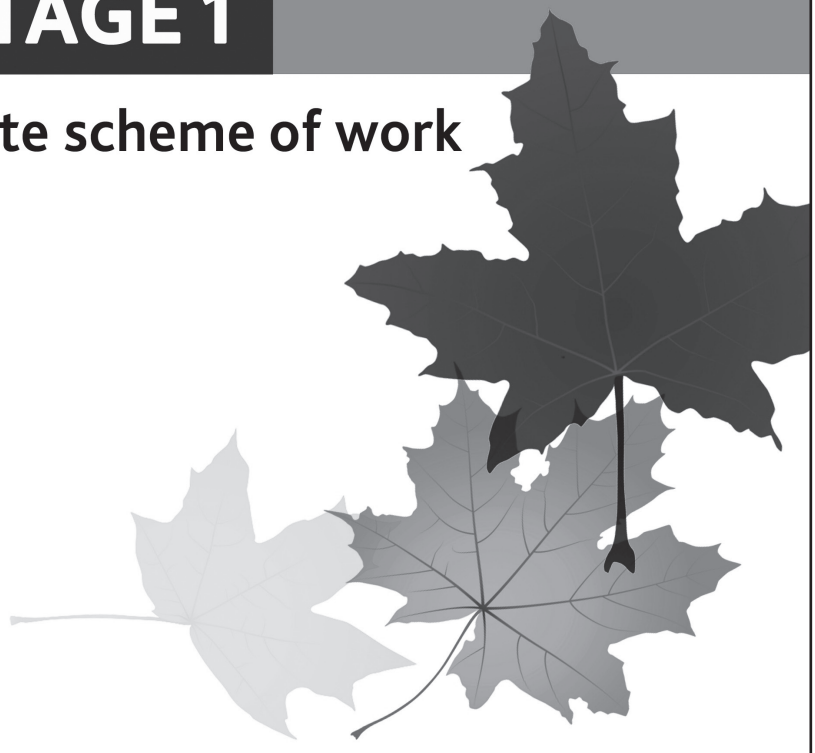
THE NATIONAL CURRICULUM OUTDOORS

KEY STAGE 1

A complete scheme of work



Deborah Lambert,
Michelle Roberts and Sue Waite

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Dedication

We dedicate this book to all teachers who are willing to take their teaching outside the classroom and offer exciting learning opportunities, foster positive health and wellbeing outcomes and connect children with their natural environment. They are our hope for an education for excellence and sustainability.

We also dedicate it to Deborah's partner, Andy Rimmer, who patiently supported, shared the excitement and inspired some of her lovely ideas for the book; to Michelle's daughter Ella (two and a half years), in the hope that she will be enabled to take part in outdoor learning adventures at school; and to Sue's family, fellow committed nature and learning lovers.

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This book has been inspired by the children who have shown us their wonder and excitement at discovering and learning in the outdoors. We would like to acknowledge the many writers and organisations that have shared ideas to promote experiential activities for children, and the policymakers that are making changes that support this movement.

Michelle and Deborah were encouraged to write this book having worked for the last five years on the development and delivery of the Wild Tribe outdoor learning programme. This is an outdoor learning programme developed at Callington Community College by the Arena School Sport Partnership in South East Cornwall, with the intention of engaging teachers and children in learning through the outdoors. Through this programme, more than 250 teachers have now been trained in outdoor learning, with many thousands of children now receiving outdoor learning on a weekly basis. This programme is being extended nationally in partnership with other schools across the country. Wild Tribe was a pivotal partner in the Natural Connections Demonstration project, and we are grateful to Natural England, the Department for the Environment, Food and Rural Affairs, and Historic England for funding that project. Sue led Natural Connections, working with over 125 schools across the South West to embed curricular learning in local natural environments. Learning from the project has influenced the development of the 'nature friendly schools' initiative, part of DEFRA's 25-year plan (DEFRA, 2018).

We are also indebted to Kayleigh Halifax at Trewidland School for the brilliant set of progressions for Key Stage 1 music.

Foreword

As adults, when we reflect upon our education and the value of what we learned during our years at school, a variety of memories and associated emotions surface. We tend to recall with more clarity the outdoor experiences we had compared with our time inside. This may have been school trips, residentials or what our playtimes were like. The practical subjects, such as woodwork, home economics and art, and what you learned in these classes have probably stuck in your mind more than which aspect of maths you were working on in January of Year 5.

Thus, integrating practical, creative and outdoor experiences into our ordinary, everyday school lives is a route to profoundly changing children's memories and perceptions of the learning that happens. The evidence is growing year on year for the benefits of learning and playing outside, particularly when this happens in a natural space. It is no longer simply a 'jolly good thing' to do. There is a fundamental shift happening in education as we recognise that our mainstream schools need to be more responsive to children and the complex world in which they live. This is part of a wider understanding of how children learn and what they need in their lives to help them gain the emotional resilience and flexibility to adapt and cope with what life will throw at them.

One of the key challenges facing primary teachers is knowing what to teach outside and how. This series of books positively addresses both matters. The authors take a systematic approach that enables teachers to plan and deliver a series of lessons in many different subject areas. The lessons are designed to be undertaken in a range of different contexts, so you are not relying on a beautiful beach or perfect school grounds or to find a willing volunteer to dress up as a Roman soldier to ensure success.

The authors have incorporated the use of tools and techniques that deepen the learning beyond the core skills, knowledge and understanding within the National Curriculum. As part of the array of lessons presented, children are learning how to be outside, to take in what is happening and to develop a sensitivity and positive regard for the natural and built world in which we live.

This book is a timely and welcome addition to help primary teachers grow their confidence and competence to undertake great teaching – outdoors!

Juliet Robertson

Creative STAR learning (www.creativestarlearning.co.uk)

Why teach outdoors in Key Stage 1?

Have you always loved being outside or do you shiver at the mere thought? How much teaching do you do outdoors? Whether you are an enthusiast, a reluctant adopter or a sceptic, this book will provide winning ways towards regular outdoor teaching for your Key Stage 1 class.

