Thursley National Nature Reserve

Environmental Education Pack

www.naturalengland.org.uk

SURREY wildlife TRUST

NATURAL ENGLAND

Contents

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The Education Pack

Our Aims

The aim of this education pack is to give teachers the information and the confidence they need to take their class to Thursley National Nature Reserve (NNR) for an outdoor learning experience. There are three sessions outlined in the pack, each of which is designed to fill a half day visit. You can combine them to make a full day's activities or visit multiple times; revisiting a wild place at different times of year can be a rewarding learning experience in itself.

The sessions in this pack will act as a comprehensive guide to your lesson planning. For each, a **key activity** addresses statutory requirements from the national curriculum and **extra activities** are suggested which may extend the children's learning. A full list of the **resources** you will require is given at the beginning of each plan.

The pack is aimed at **key stage 2**, but each session also has ideas for adapting its contents for **other key stages**. In some cases **cross-curricular links** are detailed, in others ideas for **follow-up work** are given.

The session titles are **Minibeast Madness**, **Fabulous Flora**, and **Heathland Habitats**, built around the study of invertebrates, plants, and habitats respectively. These subject areas enable you to cover many parts of the curriculum while drawing on the children's instinctive interest in the natural world.

Organising a visit

Thursley NNR is free to visit and open to the public.

If you are planning a visit with your class, please contact James Giles, Reserve Manager, on James.Giles@naturalengland.org,uk (full contact details on last page of pack). This will help us to plan our work on the reserve, as well as ensure that you won't clash with other school visits intending to use the same areas.

Loan boxes

Natural England has a loan box available for each session, containing the key resources required to teach the lessons. You can arrange to borrow the relevant loan box by emailing the Reserve Manager James Giles on the email address above. You will need to pick up the box from his office at Bowlhead Green, and return it to him after your visit.

Inventories for each loan box are given in the lesson plans – please ensure that all equipment is returned to us in good condition. If there are losses or breakages, please inform James Giles upon return.

N.B. Lessons can be run without the loan box. This will require you to plan ahead and ensure that you provide the necessary resources.

Welcome to Thursley National Nature Reserve (NNR)

Natural England is an independent public body that protects and improves England's natural environment, while encouraging people to enjoy and get involved in their surroundings. It is our responsibility to see that England's rich natural environment can adapt and survive for future generations to enjoy.

Working with children is an integral part of Natural England's work to secure a sustainable future. Through exciting educational opportunities, such as those offered by this education pack, Natural England hopes children will become better informed and more eager to care for their environment.

Grass snake (*Natrix natrix*)

Thursley NNR is one of the largest surviving fragments of the heathland that was once much more extensive in Surrey. Most of this unique landscape has been lost through urban expansion and agriculture, making Thursley NNR's 325 hectares of varied habitats all the more important. Not only does wildlife thrive in a mosaic of open dry heathland, peat bogs, ponds, and pine and deciduous woodlands, but humans too are able to experience a sense of wilderness that makes it hard to believe you are only one hour from London.

The site is free to visit and open to the public, enabling walkers and wildlife enthusiasts alike to experience Thursley NNR's delights; a sky sparkling with dragonflies on the wing, carnivorous plants lurking in the bog, migrant hobbies darting overhead and the purple flush of heather stretching to the far horizon.

A long boardwalk loops through the soggiest parts of the reserve, while the dryer areas have clear pathways to follow. Ground nesting birds such as nightjars and woodlarks breed in the open dry heath areas, where the heather-nibbling caterpillars of silver studded blue

butterflies could become food for their chicks. Other scarce heathland and wetland birds living at Thursley are stonechats, Dartford warblers, curlews, shrikes and lapwings.

All six of England's native reptile species might be seen basking in the sun on bare ground and young heather; lizards and snakes are sure to elicit excitement when they scuttle or slither away from approaching feet.

The snakes you might encounter are grass snakes, smooth snakes, and adders. Of these only adders are venomous, although as they are not aggressive they are unlikely to pose any threat as long as they are not disturbed. The lizards you might encounter are common lizards, sand lizards, and slow worms. Slow worms have evolved to be limbless, and so are often mistaken for snakes, but these legless lizards have visible eyelids and are able to shed their tail. All six species of reptile hibernate from November to March.

