roles during group work and be able to assign roles to others.

Use effective questions to help evaluate group success.

Create instructions for others to follow independently, including managing completing a task in a given time frame.

Start to manage conflict within a group, being willing to challenge poor behaviour in others, suggesting actions for resolution.

Leading
Initiative
Feeling
Communication
Collaboration
Adapting

ENVIRONMENTAL STEWARDSHIP

Demonstrate understanding of how our choices impact on the local and global environment (e.g. coastal erosion, flooding, carbon footprint, climate change).

Identify ways to protect biodiversity in a variety of ecosystems in the local environment.

Identify and support local and national charities and organisations leading environmental action and campaigns (link to being safe outdoors e.g. RNLI, Mountain rescue).

Begin to lead sustainable and environmentally friendly choices to support school improvement.

Care for and improve the local environment and beyond (possible links to social enterprise).

Reinforcing science inquiry skills

Focussing
Sense-making
Curiosity
Sense-making

WORKING WITH TOOLS

Use tools for a specific purpose independently with adult supervision; Hammers and nails, saws, drills, various garden tools.

Identify an appropriate tool for a task and explain choices in relation to materials and purpose.

Demonstrate dexterity in using various tools, creatively thinking of solutions to a task and developing this through use of trial and error, evaluating and reflecting on success.

Discuss potential risks and describe how to stay safe while using a tool.

Use tools to express themselves through different types of activities, technology and engineering challenges remaining focussed on a task.

Show confidence in undertaking new and unusual challenges using tools.

Integrity
Feeling
Adapting
Communication

PROBLEM SOLVING

Demonstrate confidence when challenging themselves when faced with the unexpected, but knowing when to ask for help.

Build on their own and other's ideas and experiences to solve problems and develop understanding.

Understand that mistakes and failures can lead to solutions to problems. Evaluate successes and failures, suggest actions for improvement.

Use more sophisticated knots to attach structures to trees for example, selecting the right knot for the right purpose. Undertake more complex engineering tasks such as creating a pulley system.Work with a wider range of available outdoor materials, in new and unusual contexts.

Use more elaborate engineering design cycle

Collaboration
Communication
Initiative
Critical Thinking
Feeling

WORKING WITH FIRE

Participate in cooking with fire led by appropriately trained adults in a safe and secure environment with relevant risk assessment undertaken.

Construct a simple fire, collecting appropriate fuel using a flint and tinder, with supervision.

Cook food on a fire using various utensils such as a pan of kettle, with supervision.

Explain the process of combustion, including demonstrating an understanding of the fire triangle.

Explain the potential risks of fire and how to stay safe, including how to safely construct a fire site and extinguish the fire safely after use.

Leading
Focussing
Initiative
Feeling
Communication

RESOURCES

Organisation	Resource overview	Link
Outdoor Woodland Learning Network	Outdoor & Woodland Learning Scotland supports practitioners to engage young people in outdoor learning and connect their broader learning with the world around them. Great resources, workshops for schools and access to CLPL for teachers.	https://owlscotland.org/
Learning Through Landscapes	The UK's leading outdoor learning and play charity, working to make outdoor learning and play part of every school day. Resources, CLPL and funding opportunities.	https://ltl.org.uk/
RAiSE	Outdoor STEM Learning Resources, 90 outdoor learning activities organised by season at early, first and second level	https://blogs.glowscotland.org.uk/glowblogs/stemnation/stem-outdoors/
Argyll and Bute STEM	Know Your Place Resource, a guide to planning outdoor STEM learning around your local context	https://sites.google.com/d/1OO29mfwtT7yWtyU_XGoNgEa-pPXkCEg8/p/15HlijdhWOSehZZ-QtwugL9befl25vfbl/edit
Argyll and Bute STEM	STEM for sustainability and outdoor learning page, policy & resource links for outdoor learning and learning for sustainability	https://sites.google.com/d/1OO29mfwtT7yWtyU_XGoNgEa-pPXkCEg8/p/15HlijdhWOSehZZ-QtwugL9befl25vfbl/edit
Nature Scot Nature Discovery Map	The Nature Discovery Map Scotland (NDMS) toolkit is a suite of six map-based tools that have been developed by NatureScot on behalf of the Scottish Government and in collaboration with teachers and pupils to help support Learning for Sustainability (LfS).	https://www.nature.scot/professional-advice/young-people-learning-outdoors-and-developing-skills/nature-discovery-map-scotland
Woodland Trust	UK's largest woodland conservation charity. Their vision is a world where woods and trees thrive for people and nature. Great resources for schools.	https://www.woodlandtrust.org.uk/about-us/what-we-do/
Primary Science Teaching Trust	A vast array of free resources and supportive materials for teaching science generally, but a great deal of outdoor learning linked resources also.	https://pstt.org.uk/
The Wildlife Trust	A selection of useful resources and links to help explore wildlife and habitats in Scotland	https://www.wildlifetrusts.org/
Education Scotland	A comprehensive collection of signposts to resources and also examples of effective practice from across Scotland	https://education.gov.scot/resources/outdoor-learning-resources/
STEM by Nature	An amazing padlet collection of everything from policy on STEM outdoors/nature connection/citizen science to organisation links, funding opportunities, CLPL and resources	https://padlet.com/STEMByNature/stem-by-nature-research-and-resources-2020-2021-rk7yxal9domnkbo9
Royal Botanic Gardens Edinburgh	Resources for schools linked to botany, biodiversity and the natural environment including Benmore Gardens in Argyll and Bute	https://www.rbge.org.uk/
Royal Highland Educational Trust	A registered charity working with dedicated volunteers and teachers to provide every child in Scotland the opportunity to learn about food, farming and the working countryside. Resources, workshops for schools and CLPL opportunities.	https://rhet.org.uk/
Skills Development Scotland	Meta-Skills Toolkit, a comprehensive guide to embedding meta-skills across the curriculum including a skills progression pathway from early to fourth level	https://www.skillsdevelopmentscotland.co.uk/what-we-do/scotlands-careers-services/education-team/meta-skills-toolkit
Argyll and Bute Council	Guidance on risk assessment	https://docs.google.com/document/d/1awhYSLXYuRoZOJ3fTFZLf5FuVfSvTZj6/edit