But why teach outdoors in Key Stage 1?

Your colleagues in the Foundation Stage may well shower you with many reasons for taking learning outdoors, but research shows us that linking learning with physical and emotional responses can help make it more memorable.

It is increasingly recognised that creative and challenging outdoor learning activities develop personal, social and thinking skills, communication, problem-solving and teamwork, breadth of understanding and an introduction to the essential knowledge that children need to develop into confident and responsible citizens who value and appreciate the natural environment around them.

Embedding teaching outdoors into your practice

Should 'outdoor learning' be treated as a separate subject or can it rather be a valuable teaching method that enables teachers and children to meet National Curriculum requirements?

It is important to ensure that outdoor learning is embedded throughout your curriculum and is not just a stand-alone opportunity. Structured outdoor activities provide a depth and relevance that is difficult to achieve indoors, with substantial and growing evidence to suggest that delivering the curriculum outdoors is something worthwhile and possible to embed within your practice. It has been recognised that a well-planned curriculum can link the outdoors to the core and foundation subject concepts in real contexts. For example, when making judgements on the quality of teaching and learning, Ofsted recognised Holsworthy primary school in Devon for its effective practice: 'Teachers manage risks well so that pupils can take part in a range of exciting activities that develop their self-confidence and self-esteem. [Enrichment of the curriculum gives pupils] an experience of plant and animal husbandry, creative and physical activity, and a rich understanding of the natural world and environmental issues. … Teaching and learning in the "Wild Tribe" area makes a strong contribution to developing pupil's spiritual, moral, social and cultural (SMSC) understanding' (Ofsted, 2018).



Benefits

There has been a long history of children learning through playful engagement with the environment outside the classroom in the Foundation Stage (age three to five years), following in the footsteps of early childhood education pioneers such as Susan Isaacs, Margaret McMillan and Friedrich Froebel (Garrick, 2004). Evidence also points to hands-on experiential learning in natural environments contributing to other key learning factors (Waite et al., 2016), promoting improved creativity, engagement and understanding (Rowe and Humphries, 2012).

The value of outdoor learning on children's health and wellbeing, as well as in stimulating their natural curiosity about the world, has been recognised by researchers (Wood et al., 2016; Morgan and Waite, 2017) and policymakers here and abroad (DEFRA, 2018; Ho, 2014). As the Institute for Outdoor Learning (2018) states:

> *At a time when we are increasingly concerned about the physical and emotional wellbeing of our children and young people, and question whether they will leave education with the skills and competencies they will need for the future, outdoor learning brings with it a range of benefits which are now widely evidenced, acknowledged and accepted.*

The Natural Connections Demonstration project, a large-scale study across 125 schools in the South West of England, found that staff in over 70 per cent of participating schools reported heightened health and wellbeing for themselves, with 80 per cent reporting that their practice was enhanced by delivering more teaching outdoors (Waite et al., 2016). Moreover, Public Health England has recommended green exercise and nature experiences as preventive strategies to counteract many contemporary physical and mental health challenges that children and young people face (PHE, 2014a; DHSC, 2018), with the school context being identified as a universal access point to deliver these key learning benefits to those who might otherwise miss out (Natural England, 2013). An evidenced link between pupil health and wellbeing and their attainment (PHE, 2014b) is facilitated by a whole-school approach to improving pupils' social and emotional skills and their physical health through a school's ethos and environment. These benefits can be achieved via a recognised pathway to impact on attainment through increasing the regularity and quality of outdoor learning.

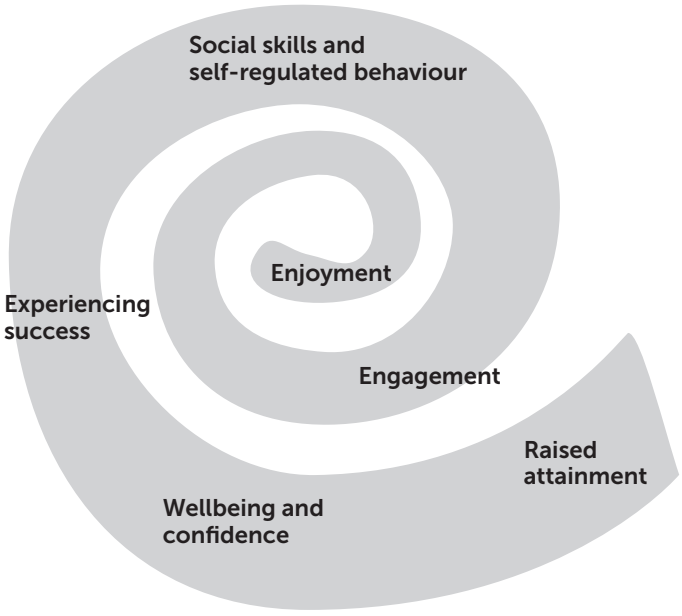


Figure 1: The pathway to raised attainment through outdoor learning (Waite et al., 2016, p. 10)

By enabling children to engage with different learning contexts and methods, teaching outdoors can bring improvement in attainment and other key desirable outcomes, broadly identified as falling into the following categories (Malone and Waite, 2016):

- healthy bodies and lifestyles
- social, confident and connected people
- self-directed learning skills
- effective contributors and collaborators
- concerned active citizens.

Yet despite this wealth of positive evidence, there is a substantial waning of opportunities to benefit from learning outdoors as children move from the Foundation Stage to the National Curriculum in Key Stage 1 (Waite, 2010).