Outdoor Learning

Outdoor learning experiences can be among the most memorable and enjoyable in a young person's life, providing children with a chance to engage directly with the living inspiration for the subjects taught in the curriculum. For teachers, the cross-curricular applications of just one visit to somewhere like Thursley NNR are almost endless. Provided that you undertake a site visit and risk assessment before the day of the trip, your class should be able to enjoy a safe and exciting day out.

Getting there & parking

Thursley NNR is located between the villages of Elstead and Thursley, south of Guildford in Surrey.

How to find us

Not far from the A3, **the main car park (The Moat) is south of Elstead on the Thursley Road**, and can be found with **post code GU8 6LW**.

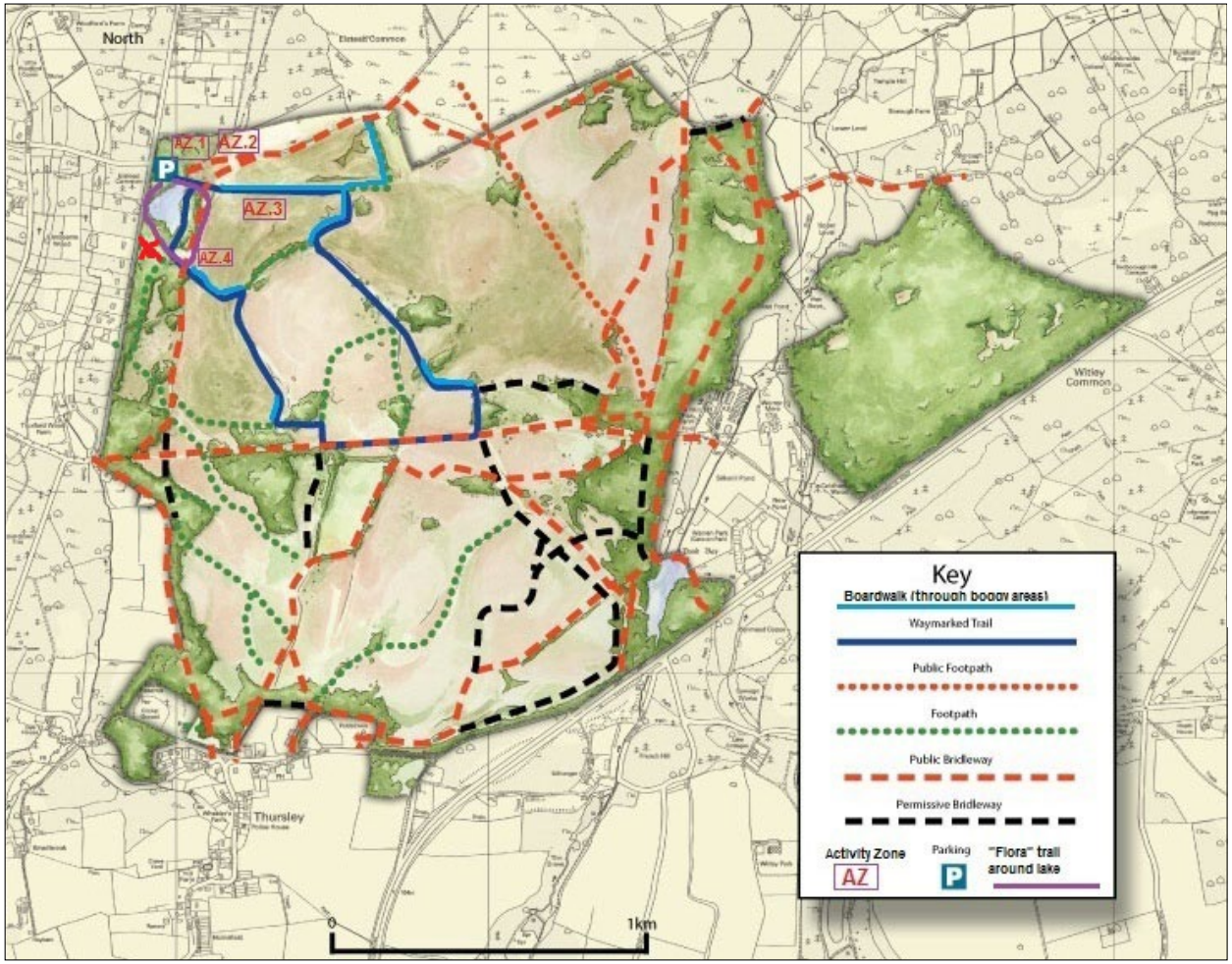
The car park is large enough for a coach to be parked, or for multiple cars if parents are bringing their children directly to the reserve.