WIDER ACHIEVEMENT OPPORTUNITIES

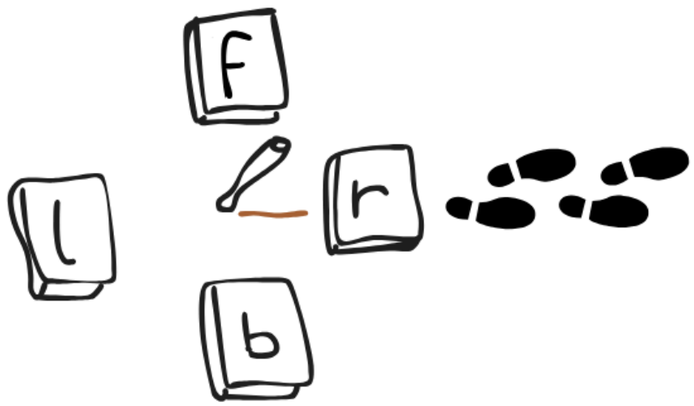
Organisation	Award overview	Link
Young STEM Leader	The Young STEM Leader Programme (YSLP) is a suite of leadership awards that enables young people to develop their interests, skills and pathways in STEM. For second level through to senior stage.	https://www.youngstemleader.scot/
Junior Forester Award	Gain an insight into Forestry through assisting in woodland management in schools and communities.	https://rfs.org.uk/learning/junior-forester-award/schools-edition-junior-forester-award/
John Muir Award	The John Muir Award encourages people of all backgrounds to connect with, enjoy and care for wild places. Participants learn about the special attributes of wild places and the Award helps them Discover, Explore, Conserve and Share their experience of wild places.	https://www.johnmuirtrust.org/award/
Young Tree Champions	The Young Tree Champions programme supports schools across the UK to embark on impactful nature-based projects that connect pupils and teachers to trees and nature, helping them to develop the knowledge, skills and tools they need to speak up to protect trees and our planet.	https://youngtreechampions.org/
RSPB	Wild Challenge is a chance for your pupils to experience and help the wildlife around them, all while gaining awards for their efforts. It's free to take part in and offers a variety of activities that lead to Bronze, Silver and Gold awards.	Education and inspiring the next generation




PROGRESSION OF OUTDOOR SKILLS THROUGH STEM

Example: String compass (Navigation, numeracy)

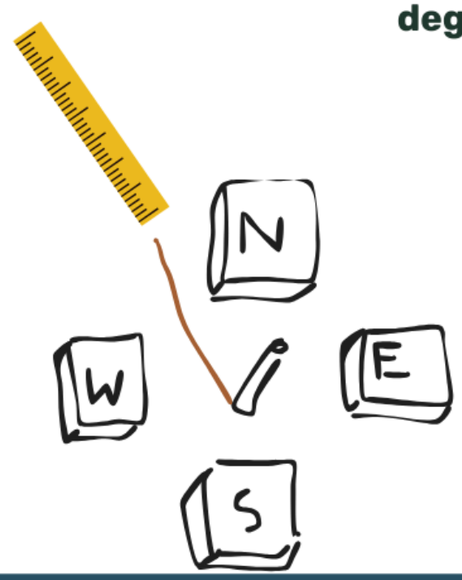
EARLY



Place the forward, back, left, right markers in an outdoor area, have learners identify things such as buildings in surrounding area and use non standard units such as steps to measure and describe location, for example 4 steps right