Challenges

Perhaps the greatest perceived barrier to teaching outdoors is the weather. However, the prevalence and success of outdoor play and learning in colder and wetter climes, such as Scandinavia, suggests that the real challenge is to be properly dressed. Getting parents informed and on board and providing waterproof kit and wellies can help to overcome this. Teachers need to be well prepared, so that they are comfortable whatever the weather. Surprisingly, weather was not found to be a major barrier in the Natural Connections Demonstration project. The main challenges (and solutions) to outdoor learning that the project identified fell into three main themes:

- **People-related**, with issues often centred around staff confidence to teach outdoors; these were overcome by the use of whole-school approaches, supported by positive leadership and by demonstrating and sharing clearly what had been done, why (the intent) and what had been learned.
- **Place-related**, with the provision of easily accessible and suitable outdoor learning areas within a setting; for example, including ground works in school improvement plans played a key part in embedding outdoor curricular learning.
- **Policy-related**, with schools reporting difficulties in balancing outdoor learning with other dominant performance measures, such as a dependence on written records for assessment, especially if outdoor learning was perceived as an 'additional' activity rather than an 'enriching' one (see also the chapter on assessment).

Over the course of the Natural Connections Demonstration project, the majority of teachers overcame a variety of barriers to taking learning outdoors, as they strongly appreciated its value for children's:

- enjoyment of lessons
- engagement with and understanding of nature
- social skills
- engagement with learning
- health and wellbeing
- behaviour
- attainment.

Teachers wanted support in linking outdoor activities to the National Curriculum in order to maximise the time available to teach outdoors (Edwards-Jones et al., 2018).

How to use this book

This book offers Key Stage 1 practitioners support in how to take the National Curriculum outdoors, by providing well-structured, motivating, relevant and accessible progressions, using local outdoor spaces to enhance teaching and learning and help make it memorable. The progressions include detailed teacher-directed activities to build confidence in teaching outdoors, linking this to National Curriculum content. However, the intention is to use pedagogical approaches that will offer chances for children to initiate and follow their own lines of enquiry. These 'squirrel moments', when something unanticipated happens in the natural environment and captures the children's imagination, form a valuable element in teaching and learning outside and are well worth capitalising upon (Waite et al., 2006).

The progressions provide six structured sessions for each of the core subjects of English, mathematics and science and the foundation subjects of art and design, design and technology, geography, history and music, along with religious education for Year 1 and Year 2.

Set in the autumn term, to provide a consistent point in the academic year from which to reinforce and build on previous learning experiences, the progressions enable schools and teachers to deliver activities that have been carefully planned to support progression across Key Stage 1, aligning with the content of prescribed programmes of study and attainment targets of the 2014 National Curriculum.

Questions posed throughout the progressions provide continuous 'assessment for learning' opportunities, promoting a deeper level of understanding in line with Ofsted expectations.

Photos and further resources

Illustrative photos and further resources are available on the linked website www.bloomsbury.com/NC-Outdoors.

Is anything missing?

Progressions for physical education and computing are not included in this book. However, all progressions offer opportunities for increased physical activity and lowered levels of sedentary behaviour (Aronsson et al., 2015) and for satisfying physical education objectives in part. There are also many opportunities to apply computing objectives back in the classroom following outdoor sessions, using 'technology purposefully to create, organise, store, manipulate and retrieve digital content' (DfE, 2014) within many of the subjects (Opie et al., 2017).

Personal, social, health and economic education (PSHE) is a non-statutory subject on the school curriculum. However, Section 2.5 of the National Curriculum (DfE, 2014) states that all state schools 'should make provision for personal, social, health and economic education, drawing on good practice', and this has recently been strengthened in line with recommendations about mental health and wellbeing (National Health Service (England), 2018), and the RSE and Health Education (England) Regulations (2019). Activities within the progressions that encourage effective social interaction and independent, creative and critical thinking provide coverage of key PSHE objectives, with many of these opportunities highlighted under the 'health and wellbeing' section in the introduction of each unit.

The 'natural connections' sections, also in the introduction to each unit, show how children's attention can be focused on the natural world, increasing awareness, care and understanding to develop feelings of being a 'part of nature' and engendering responsibility for environmental stewardship, alongside the curricular-based learning. Further opportunities to follow up children's interests in or draw attention to their environment will naturally emerge when teaching outside the classroom. Together with changes in pedagogical approach, the overarching themes of health and wellbeing and natural connections will help to form a thread of education for sustainability throughout the curriculum (Green and Somerville, 2015; Bourn et al., 2016).

Conclusion

Of course, many teachers will still wish to adapt these plans to their own contexts, but much of the time-consuming work of thinking through rationales, curricular links, health and safety, assessment and resources has been taken care of, so that more time is available to extend and develop personal or school-wide ideas and practice.

Books such as Juliet Robertson's *Dirty Teaching*, Jo Schofield and Fiona Danks' *The Stick Book* and Marina Robb, Victoria Mew and Anna Richardson's *Learning with Nature* are great sources of other activity ideas that, with experience, can be linked effectively to the curriculum. *Educating Outside* by Helen Porter also has some great curriculum-linked ideas to expand your repertoire over time. We hope that using this book and its companions for Key Stage 2 will be only the start of some really exciting teaching outdoors for you, your pupils and your school.

Assessment outdoors

Part of our impetus for writing this book was the acknowledgement that, with changes to curriculum policy and the emphasis being placed on recording learning, schools need to provide evidence that they know *why* key curriculum content is included, *whether* the curriculum is being implemented effectively and *what* impact their outdoor curriculum is having on pupils' knowledge and understanding. A 2018 report that informed the greater concentration in the new Ofsted inspection framework on curriculum intent, implementation and impact noted:

> *... the main focus was on putting a plan together, but not checking the implementation of that plan effectively enough. This was linked to an onus on delivering the content of the national curriculum for foundation subjects, but without careful thought given to the progression of knowledge and skill that would make this useful learning for pupils. (Ofsted, 2018, p. 15)*

Ofsted inspectors reported that the most telling indicators of curriculum quality were a coherent rationale, knowledge of curriculum concepts and an ambitious curriculum. Subject leadership knowledge, a progression model and robust assessment of the curriculum were also vital (Ofsted, 2018). As far as we know, this is the first book to support teachers in meeting all these criteria when teaching the curriculum outside.