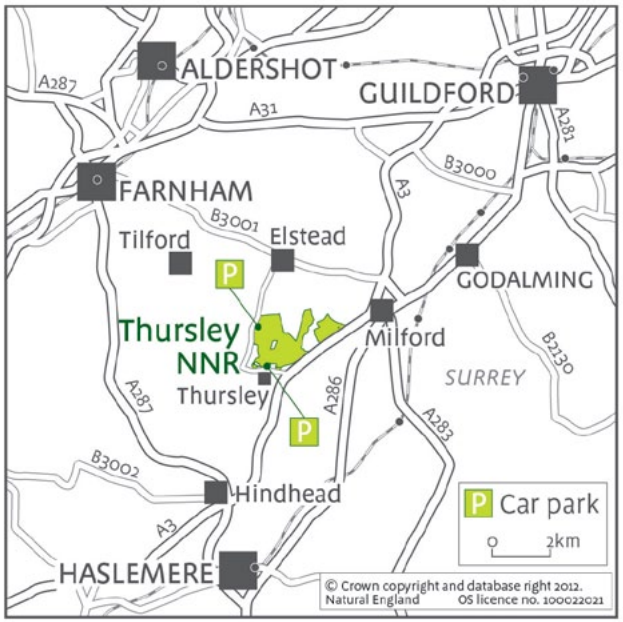
Facilities

The nearest public toilets are in Farnham (GU10 7PT), Godalming (GU8 6LW) and Frensham Great Pond (GU10 2QB). The Waverley Borough Council website has details of these public facilities (www.waverley.gov.uk).

Some schools have used a camping toilet which is taken off site afterwards. Alternatively, you can hire portable toilets which can be placed temporarily in the Moat Car Park. Please contact the Reserve Manager for details.

Map of Thursley NNR & Activity Areas





Contact us

Thursley National Nature Reserve
The Barn, Lower House Road,
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01428-685675

Species Timeline

April	May	June	July	August	September	october
First damselflies emerge (large red and common blue)	First dragonflies emerge (four spotted chaser and broad bodied chaser)	Bell heather flowers	Many dragonflies on the wing	Common heather (ling) flowers	Early morning dew highlights orb webs, look out for spectacular orb web of the wasp spider	Hobby leaves, replaced by great grey shrike
Hobby (a falcon) arrives	Sand lizards egg laying	Crossleaved heather flowers	Bog Asphodel in flower	Grayling and purple hair streak butterflies on wing	Autumn fungi start emerging	
Spring migrant birds arriving (cuckoo, Redstart, whitethroats, spotted fly catcher, swallow, swift, wheatears)	Cotton grass in flower, also common lousewort	Curlew chicks fledge	Common terns on ponds fishing			
Raft spider found on ditches and ponds	Bog bean in flower	Silver studded blue butterfly emerges as an adult (end of month)	Silver studded blue butterflys hit peak			
Small copper butterfly, red admiral, peacock, tortoise shell	Green tiger beetles active	Early marsh orchids in flower	Second emergence small copper			
Reptiles emerged	Spider hunting wasps	Second emergence of Brimstone butterflies	Hornet robber flies out (our largest fly)			
Winter visiting birds departing – red wings, field fares	Speckled wood and orange tip butterflies on wing	Mottled beefly active, wood tiger beetle active				

Teacher's Preparation

What to Bring

We advise teachers to bring the following for safety and to get the most from the visit:

- Rucksack
- First aid kit
- Mobile phone
- Camera
- Pencils
- Loose leaf paper
- Clipboards
- Hand gel/wet wipes
- Water – children are likely to lose individual bottles when getting involved in hands-on activities
- Several lengths of bright ribbon – this is for creating boundaries (see 'Free Play' below)
- Tarpaulin/rugs for sitting on (optional)

Use the resources checklists at the beginning of each activity before your visit to ensure that you have the materials required for the session(s) you will be teaching.

