Outdoor Learning Resource Pack

This pack has been created to give you some information on why outdoor learning is so important and how you can apply it across the curriculum in KS1 and KS2 teaching.

We would highly recommend signing up to this free online course from FEE (Foundation for Environmental Education) on Outdoor Education.
Outdoor Education: Using Nature as a Classroom

This free course can be completed in your spare time online and gives a great introduction to the fundamentals of outdoor education.

What is Outdoor Education?

Outdoor education has been defined as "the intersection between **environmental education**, **personal** and **social development** and **outdoor activities**"
~Higgins & Loynes (1997)

Outdoor learning can take place both **on-site** (within school grounds) or **off-site** (for example, school trips).

It is not always necessary to have direct access to wild spaces in your school grounds.

Although the more variation in outdoor space children have access to, the wider the benefits and accessibility.

What are the Benefits of Outdoor Education?

Learning and Development

- Social skills
- Communication and cooperation skills
- Enquiry skills
- Concentration and attention span
- Personal confidence
- Imagination and creativity
- Motor skills
- Emotional regulation
- Inclusivity

Students surveyed:
95%
outdoor lessons "more enjoyable"

Schools surveyed:
93%
outdoor lessons "improve students social skills"
92%
outdoor lessons "engaged students with learning"
85%
outdoor lessons "positive impact on behaviour"

Staff surveyed:
90%
outdoor lessons "useful in curriculum delivery"

Natural England Study:
Natural Connections
Demonstration project

Students surveyed:
90%
felt "happier and healthier" after learning outdoors

Schools surveyed:
92%
outdoor lessons "improves pupil's health and wellbeing"

Staff surveyed:
72%
outdoor lessons "improved health and wellbeing" of teachers

Health

- Physical activity levels
- Mental and emotional health
- Psychosocial health
- Healthy eating

Environment

- Connection to nature
- Environmental knowledge and skills
- Community-wide efforts
- Citizen science
- Improve local biodiversity

"If children don't grow up knowing about nature and appreciating it, they will not understand it.
And if they don't understand it, they won't protect it.
And if they don't protect it, who will?"

~ Sir David Attenborough

What are the Challenges of Outdoor Education?

Fitting it into the curriculum

- Can be applied across the curriculum (see example lesson plans later in this document for examples)
- May be easiest to apply to certain subjects such as The World Around Us and Physical Education
- Wide range of resources that provide outdoor learning lesson plans at for various age groups (see end of doc for links)
- Outdoor learning can even just be a lesson that takes place outside, without any direct interaction with the outdoors

Considering Safety

- A shift in teaching technique can be required for teaching outside
- Planning is key - risk assessments, boundaries, more staff may be tools to implement
- Being well-informed and confident to address concerns
- Important to note that the benefit far outweighs the risk!
- In fact outdoor learning has been shown to develop a child's risk awareness and ability to consider and take risks

Finding Suitable Space

- Most schools have some form of outdoor space, whether green or not
- The more diverse the area, the more learning opportunities and the more accessible it is to students with varying levels of needs
- Creating more green space can be a learning opportunity in itself! For example, planting up planters, planting trees or creating a meadow in grassland
- Field trips are an option to expand into different habitats
- If possible, there is an option to utilise local community spaces, for example other schools, parks or church grounds

Getting Support

- Resources like this and others linked later in the document are helpful
- Taking part in outdoor learning training, such as the FEE training linked at the start of this document
- Networks of other schools all conducting outdoor teaching - Eco-schools create networks by providing teacher clinics and supporting resources
- Being an advocate for outdoor learning by being confident and well-informed will help garner support from your school

Example Outdoor Lesson Plans and Actvities

These example lesson plans and activities have been included in this pack to give you an idea of how broadly outdoor learning can be applied across the KS1 and KS2 curriculum.