Assessment has two main functions: first as a guide to planning the next steps for the children, i.e. assessment *for* learning, and second to summarise what a pupil has learned, i.e. assessment *of* learning. The latter, summative assessment, such as end-of-unit or key stage tests, provides evidence of levels of understanding and secure knowledge of content. As Waite et al. (2015) note, there are two aspects to robust tracking of a child's learning journey:

1. children's achievement of lesson objectives
2. an evaluation of the impact of lesson activities.

This enables teaching and learning to build productively on what has gone before, with awareness of what has worked well and which concepts or skills may need other approaches. We address both these aspects in the carefully structured progressions in this book, providing clear learning objectives linked to the National Curriculum content, together with *evaluation* prompts through open questioning about the activities. Linking to the National Curriculum content provides each session with subject-specific criteria against which the success of taking the learning outside may be measured, reassuring Ofsted and school leadership that teaching outdoors offers valuable curricular learning opportunities.



Throughout each progression, pupils are encouraged to consider and explain their own successes or failures to themselves and to take responsibility for their own learning (Hawe and Parr, 2014). They are guided towards the recognition that some factors that lead to success or failure are controllable, such as the tools and materials suiting the task, how much they are interested in the task or how much effort they put into making it a success. Other factors may not be so controllable, such as the weather or the need for adult support and supervision. Children are encouraged to learn to attribute successes and failures to controllable factors, and to develop a clear idea of what good work looks like and what they need to do to reach this standard (Weiner, 1986; Dweck, 2008). These curricular learning opportunities are underpinned by a range of pedagogical strategies (Paniagua and Istance, 2018), such as experiential learning, encouraging pupil autonomy, independent and group working, and self-regulation of learning (Educational Endowment Foundation, 2018).

The adult role

The adults supporting learning are encouraged to model the activity themselves, acknowledging the tricky parts, recognising difficulty and being positive about the management of any difficulties. If the adult presents mistakes as an opportunity for learning, the children will start to see that it is possible to learn from failure, to keep trying, to try different or creative approaches or to tackle the problem from a different perspective. This develops children's resilience and perseverance in the face of problems. Allowing such experimentation and creativity, coupled with teachers' use and repetition of questions, encourages the use of new vocabulary to clarify meaning in context, and adds depth and breadth to children's learning experiences. The adult has overall responsibility for safety, but it is equally important that they know when to step back and encourage children to think for themselves, solve problems and be creative. Outdoor spaces have been shown to facilitate more autonomy in and self-regulation of learning.

Across the units, activities are repeated in different contexts, providing reinforcement and deepening or layering of knowledge so the children can build upon previous knowledge and experiences, and offering the chance to gauge improvement over time. The sections on prior learning in the session plans aid progression and provide opportunities for mastery. Teachers can thus make judgements about whether pupils are 'exploring', 'meeting' or 'exceeding', 'emerging – expected – exceeding' or 'working towards', 'working at' or 'working beyond' targeted levels of knowledge and understanding.

Supporting special educational needs and disability

An important part of assessment is to enable school staff to tailor teaching and support effectively so that all pupils can access and achieve across the curriculum. Every unit in this book includes advice on how to adapt practices to make them more inclusive and extend learning. The space, task, equipment and people (STEP) approach can be adopted throughout the book. By changing the space, task, equipment or people, the activity can be made more challenging or easier to understand, enabling all pupils to take part. For example:

1. Consider the **space** the children will be working in: is it well-resourced and accessible, with distractions minimised?
2. Does the **task** need to be simplified or scaffolded or need adult support, or should it be extended to stretch the most able and talented children?
3. Consider the **resources**: are they accessible and suitable for the purpose, or do they need to be simplified or made more challenging in some way? Does equipment need to be smaller, lighter or adapted in some way?
4. Think about the **people** that could support better adaptations. Consult the pupil about the kind and level of support they need, e.g. by buddying up or working independently. Seek advice from the special educational needs and/or disability coordinator if in doubt. Consider how adult roles might be shaped to facilitate experiences of autonomy and challenge.

The STEP approach was developed by the Training and Development Agency for Schools (TDA, 2009, Appendix A, pp. 29–31).

Gathering the evidence

Maynard et al. (2013, p. 295) found that some teachers struggled 'with documenting children's learning particularly given the perceived need to meet statutory curriculum requirements'. However, many techniques used by colleagues in Early Years in outdoor contexts can be used at later stages of children's education.

Examples can include taking photos of the learning process, including children measuring, collecting specimens or creating pictograms using natural materials. Selecting and annotating photos back in the classroom provides the opportunity for written records or to apply computing objectives, using 'technology purposefully to create, organise, store, manipulate and retrieve digital content' (DfE, 2014). It can also serve as a visual summative record, evidencing which parts of the curriculum have been experienced and mastered.

Opportunities to address children's connection to the natural environment and health and wellbeing outcomes have been included under 'Natural connections' and 'Health and wellbeing' in the introductions to each set of progressions in this book. Other methods that can help to assess improvements in pupils' health and wellbeing include, for example, resources in Wright et al.'s (2016) *Creating Happy and Healthy Schools through Outdoor Learning*. Teachers and children can report physical activity and happiness levels using simple questionnaires developed through research, enabling schools to monitor the contributions of lessons to pupils' health and wellbeing. Assessment of children's connection to nature can also be used to explore the effects of increasing outdoor teaching and learning on children's environmental values; see, for example, Hunt et al.'s (2017, p. 60) 'Nature Connectedness Scale'.

End-of-unit or key stage summative assessment tests can provide evidence of children's levels of understanding and secure subject knowledge. However, assessing learning through the provision of carefully planned activities, through the use of open questioning for self-assessment and by providing positive and constructive task-focused adult and peer feedback can help shape student understanding across their learning, thus encouraging children to become more involved in their learning processes and gain in confidence as they acquire a deeper awareness of where they are and where they want to be in their learning and achievement. It can also provide clearer insight into the skills and processes that children are using in their learning within subject disciplines, which will form the basis of later development and progress in that subject.