Free Play

Try to plan the day and your use of the lessons in this pack to include some time for free play. Free play in an outdoor environment is beneficial in many areas of a child's development. The physical benefits are obvious; less obvious may be the key role that outdoor play has in cognitive, emotional and social development. At lunchtime or whenever fits in with your day, create boundaries by tying lengths of bright ribbon to trees encircling an area within your field of vision, and watch the children enjoying Thursley NNR. Please remember to remove the ribbon when you leave the area! The physical benefits are obvious; less obvious may be the key role that outdoor play has in cognitive, emotional and social development. At lunchtime or whenever fits in with your day, create boundaries by tying lengths of bright ribbon to trees encircling an area within your field of vision, and watch the children enjoying Thursley NNR.

Lunchtime English

The primary English curriculum has many statutory requirements which could be touched on in the inspiring surroundings of an English heathland. Volume often comes naturally in the outdoors, and the atmospheric setting is hard to beat. Pupils might have the chance to listen to poetry, fiction, or non-fiction. They might retell fairy stories, myths or legends, or read aloud poetry or prose of their own creation. If they (and you!) are up for a real challenge they could prepare a play script to perform to the backdrop of the Moat – whatever you choose, rest assured that an activity like this will stick in their memories for many years to come.

Minibeast Madness

Section 1.

Minibeasts, or invertebrates, are animals without a backbone. This group includes creatures as diverse as insects, crabs, snails, and starfish.

Invertebrates make up 95% of all animal species. They do many important jobs, for example breaking down dead matter and pollinating flowers.

Raft spider (*Dolomedes fimbriatus*)

Links to Science Curriculum:

- Food chains
- Exoskeletons
- Classification/grouping of living things
- Life-cycles
- Reproduction
- Adaptations
- Working scientifically

Loan Box Contents:

- Sweep nets x 10
- White sheet x 5
- Pooters x 30
- Magnifying glasses x 15
- Plastic cups x 30
- High-sided pots x 4
- Bug eyes x 15

Other resources you will need to bring:

- Loose leaf paper x 30 sheets
- Pencils x 30

Teachers Notes

Heather structure

Heathlands support a huge variety of invertebrate species. At Thursley NNR the heather is managed to provide a wide range of ages and structure, from bare ground to deep, mature heather. The bare ground areas act as sun traps on bright days, where beetles scurry about and sand wasps dig their burrows. The older vegetation is a canvas for spiders to paint with their silk to catch the smaller pollinators flitting between the nectar-rich flowers.

Dragonflies

The wet areas of the reserve support 26 species of dragonfly and damselfly. They vary in size from dainty damsels and demoiselles to chunky broad-bodied chasers. The large red damselfly is usually the first to be seen, appearing in the second half of April. By mid-summer, there will be spring-green southern hawkers hunting alongside the sky-blue of emperors, or the yellow stripes of the golden-ringed dragonflies.

These insects need standing water for their eggs and for the larval stage of their lifecycle. When they are ready to emerge

from the water, they climb the stem of an overhanging plant, and crawl out of their larval skin (exoskeleton). It can take them as long as three hours to free themselves and puff up their wings, but if you're lucky enough to catch any part of this mesmerising process you can be sure the children won't forget it!

Other special invertebrate sightings

The boggy areas support populations of one of England's largest spiders – the raft spider (Dolomedes fimbriatus). The female can grow up to 22mm long (excluding legs!); both sexes are dark brown with white stripes down each side of their body. They sit on floating vegetation with their front legs touching the water and wait to feel the vibrations made by aquatic insects, tadpoles, and even small fish – then they pounce to devour their meal. When danger threatens, they can crawl down a plant stem right under the water, and stay submerged for up to an hour, breathing air trapped in the hairs that cover their bodies.

In the pine woods keep a lookout for nest of the wood ant (Formica rufa). Distinctive mounds 'thatched' with pine needles can rise up to 1½m tall, and stretch the same distance underground. One colony can house 250,000 individual ants, all working for one queen – the workers live for about 60 days, but the queen can live as long as 15 years! Although they are predators, 90% of the wood ants' sustenance comes from 'milking' aphids. Aphids are little insects that feed on sap and they secrete honeydew, a sweet liquid that ants adore. Much as humans keep cows for their milk, protecting them from predators and moving them to the best feeding grounds, wood ants do the same for aphids, sometimes climbing as high as 30m into the pine canopy to 'milk' their herd.