For further ideas and different levels of teaching, please see the below resources:

Eco-Schools Outdoor Learning resources
Learning through Landscapes
Woodland Trust
Learning about Ecosystems and Forests
Woodland Classroom

For some quick glance ideas for outdoor activities to develop skills, see the infographic below:

Minibeast Hunt

Areas of the Curriculum
- Science
- Mathematics

Age Range:
KS1 and KS2

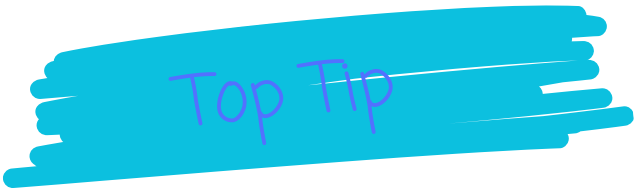
Link to detailed lesson plan:
Eco-Schools

Tools required:
You don't necessarily need any kit for this activity, but it can be enhanced with:
- Magnifying glasses
- Sample pots or recycled tubs or jars
- Large white sheet
- ID sheets
- Recording sheets
- Tablet for photos or ID help
  - Apps you can download include "Picture Insect: Bug Identifier", "Seek by iNaturalist", "Insect ID: Bug Identifier"

Steps:
1. Take a few minutes to debrief your class before starting the activity
   - Give them an outline of the activity
   - Lay out the boundaries of where the activity will be taking place
   - Give a general health and safety talk
   - Let them know you will be hovering around to give them help if they need it or answer questions
   - Tell them to be gentle when moving items or touching minibeasts! Always put them back once recorded.
2. The goal is to identify and record as many different types of minibeast as possible in the outlined area(s)
   - Split your class into 3 groups and rotate every 10-15 mins:
     - **Leafy Plants** - searching in and around tall plants, bushes, hedgerows and trees by placing a large white sheet under the vegetation and gently shaking the plants to see what falls or simply observing minibeasts on the plants
     - **Natural Ground** - searching lawn, leaf piles, log piles or bug hotels by gently lifting these items up to see what's underneath
     - **Hard Surfaces** - searching rocks, walls, fences, tarmac by examining nooks and crannies and carefully lifting small rocks
3. Once a minibeast is found, take a photo or note its features (e.g. colour, number of legs, shape and size) and tally it down in the appropriate category on the recording sheet.

Follow on tasks:

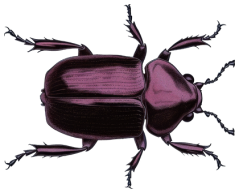
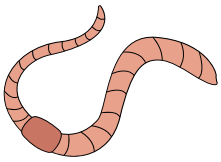
- **Discuss your results** - were there any similarities or differences in minibeast type or number between the different areas?
- **Create graphs** - use your tally numbers to create a bar chart of the number of each type of minibeast found
- **Create a drawing** - draw your favourite minibeast and give a short description of what it looked like
- **Research your favourite** - go and do some additional research on your favourite minibeast that you found during the hunt. What does it eat? Where is it found? What's its lifecycle?
- **Create minibeast habitat** - Follow the advice of the All-Ireland Pollinator Plan and create habitat for minibeasts by creating bug hotels, leaving grass to grow long or planting wildflowers and trees in your school grounds!
- **Submit records online** - use species recording apps or websites, such as CEDaR, to submit your minibeast sightings and photos online. This helps to contribute to citizen science and is a big help in wildlife conservation!



If you're hunting on lawn - you can "charm" worms up from the soil by repeatedly tapping or stamping on the ground - worms respond to vibrations!

Make sure to return any charmed worms back to the soil once you've recorded them.

Minibeast Type	Tally	Total
Woodlouse 		
Earwig 		
Spider 		
Ant 		
Centipede 		
Millipede 		
Ladybird 		
Slug 		

Minibeast Type	Tally	Total
Snail 		
Fly 		
Beetle 		
Wasp 		
Bee 		
Worm 		
Shield bug 		
Butterfly 		

Minibeast Type	Tally	Total
Caterpillar 		

Nature Literacy and Poetry

Areas of the Curriculum

- Literacy
- Language

Tools required:

- Paper or notebooks
- Pens or pencils

Age Range:
KS1 and KS2

Links to detailed lesson plans:
Learning through Landscapes
Woodland Trust
Eco-Schools

Steps:

1. Take a few minutes to debrief your class before starting the activity
    - Give them an outline of the activity
    - Lay out the boundaries of where the activity will be taking place
    - Give a general health and safety talk
    - Let them know you will be hovering around to give them help if they need it or answer questions
    - Split students into groups of 3-4
2. Students will be creating 2 different types of poem:
    a. Alliterative poetry
    b. Poetry using similes

Alliterative Poetry

- Each group looks for a single natural object and observes what it is doing or what it looks like.
- Collect it if possible and if it won't harm any plants or creatures – just take note of it if not.
- Now write a phrase describing the object in the following pattern:

    Number – Adjective – Alliteration – Noun

    For example:
    One big, brown conker

- Repeat this process after observing two new matching objects, then three matching objects, and so on.
- The objects don't have to be living (biotic) factors, they can be non-living (abiotic) factors too e.g. rocks, streams, puddles etc.
- Once each group gets to five, move on to the next poetry type.