Integrated and progressive assessment

Evidence of learning can thus be gathered wherever it occurs, together with an appreciation of all that can be achieved in outdoor contexts. In many units, we have included classroom extensions such as compiling interactive displays, which will demonstrate learning over the course of progressions. Joining up learning inside and outside the classroom also helps to ensure that assessment happens in a variety of contexts, reinforcing and consolidating knowledge, skills and understanding. Assessment reflecting pupil achievement resulting from teaching and learning outdoors will help schools to recognise that learning can and does take place anywhere – that outdoor learning is not an 'extra' but can be integral to the delivery of the National Curriculum and can contribute to school priorities, including attainment and progression (Waite, Passy and Gilchrist, 2014).



Health and safety outdoors

Children are spending more and more time inside, with a 2018 survey of 2,000 parents reporting that children aged six to 16 only spent about seven hours outside each week in total, but more than twice that time just playing video games indoors (OnePoll, 2018). One of the reasons for writing this book was to inspire and encourage teachers and teaching assistants to take learning outdoors, thus offering and promoting children's experiences of natural environments. Teaching curriculum subjects outdoors not only offers children a range of different ways of learning but also enables them to experience success in different contexts, offering the opportunity to raise the confidence and aspirations of all children, but particularly those who may struggle inside the classroom.

One of the biggest perceived barriers to teaching outdoors is often identified as concerns over health and safety. In this chapter, we provide advice and guidance about safe practice for lead practitioners, aiming to promote the safe delivery of outdoor learning in order to meet current health and safety guidance. In a primary school setting, it is ultimately the responsibility of the headteacher to ensure that activities delivered on the school site are safe and follow best practice, but everyone, including the children, should take some responsibility for assessing risks and managing them appropriately.

The law

In simple terms, the law requires those responsible to take reasonable steps to ensure that the risks are at an acceptable level. As stated by the Department for Education, health and safety law requires the school to assess risks and put in place proportionate control measures (DfE, 2018a). The key task is to carry out a 'suitable and sufficient risk assessment' and to act on its findings. What counts as 'suitable and sufficient' – for instance, the type of risk assessment, the level of detail and whether or not it is written down – depends on the circumstances. However, what is expected is a *proportionate* approach. The Health and Safety Executive (HSE, 2018) makes it clear that health and safety is not about generating excessive paperwork (Gill, 2016). The DfE (2018a) also states that schools must have a health and safety policy. Health and safety outdoors should form part of your outdoor learning policy, and also include the implications of teaching outdoors for your behaviour management and safeguarding policies. There are many online resources that support schools in developing an outdoor learning policy. An example template with associated guidance can be found on the Council for Learning Outside the Classroom site (www.lotc.org.uk/plan-deliver-lotc/policy-and-curriculum-planning).



Assessing risks and benefits

A risk assessment is a key prerequisite for planning teaching outdoors that should be included in the outdoor learning policy. It will be something that most teachers are familiar with from planning school trips, and it does not mean that all risks need to be eliminated. The outdoor learning policy should set out the roles and responsibilities within the risk-management processes, the mechanisms to control risk and specific control measures that need to be put in place. However, risk assessments should always balance benefits against potential hazards (Waite, Wickett and Huggins, 2014).

> *Risk-benefit management is a fundamental part of life and is a skill needed for young people's safety and wellbeing. Staff have a duty of care towards young people. However, this certainly does not mean 'wrapping them in cotton wool'. Therefore, we have responsibility not only to keep young people safe, but also to enable them to learn to manage risks for themselves. (LOTC, 2018)*

There are three things that should be considered when deciding whether a risk is acceptable: (Ball et al., 2008, p. 114)

1. likelihood of children coming to harm
2. severity of that harm
3. benefits, rewards or outcomes of that activity for the children.

Some risk assessment considerations

In the following sections, we gather together specific advice about how to manage some common risks when teaching outdoors.

Behaviour and safeguarding

The outdoor learning policy should reflect the school health and safety and behaviour policies. Whilst the outdoors can provide an exciting and stimulating environment, it is always important to provide clear expectations of behaviour, with consistent consequence systems to ensure safe practice. Positive reinforcement through effective communication and engagement should always be demonstrated. Children should be encouraged to understand what unacceptable behaviour is, with incidents recorded in line with school policy where appropriate.

Where unacceptable behaviour occurs and an oral reprimand has been given, the more informal atmosphere outside the classroom often provides time and opportunity to discuss possible consequences of such behaviour, such as the potential harm caused and loss of privileges, e.g. use of tools or lighting fires. It may also provide space to discuss feelings and emotions underlying the inappropriate behaviour (Hopper, 2017). However, where the child is at serious risk of hurting themselves or others and likely to suffer or inflict

significant harm, the child should be removed from the context, following school procedures in line with the school's safeguarding policy (DfE, 2018b).

First aid

Injuries are not very common when safe practices are adopted and children have been involved in discussions about what needs to be done to keep everyone safe in the outdoor area and why. When delivering outdoor activities, it is important to adhere to your setting practice and policy. With reference to first aid, it is often recommended that the lead practitioner holds an up-to-date recognised first aid qualification. If not, they must have a working knowledge of first aid appropriate to the activities that they are leading and the location in which they are working. They must also have immediate access to a qualified first aider in the event of needing further support. The general school policy about administering or securing first aid should always be followed (Hammett, 2016; DfE, 2018b). When working in areas where there is a risk of ticks, long-sleeved tops and trousers tucked into socks should be worn and parents alerted to check their children for ticks after school.

If working away from site, or more than ten minutes from immediate help, we strongly recommend attending a two-day emergency first aid in the outdoors course (such as one offered by BASP UK), which covers remote first aid practices and procedures and will give additional confidence in managing potential hazards.

Fire-lighting, cooking and use of tools

To support you with the activities in this book, we have put together some step-by-step principles for the safe use of tools, the teaching of fire-lighting and cooking in the outdoors, and the use of a storm kettle. The step-by-step principle has been used to support children in developing key skills and breaking these skills down into key components, which they can then apply to the task. These have been adapted from the Wild Tribe Outdoor Learning programme (2019).