On a summers day, the air at Thursley NNR can be filled with flitting butterflies; graylings, coppers, purple and brown hairstreaks. The reserve is especially notable for its population of silver-studded blue butterflies, whose caterpillars feed on the young bell heather shoots. The sandy soils of the dry heath are home to many solitary bees and wasps; many of the sand wasps are predatory and will hunt caterpillars and feed them to their own young back in their nest holes. If you are very lucky, you could spot one of the rare beetles that makes its home on the heath; the wood tiger beetle (Cicendela sylvatica), with its tiger-like light yellow stripes on a dark brown body.

Leading Education Sessions

The map on page 6 shows the recommended area for running the key activity in the Minibeast Madness! session (marked as Activity Zone 2, or AZ.2).

Here you will find little tree stumps to feed decomposers and wood on the ground to be overturned. Surrounding the area is heather which should yield interesting creatures when swept. There are clear boundaries on all sides with trees and footpaths, making it unlikely that your group will get lost, and as it is an area of dry heath there is no danger of stepping into a marsh.

Management & History

The open water and boggy ground at Thursley NNR create a challenge for the Reserve Manager and his team of volunteers – too wet for conventional heavy machinery, they have resorted to more traditional methods of management. Belted Galloway cows are used to graze hard-to-reach areas, and a beneficial side-effect of their presence is that they keep waterways and ponds open which would otherwise silt up over time. This echoes the way this habitat was originally maintained – heathlands mostly started life as 'commons', areas where local people could bring their livestock to graze.

Belted galloway (*Bos taurus*)

Minibeast Madness Activities:

A. Introductory activity: Beasties in the Bog

Time: 15-20 minutes (including walking to the boardwalk and back)

No Resources Required

The boardwalk at Thursley NNR offers a different way to get up close and personal with the minibeasts living in the valley mire (bog). One of the wonders of this reserve in the spring and summer months is the sheer number of dragonflies and damselflies hovering and zooming over the water. Lead your class out onto the beginning of the boardwalk (see map on page 6), and ask them to see how many different colours of these beautiful insects they can spot. See if they can spot which is a dragonfly and which a damselfly, and use this time to point out some traits of an insect (ie 6 legs, wings, segmented body). You could ask your pupils to kneel on the boardwalk and peer into the water alongside – can they see any minibeasts in the bog?

Emperor dragonfly (*Anax imperator*)

Dragonfly lifecycle

- A female might lay hundreds of eggs in her adult lifetime
- Eggs are laid in or near water
- Most eggs hatch within 5 weeks
- The larva (called a nymph) is aquatic, and moults into a new exoskeleton as many as 15 times before it emerges as an adult – it might be a nymph for more than 5 years!
- Nymphs eat worms, leeches, tadpoles, insects, and even small fish!
- Once they emerge as adults, most species live for just 1-2 weeks
- Adult dragonflies eat insects, which they catch on the wing

Dragonfly vs. damselfly

These two types of insect are closely related and easily mistaken for one another. The failsafe way to tell them apart is to look at the wings when they land. If they hold them out to the sides, it's a dragonfly. If they fold them backwards over their body it's a damselfly.

Dragonflies can move all four wings independently. This means they are able to fly backwards, forwards and up-side down! This is just one of the adaptations that make them such skilled hunters, another being their excellent eye-sight.

Large red damselfly (*Pyrrhosoma nymphula*)

Minibeast Madness Activities:

B. Key activity: Minibeast Safari

Time: 40 minutes – 1 hour

Resources:

■ Items in red are required if you DO NOT have the loan box

- Sheet of paper
- Pencils
- Photocopied worksheet
- Spotters guide/ID sheet made by you
- 4 plastic boxes with high sides (old margarine tubs will do)
- 30 plastic spoons
- 30 plastic cups
- 30 sheets of blank A4 paper (white)

Optional:

- Magnifying glasses
- Pooters

Vocabulary

Invertebrate
Species
Habitat
Antennae
Exoskeleton
Predator
Pollinator
Decomposer
Adaptation
Insect
Arachnid
Proboscis
Pooter

This activity can be used to examine and compare minibeasts that live in different parts of the heathland habitat.