Poetry using Similes

- Each group will choose a tree within the vicinity and start to use all their senses to explore it.
- Perhaps each pupil takes a different position around the tree to get a different perspective. For example, one could lie down and look up at the branches and leaves, one could kneel facing the bark, one could sit with their back to the trunk, and one could stand looking at the whole tree.
- Make sure to use your sight, hearing, touch and smell in exploring the tree (maybe not taste!)
- Each member should write one line of poetry inspired by their perspective of the tree, starting "I am a tree with (using a simile)".
- Join the lines together to create one cohesive poem.

  For example,
  I am a tree
  With branches as tall as a skyscraper,
  With roots as wide as a house,
  With bark as rough as a hedgehog,
  With leaves as soft as a blanket.

- Once the tree poem has been completed, students can create another poem about a different piece of nature they can find nearby. Just make sure it uses similes effectively!

Follow on tasks:

- **Perform your poems** - groups can take it in turns to dramatically perform their poems, perhaps adding actions to emphasize their adjectives.
- **Draw out your poems** - create some art to match your poem.

Measuring Trees

Areas of the Curriculum

- Mathematics

Age Range:

KS2

Links to detailed lesson plans:

Learning through Landscapes
Woodland Trust

Tools required:

- Paper or notebooks
- Pens or pencils
- Measuring tapes

Steps:

1. Take a few minutes to debrief your class before starting the activity
    - Give them an outline of the activity
    - Lay out the boundaries of where the activity will be taking place
    - Give a general health and safety talk
    - Let them know you will be hovering around to give them help if they need it or answer questions
    - Split students into groups of 3-4
2. The goal is to use 4 different methods to measure a tree (in metres):
    a. Estimation
    b. Looking through your legs
    c. Using a pen and a pal
    d. Using two people the same height

Estimation

- Measure one of the members of the group and estimate the height of the tree compared to them.
- Perhaps use something you know the height of to get an idea of what height the tree could be, for example most doorframes are about 2m or a standard football net is about 2.4m tall.
- Once you have your estimation, write it down.

Looking through your legs

- Stand with your back to the tree, about as far away as you estimate the tree height to be.
- Look through your legs – you are trying to just see the top of the tree.
- Move away from or towards the tree until you can just see the top of the tree.
- Measure the distance between you and the centre of the tree trunk, and this will give an estimate of the tree's height – record it.

Using a pen and a pal

- Hold up a pen vertically at arm's length, with the pen tip at the top of the tree.
- Hold the pen near the bottom and move forward or back until your thumb lines up with ground level and the pen tip stays aligned with the top of the tree.
- Without changing your grip on the pen, arm length or distance from the tree, turn the pen horizontally.
- Line your thumb up with the centre of the trunk on the ground.
- Get another member of the team to walk sideways from the tree until their feet are at the tip of the pen – make sure they don't walk towards or away from you at all.
- Measure the distance from their feet to the centre of the trunk, and this will give an estimate of the tree's height – record it.

Using two people the same height

- Choose two people in your group who are as close in height as possible.
- Person A lies down with their feet towards the tree, about as far away as you estimate the tree height to be.
- Person B stands at the feet of Person A.
- Person A needs the top of Person B's head to line up with the top of the tree - they will both need to wiggle and shuffle around towards or from the tree a bit to get this right.
- Measure the distance from Person A's eyes to the centre of the tree trunk, and this will give you an estimate of the tree's height – record it.

Follow on tasks:

- **Measure the age of your tree** - measure around the centre of the trunk (about 1.5m from the ground). On average, a tree's trunk grows about 2.5cm wider every year. So if you measure the circumference of the trunk and divide it by 2.5 you can get an estimation of its age in years!
- **Compare your results** - find the tallest, the oldest, the widest etc
- **Identify your trees** - use a tree leaf ID guide to identify what species your trees are. Do you notice any difference in size between species?