Fire-lighting and safe practice

Fire can be hazardous and dangerous when not managed effectively. It can have a devastating impact on the environment and natural landscapes if it gets out of control. However, children find fire exciting and, if the skills of fire-lighting are taught with safety as a prerequisite, lessons that include fire will ignite children's imaginations.

Fire safety advice

- Provide adequate supervision for young people when using fires and ensure that they have been taught the appropriate skills to make a fire.
- Avoid making fires on stones or near tree roots.
- Monitor weather conditions and changes in wind direction. A strong wind could contribute to a fire becoming out of control.
- Do not light fires in excessively dry conditions.
- Place all equipment, including fuel, in safe boxes.
- Never leave a fire unattended.
- Keep wood and other fuel sources away from fire.
- Have a supply of water available to extinguish the fire and to remedy burns.
- Do not underestimate the power of fire.
- Thoroughly extinguish all fires.
- Leave no trace (for more information, see: https://lnt.org/why/7-principles/minimize-campfire-impacts).

Lighting fires: safe preparation, lighting and management

Equipment:

- matches or fire strikers
- water
- wood of various thicknesses: about 15–20 cm (6–8 inches) long
- tinder, such as dried leaves, birch bark or cotton wool balls
- petroleum jelly, e.g. Vaseline®.

Preparation:

1. Identify the area to be used as a group fire-lighting area (the main area) and surround this with well-defined markers such as large branches or tree stump seats.
2. Place four sticks of wrist-thickness in a square in the middle to denote a safety area, about 45 cm (18 inches) square.
3. Collect fuel for the fire. If the weather has been wet, collect sticks for the fire a few days prior to the session and allow them to dry out. You can then scatter these dry twigs in the area for the children to 'find'. As an alternative, a bag of bought kindling can also be used.
4. Keep a selection of dried sticks of varying widths – pencil, finger, thumb and wrist width – in a bag near the fire circle for teacher use.
5. Seated around the prepared area, talk to children about safety aspects of fires, emphasising safe practice around a fire.
    a. Hair needs to be tied back. Hair contains high levels of oil, which is highly flammable.
    b. Appropriate clothing (long sleeves and long trousers) should be worn.
    c. Responsible behaviour will negate risk to self or others.
    d. No one to enter the inner fire square unless invited to do so.
    e. If invited, adopt the safe stance: kneeling on one knee and one foot on the ground.
    f. Point out the container of water placed near the fire area used to extinguish the flames.

Step-by-step method

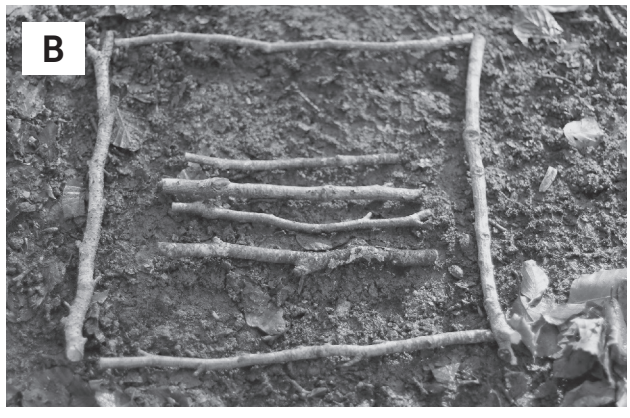
Introduce the 'fire triangle theory', i.e. that fires need three things – heat, fuel and oxygen.

Show children how to light a fire using a step-by-step method:

1. Choose a suitable site. This could be a flat or sloped area, grass covered or bare ground.
2. Clear the area of loose vegetation and stones. **See A**
3. Show the children how to make a platform of about four or five sticks on which to build a fire to keep it off the damp floor and provide oxygen (draught). **See B**
4. In groups, ask the children to:
   a. Find a good area for the fire.
   b. Clear the area from vegetation and stones.
   c. Find four sticks to mark a safe area in which to build the fire.
   d. Find four or five sticks to put as a platform on which to build the fire.
5. Once groups have achieved this, bring them back to the main area and explain that now they need fuel for the fire.
6. Show the children the prepared selection of sticks and group them according to width – pencil, finger and thumb. **See C**
7. Ask the children to suggest why this has been done. Explain that when the fire is lit, the smallest sticks will be used as fuel first, before gradually adding the larger sticks.
8. Ask the children to collect a selection of sticks with different widths. Explain that they need to be able to 'snap', as this shows that they are dry and able to burn.
9. The children now order their sticks by thickness.
10. Explain that the next step is how a fire should be laid – would just throwing the sticks in a pile work or would they suggest arranging them in some way? Do we need anything that will light easily to put on first?
11. Demonstrate how to place pulled cotton wool and petroleum jelly or a straw sphere on the prepared platform.
12. Show how to add the tinder, building the fire base up using the thinnest pencil sticks first, ensuring that there is enough air between the sticks. **See D**
13. What else do we need for our fire in case we need to stop it? Ensure that there is a container of water next to the demonstration fire.
14. Revise talk of safety around the fire: use long arms and the safety stance.
15. Demonstrate how to ignite the kindling using a long match or fire strikers, reinforcing the safety stance.
16. Children return to their prepared bases to lay their fires, each group checking that they have a bottle of water to place next to their prepared areas.
17. Once the adult with the group is happy with the laying of the fire, they should supervise the lighting of it.
18. The children must sit down once the fire is lit and be supervised at all times.
19. Children can put more wood on, one piece at a time, when needed, but must not lean across the fire to do so.

NEVER LEAVE THE FIRE UNATTENDED.

















Key steps for using a storm kettle

The storm kettle looks hollow (which acts as a chimney) but has an internal chamber for water, which is not obvious. Take the time to show the storm kettle to the children and ask them how they think it works.