On the ground, students can turn over pieces of wood, search among the moss, and peer under the heather to find minibeasts whose business is likely to be decomposing – breaking down dead plants and animals and returning them to the soil.

Tell your pupils to keep an eye out for snakes during this activity. If they are lucky enough to spot one, they can watch it from a safe distance – do not try to handle it!

Instructions:

Set up a 'research station', where one adult lays out the four plastic boxes and stays with them.

In the first box placea slip of paper labeled 'NO LEGS'. In the second box, '6 LEGS', in the third'8 LEGS', and in the last, 'MORE THAN 8 LEGS'.

- Ask students which minibeasts they might find to go in each box – if age-appropriate, you can use terms such as 'insect' and 'arachnid'.
- Tell children to take care when collecting minibeasts – reinforce the idea that they should respect nature. Ask them how they would feel if a giant was trying to poke them into a pot – they'd want him to be gentle!
- Each child should use a spoon and a plastic cup to collect any minibeasts they find, and bring them to the research station. They should examine their minibeast, use the spotter's guide/ID sheet to find out what it is, and count its legs to decide which box to put it in.

Gather children round and discuss what they have found:

- Which box has the most in it?
- What colour are the minibeasts?
- What shape are they?
- How do they move?
- How are these minibeasts adapted to their habitat?

Fill in the minibeast survey sheet with the class's findings.

- Using a key fits in very well with this activity – search online, or get the children to make their own! Remeber you will need to decide on your own extra resources if you want to do this during your visit.

In the heather and long grass, students might expect to find pollinators and predators that can jump or fly.

To look for minibeasts in the heather, do one of the following:

- If you have the loan box, students use the sweep nets to gently brush the heather. Empty the nets on to the white sheet, and use the pooters for a closer look.
- Blank A4 sheets of paper can be placed under the heather and the heather shaken so that resident minibeasts fall out and are easy to spot. If you have pooters, students use these to suck the minibeasts up for a closer look.
- Students can wander amongst the heather with no collecting equipment, spotting minibeasts and examining them with a magnifying glass or the naked eye.

Use the minibeast ID sheets to identify the minibeasts found, and discuss the same questions as before:

- What colour are the minibeasts?
- What shape are they?
- How do they move?
- How are these minibeasts adapted to their habitat?
- Fill in the minibeast survey sheet with the class's findings.

Please ensure minibeasts are returned unharmed to their habitat at the end of the activity!

Minibeast Madness Activities:

C. Extra Activities

Natural sculpture

Time: 20 minutes

Resources: magnifying glasses, plastic cups to contain minibeast for examination

In small groups, children choose their favourite minibeast and examine it closely.

Using natural materials, they create an image of their minibeast on the ground, making sure it has the right number of legs, body segments, antennae etc.

Give it an imaginative name, and then use a simple ID sheet to find out what it really is.

Blind as a woodlouse

Time: 10 mins

Resources: rope (15-25m)

Tie the rope to a tree and lead it to another tree with few or no obstacles between them. Loop the rope around the second tree and lead it to a third. Continue until you are almost out of rope, then tie it off around a final tree.

Explain to pupils that minibeasts have very different senses to humans. Those that live in tree stumps and amongst the leaf litter often have very poor eyesight – some don't have eyes at all! To protect themselves and find their way around, these minibeasts use antennae. This will be the pupils' chance to experience Thursley NNR the way some of its inhabitants do.

Line pupils up and ask them to close their eyes. One by one, lead them to the start of your rope trail, and then set them off along it. They should hold on to the rope with one hand, and hold their other hand up in front of their eyes/face as their 'antenna'.

Through a dragonfly's eyes

Loan box required

Time: 5-10 mins

Resources: bug eyes

Explain to pupils that minibeasts have very different senses to humans. Many insects have a completely different kind of eye – it's called a compound eye, and instead of the one lens that we have, a compound eye can have up to 30,000 lenses!