Habitat Mapping

Areas of the Curriculum
- Science
- Geography

Age Range:
KS2

Links to detailed lesson plans:
Leaf Ireland

Tools required:
- Paper or notebooks
- Pencils and colouring pencils
- Printout of school grounds from above e.g. ordnance survey map
- Tablet to check satellite imagery

Steps:
1. Take a few minutes to debrief your class before starting the activity
    - Give them an outline of the activity
    - Lay out the boundaries of where the activity will be taking place
    - Give a general health and safety talk
    - Let them know you will be hovering around to give them help if they need it or answer questions
    - Split students into groups of 2-4
2. Record the date, weather and North-East-South-West
3. Walk around the designated area, making notes as you go based on the below features:
    a. Buildings, parking, pitches, tarmac spaces
    b. Trees, hedges, green spaces, overgrown spaces, flowers, gardens, planters, bird boxes, ditches, wet areas
    c. Insects, birds, animals
4. You can write all this down or you can draw it onto your map as you see it. You can colour code or create symbols or keys on your map for different habitats or features – get creative!
5. If you want to you can also bring measuring into it and measure different areas of the school grounds to add to your map.
6. Once mapped, think about what new habitats you could add to your school grounds or what existing habitats could be improved or extended.
    - This could be wildflower planting, a pond, bird boxes, bug hotels, more trees, a nature trail etc.

Follow on tasks:
- **Implement your ideas** - as part of greening up your school, integrate your students ideas into your planning and get them involved!

Nature Bingo

Areas of the Curriculum

- Science
- Numeracy

Age Range:
KS1 and KS2

Links to detailed lesson plans:
Learning through Landscapes
Eco-Schools

Tools required:

- Bingo cards
- Pens or pencils
- Paper or notebooks

Steps:

1. Take a few minutes to debrief your class before starting the activity
    - Give them an outline of the activity
    - Lay out the boundaries of where the activity will be taking place
    - Give a general health and safety talk
    - Let them know you will be hovering around to give them help if they need it or answer questions
    - Split students into pairs
2. Walk around the designated area and mark off the wildlife on your bingo card as you find it.
3. If you find one of each item shout “Bingo!” and come back to the meeting place.
4. Once everyone is back, discuss what you found and where you found it.
    a. Did you find the same things in the same places?
    b. Did you find anything new you’ve never seen before?
    c. Did you see any extra wildlife that wasn’t on your card?
    d. Did you see anything you didn’t know what it was?

Follow on tasks:

- **Create your own bingo cards** - maybe use some of the extra things that you found on your walk to create new cards for next time. Or you can create specific minibeast cards or tree cards.
- **Research the favourite thing you found** - learn more about something that you saw out on the school grounds.

Example bingo cards:



Bramble (*Rubus fruticosus agg.*)

Long, thorny stems with 3/5 leaves all growing from one smaller stem.
Pinkish-white flowers and black berries (at certain times of year).
This plant provides food and shelter for insects – bees in particular.


Ivy (*Hedera helix*)

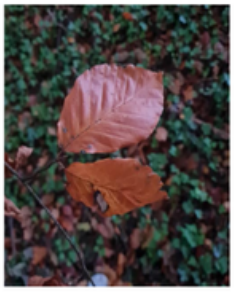
Shiny, dark-green oval or heart-shaped leaves.
Yellow-green flowers that grow in cluster.
This plant provides food for insects and birds, and shelter for birds, insects, bats and other small mammals.



Stinging Nettle (*Urtica dioica*)

Oval, toothed leaves – covered in small hairs that sting!
Hairy stem.
May often see caterpillars or aphids on nettles – they love to snack on this plant!





Beech (*Fagus sylvatica*)

Leaves are oval with hairy edges and bark is smooth and grey.
Seed cases are small, brown and prickly.
While this tree's leaves die in Autumn, it doesn't always drop them – they often cling onto the branch!



Holly (*Ilex aquifolium*)

Shiny, dark-green, prickly leaves.
Dark brown stems with small, brown "warts".
This plant is evergreen and grow bright red berries that is an important food source for birds.



Cherry laurel (*Prunus lauocersus*)

Shiny, dark-green, smooth, leaves.
Grows on thick, woody stems and spreads fast.
Is a **non-native, invasive** species! You should not plant this species as it will spread and out-compete native species, which is bad for

Nature Bingo

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- Science
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- **Research the favourite thing you found** - learn more about something that you saw out on the school grounds.

References

Higgins, P. & Loynes, C. (1997) On the Nature of Outdoor Education. A Guide for Outdoor Educators in Scotland, 6-8.

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