The main differences to consider when using a storm kettle compared to lighting a fire are:

1. Clearing a base – this needs to be a very level site so that the storm kettle doesn't fall over.
2. The fire is built in the storm kettle base, so although pencil, finger and thumb sticks still need collecting, the length of them needs to be quite short to fit into the base, like this: **See A**
3. When putting the storm kettle on and taking it off the base, keep the handle horizontal so that fingers are not over the hot chimney, to avoid burns. The safe method looks like this: **See B**

   Your setting may also recommend the use of heat-resistant gloves.
4. Once the kettle is on the base, the fire is fed through the chimney.
   a. Short sticks should be put onto the rim and tipped into the chimney.
   b. At no point should fingers go across the chimney.
5. When the water is boiled and the kettle lifted off, the water should be poured into cups using the handle and the cork. **See C**
6. Cups should be put onto a flat surface or held by an adult when the water is being poured. The children must not hold them until they have cooled.
7. Once the storm kettle is cool, you should remove any remaining water and then empty any remaining embers from the base of the kettle.
8. You should then follow the principles below for extinguishing fires to deal with the remaining embers. **See D**
9. Once the storm kettle is cool, it can be safely stored by turning the base upside down and inserting it inside the bottom of the storm kettle, before placing the kettle in its bag.

Extinguishing fires – leaving minimal trace

1. Once all the cooking has been completed and it is time for the fire to be put out, choose a responsible child to slowly pour a bottle of water over the fire.
2. Make sure they demonstrate the safe stance, kneeling with one knee up.
3. Check that the white ash from the wood, which is the hottest part, has been covered with water, and that the fire is properly out.
4. With a stick that has not been used on the fire, ask the children to scrape the embers around so that no remains of the fire can be seen, and that the area is left as it was found.

If it is a permanent fire area on the site, the remaining charcoal can be left.

As the children become more experienced and proficient and are able to demonstrate safe practice, they can become more independent; however, strict adult vigilance should be observed at all times.

Step-by-step principles for cooking – recipes

Cooking marshmallows

1. Prior to the start of the lesson, cut some willow or hazel sticks to use as marshmallow cooking sticks. This will need to be done before the fire is lit, as it is vital that a fire is NEVER left unattended!
2. Show the children how to whittle one end of the stick using paring or sheath knives, in line with your safety policy, initially on a one-to-one basis. You could ask the children why green sticks are good to use.
3. Once the fire is lit and the embers are beginning to give sufficient heat, invite the children, one at a time, to put their marshmallow on the whittled end of the stick and to approach the fire, adopting the safe stance: kneeling on one knee and one foot on the ground.

The supervising adult can model 'long arms and safe stance' or support individual children with safe practice from behind, like this:



Warn the children that the marshmallow will be very hot and retains its heat, so leave to it to cool for a minute or so before eating, or tell them to blow on it 20 times before placing it in their mouths.

Crumpets

1. Light a fire as above and, once well alight, place a wire rack over the flames, supported by fire bricks or large pieces of wood.
2. Once the fire is dying down a little, so that the flames are not too high, invite the children one at a time to approach the fire, adopting the safe stance (kneeling on one knee and one foot on the ground) to carefully place their crumpets onto the rack using barbeque tongs.
3. The adult can support the child to hold the tongs and also check that the crumpet isn't burning but cooking gently.
4. Once the crumpet has been cooked, it can be transferred to a plate and the child can spread a little butter, jam, golden syrup or apple puree on it.
5. The '20 blow rule' should be applied to the crumpet before eating, to make sure that it is cool enough.

Cooking in the fire – garlic bread/baked potatoes

1. When the coals of a fire are white, it indicates that they are hot enough to cook food well.
2. Wrap the garlic bread or potatoes in foil and put on the wire rack or into the dying embers of a fire using barbeque tongs.
3. Leave the garlic bread in the embers for 20 minutes and 45 to 60 minutes for potatoes.
4. Remove them from the fire with barbecue tongs and check to see whether they are ready.
5. Ensure that the children know that they will be very hot, so leave for five minutes before eating.

Using tools – principles and practices

Children love to use tools and it is a key part of learning in the outdoors. It can contribute to the development of key physical and cognitive skills and can support with health and wellbeing. We recommend the following general safe practice (Outdoor and Woodland Learning Scotland, 2017):

- Always ensure that the tools being used are appropriate and suit the purpose. Children should be taught how to use tools safely and with respect.
- As a practitioner, you should keep tools in a safe place and ensure that they are well maintained. They should be stored in a locked cabinet or cupboard.
- It is important to ensure that tools are counted out at the beginning of a session and counted back in at the end of a session.
- Marking tools with coloured tape so that they are easy to see is also recommended, especially if they are green or black.
- During a session, tools should be place in a marked-off area, and children should only access them when they are given permission to do so with adult supervision.
- Ratios for the use of tools should initially be one to one and no more than six to eight per adult once children have been trained and are confident in using them safely.
- Children should position themselves in a safe space prior to using any tools. They should not be able to make contact with any other child when their arms are out wide, therefore ensuring that they have a safe space.

Using a bow saw

1. Talk to the children about the parts of the bow saw, naming each part: the handle, blade and cover.
2. Show the children how to remove the cover and indicate the cutting edge.
3. Show them how to hold the saw using the handle, with the blade pointing downwards.
4. Using the saw and working in pairs, one child or adult should hold the piece of wood to stop it from moving. The other places their hand through the handle of the bow saw so that their sawing hand is well away from the cutting edge, like this:



5. When the saw is not in use, it should be placed with the blade facing in and down and stored in a safe place.

Using a sheath knife

1. Talk to the children about the sheath knife and name the parts – handle, sheath (cover), blade and where the cutting edge is.
2. Show the children how to remove the sheath safely, ensuring that the cover has been put on the knife correctly prior to giving them out to children.
3. Show the children how to hold the knife away from their body.
4. The children should assume a bent knee position, with the knife away from their body.
5. Show the children how to move the knife downwards and away from their body, like this:
6. When the knife is not in use, it should be replaced in its sheath.
7. Show the children how to pass the knife with the sheath pointing downwards.