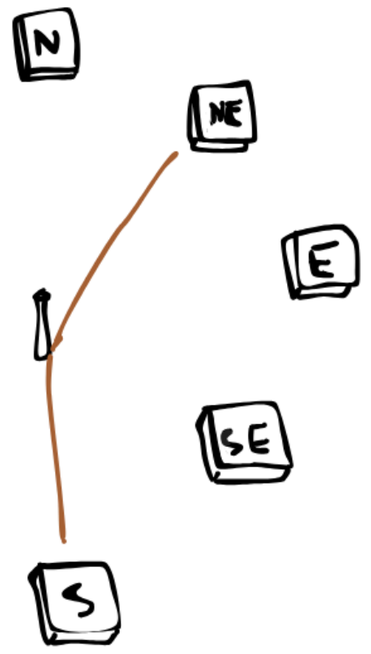
FIRST

Similar exercise to early but introducing basic compass points and standard measure using metres initially, bring in estimation, prediction and testing, what point is the location nearest to?This could also be used to introduce 90 degree turns



SECOND

Again this could used in a similar way to previous exercises but at second level more complex angles and questions could be introduced, "If you turn 135 degrees from the first string, where will you then be pointing?" Adding more compass points dependant on understanding

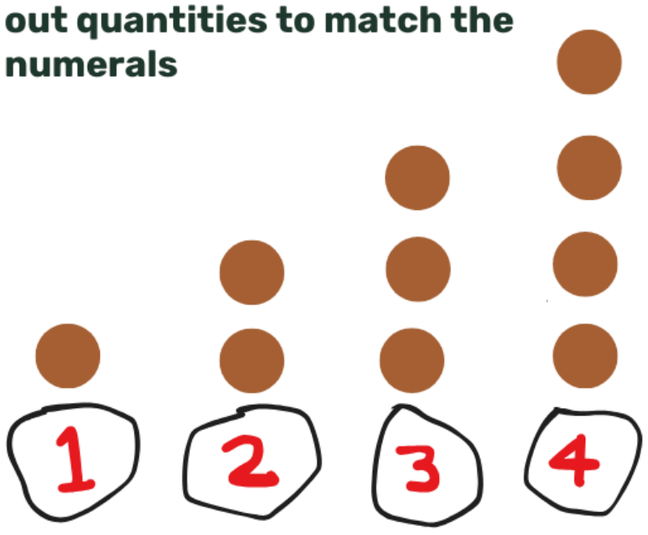


PROGRESSION OF OUTDOOR SKILLS THROUGH STEM

Example: Number (Problem solving, numeracy)

EARLY

Use stones to create counters with numerals, cut round circles of wood or use fallen pine cones or leaves as counters. Count out quantities to match the numerals



FIRST

Create a supply of numerals and +, -, x, / symbols, create sums for learners to complete or have them challenge each other by making their own

SECOND

Create a supply of numerals and +, -, x, / symbols, create more challenging sums for learners to complete, use other found objects to start exploring algebra and unknown quantities

PROGRESSION OF OUTDOOR SKILLS THROUGH STEM

Example: Exploring forces (Problem solving, teamwork, science inquiry)

EARLY

Learners could explore lifting a weight by creating a simple pulley with string over a branch, or explore how to make something travel faster/slower by raising or lowering height in pairs

FIRST

Learners could explore pulling force by creating a tripod with sticks in groups, simple knots and block and tackle to lift a weight, or by tying the block and tackle to a branch

SECOND

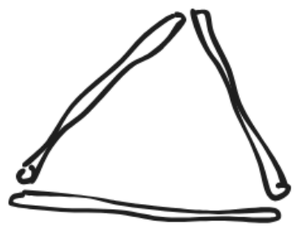
Challenge learners in teams to build a frame to hold a pulley system, using multiple block and tackle to reduce the work required to lift a weight, learners could use a newton meter to measure the force. Use prediction, recording of data and evaluation of findings

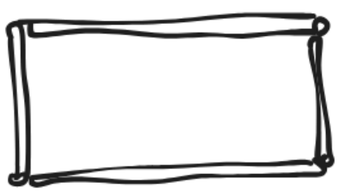
PROGRESSION OF OUTDOOR SKILLS THROUGH STEM

Example: Shape (Problem solving, numeracy, working with tools)

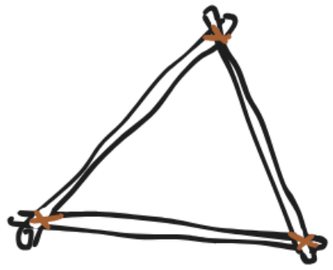
EARLY

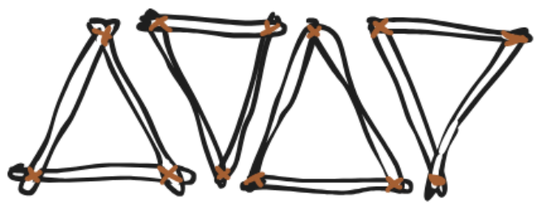
Use found sticks to aid learning about shape, learners could be given sticks of similar lengths to replicate various simple shapes





FIRST





Building on the early level activity, learners could use simple knots, rulers and hacksaws to create various shapes then experiment with creating patterns

SECOND

Extending the creating of 2D shapes to explore nets and creating 3D structures. Learners could be challenged to reproduce familiar buildings from their local context