Using loppers

1. Show the children the parts of the lopper and name them – handle, blade and cutting edge.
2. Show the children how to hold the loppers with two hands.
3. Show the children how to pass the loppers safely to a partner, with the blades pointing down.
4. In pairs, show the children how to use the loppers to cut a larger piece of wood. The thickness of the wood should be bigger than a two pence piece.

The children should work in pairs, like this:

5. When the loppers are not in use, they should be placed down, with the blades facing towards the back of the child.
6. Show the children how to carry the loppers pointing downwards and how to store them in a safe place.



Accepting challenge and staying safe

In this chapter, we have outlined key health and safety points, including step-by-step principles for fire-lighting, use of the storm kettle, cooking in the outdoors and safe use of tools. However, this guidance should not be viewed as a substitute for training and practice. Practitioners who wish to light fires and use tools with children are advised to practise before delivering a session with children and to attend training courses where appropriate. There is further guidance available, such as the Woodland Trust Scotland Outdoor Learning pack, and many providers of outdoor training, for example, internationally funded ERASMUS+, Council for Learning Outside the Classroom, Institute of Outdoor Learning, Wild Tribe Outdoor Learning and Forest Schools courses (see the 'useful websites' section below). Attending a training course will advance your own skills and ensure that you are delivering high-quality and safe sessions.

In summary, rather than a barrier, health and safety should be seen as a positive aspect of teaching outdoors, since learning in this context enables children to take risks in a safe and secure risk-assessed environment. Through experiencing a range of challenges outside the classroom, children develop the capability to weigh up situations and take appropriate action, assessing and managing risks themselves. Such an ability is a vital life skill that schools can help to foster in pupils by providing proportionate responses to any identified health and safety issues.

Useful websites

www.erasmustrainingcourses.com/outdoor-education.html

www.lotc.org.uk/plan-deliver-lotc/cpd-modules

www.outdoor-learning.org/Events/All-Events-Courses

www.forestschoolassociation.org/find-a-forest-school-trainer

KEY STAGE 1 | Year 1

English

In this unit, children will be exploring 'senses', through a range of outdoor learning activities. Each week the children will focus on a sense and develop their talk for writing skills and their creative thinking skills, building their vocabulary through a range of sensory activities. They will be challenged to develop their own sentences, poems and short narratives, using the senses as a stimulus for developing their own creative stories and poetry.

The progressions in this chapter are differentiated to support the needs of children in Year 1. The Early Learning Goals (ELG) are identified, alongside the Year 1 objectives. There is potential to extend activities within the progressions as appropriate.

To support inclusive practice or to extend learning, the space, task, equipment and people (STEP) approach can be adopted throughout this unit. By changing the space, task, equipment or people, the activity can be made more challenging or easier to understand, enabling all pupils to take part in the activity. For more information see the chapter 'Assessment outdoors'.

The main activities offer opportunities for adult-directed whole-group and smaller-group work, as well as opportunities for individual exploration and experimentation where appropriate. Timings will vary according to your setting, pupil experience and the support available. The children will be expected to work independently and together in small groups with support from an adult, as described in each progression.

You may wish to record the activities using a camera.

Natural connections

- Aesthetic appreciation and knowledge about trees
- Natural materials
- Seasonal change
- Care for other animals and the environment

Health and wellbeing

- Physical activities
- Teamwork
- Self-regulation and independence
- Risk management
- Emotional resilience

Word bank

Senses

- see
- sight
- touch
- smell
- taste
- hear
- sound

Adjectives

- rough
- bumpy
- smooth
- hard
- squishy
- grassy
- green
- earthy
- brown
- warm
- red
- golden
- sunny
- yellow
- twittering
- rustling
- beautiful
- smoky
- earthy
- damp

Summary overview

Progression	Curriculum objectives	Learning experiences/activities
Lesson 1	Compose a sentence orally before writing it. Listen and respond appropriately to adults and their peers. Use relevant strategies to build their vocabulary.	**Sense of sight** Children listen to a text which describes seasonal changes. They will write adjectives on leaves and develop and describe their own leaf monster, using *Leaf Man* by Lois Ehlert or similar leaf images to inspire their creative pieces.
Lesson 2	Say out loud what they are going to write about. Compose a sentence orally before writing it. Recognise and join in with predictable phrases.	**Sense of touch** Children will listen to a story about searching for something in a natural habitat, such as *We're Going on a Bear Hunt* by Michael Rosen and Helen Oxenbury. They will make a bookmark or a sticky bracelet, selecting different textures and materials. They will describe what they find and develop a short poem about leaves.
Lesson 3	Listen to and discuss a range of poems and stories. Be encouraged to link what they read or hear read to their own experiences. Discuss word meanings, linking new meanings to those already known. Participate in discussion about what is being read to them, taking turns and listening to what others say.	**Sense of smell** Children will make a woodland potion. They will give it a name, describe it and say what its special powers are. They will make a fire as a class, listen to fire and fireworks poetry and describe the smells they experience within the session. They will create their own fire poem.
Lesson 4	Be encouraged to link what they read or hear read to their own experiences. Listen to and discuss a range of poems and stories. Sequence sentences to form short narratives.	**Sense of hearing** Children will listen to *The Sound Collector* by Roger McGough and use natural objects to make their own musical instrument. They will develop and perform a sound poem using their sound postcards.
Lesson 5	Learn to appreciate rhymes and poems. Discuss word meanings, linking new meanings to those already known.	**Sense of taste** Children will listen to *The Gruffalo* by Julia Donaldson and Alex Scheffler and focus on rhyming words in this session. They will whittle a stick and make a fire. They will cook popcorn and toast marshmallows. The children will develop their own natural woodland recipes and taste poetry.
Lesson 6	Sequence sentences to form short narratives. Science – identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	**All five senses** Children will make a stick person, describe the five senses and where they are going on a woodland adventure with the stick person. They will develop five senses poems or develop their own narrative using the five senses for their own stick person story.