Pupils find a partner. Each pair stands one behind the other, and the pupil behind puts their hands on the shoulders of the pupil in front. Give the pupil in front a bug eye, and they can walk around looking at the world through a dragonfly's eyes while the pupil behind guides them to make sure they don't bump into anything or go off-road. Swap so both pupils have a go.

Minibeast map

Time: 20 mins

Resources: Loose leaves of paper, pencils

In groups or pairs, pupils think of an invertebrate (eg a dragonfly, a woodlouse).

Pupils then study an area of ground approximately 2m x 2m. They observe it from the perspective of their invertebrate, noting mounds and dips, water, plants, and other animals.

They draw a map for their invertebrate, if appropriate using contour lines for the 'mountains' and 'valleys' of the terrain, and marking helpful information on it such as:

food sources/water/shelter/danger

Follow-up activities & cross-curricular links

- Art & Design: make model minibeasts. These can be used to make a 3D key in Science.
- Maths: analyse data and make pie/bar charts.
- Science: make a guide or key to some of the minibeasts you found at Thursley NNR.
- English: Write a poem from the perspective of a minibeast. *If you intend doing this, take 5 minutes for the children to imagine what Thursley NNR looks/sounds/tastes like to a minibeast. The Minibeast Maps activity fits in well with this.*

Adapting activities for higher/lower key stages

All the activities in this pack can be adapted to suit children of different ages and abilities, and to tie in with different stages in the curriculum. For example;

For key stage 1:

- The minibeast safari is a fantastic opportunity to learn to **identify and name a variety of animals** which are herbivores, carnivores, and omnivores. The minibeast ID sheets have information on the feeding level of the invertebrates you're likely to find at Thursley NNR.
- **Microhabitats** and the different creatures found in them can be a key learning objective from this session for key stage 1.
- Blind as a woodlouse and Through a dragonfly's eyes are sensory activities appropriate for this age group.
- A walk on the boardwalk provides visual delights, and on the reserve's pathways each child can carry a plastic tub or bag to gather things that a minibeast might eat. (Please collect only things that are not living; tell the children not to pick anything off plants, just from the floor). These goodies can be taken back to school to make a collage or model.

For key stage 3:

The minibeast safari session can be modified to become an ecological investigation into the composition of invertebrate communities in a heathland. A **comparative study** can be undertaken by sweeping in two distinct areas (eg dry heath cand the boardwalk), or ground-searching on heathland and pine woodland.

Data can be cross-referenced with the information on feeding level from the minibeast ID sheets to construct **food webs** and pyramids.

Having established the adaptive differences between ground-dwelling and heather-dwelling invertebrates, move on to closer study of pollinators and the anatomy of the flowers they serve. It is worth noting that heather is a frequent victim of nectar robbery, and holes can be spotted in the base of the flowers in summer.

Sampling techniques are an intrinsic part of this lesson, and once in a natural environment many more are obvious candidates for discussion and/or demonstration.

Students place a white sheet under a tree and shake the overhanging branch, recording the invertebrates that fall out. Standardise the technique by striking the tree a set number of times and choosing branches at an agreed height from the ground. Before shaking the tree look up to check for birds', wasps' and bees' nests. While shaking keep eyes down to avoid falling twigs.

An investigation can be extended with the use of quadrats to survey the plant life (including bare ground) in the areas where invertebrate data has been gathered.

The use of pitfall traps may be discussed, but not demonstrated due to NNR conservation guidelines.

Minibeast Survey Sheet:

Names of surveyors .....

Date of survey ..... **Weather** .....

Site 1 ..... **Site 2** .....

Name of minibeast	Number of legs	How it moves (fly, hop, crawl)	Frequency	
			Site 1	Site 2

Fabulous Flora

Section 2.

Plants are crucial in food chains while they're alive as producers eaten by herbivores, and after they're dead as detritus eaten by detritivores.

Plants need nutrients from the ground in the same way that we need vitamins, but the 'bulk' of their diet comes from thin air – their wood is woven from carbon which they absorb through pores in their leaves in the form of CO_2.

Round leaved sundew (*Drosera rotundifolia*)

Teachers Notes

Thursley NNR showcases a variety of plants:

- scots pine and silver birch in the woodland
- heathers and gorse on the heath
- sphagnum moss and the carnivorous sundew in the bog

What's that popping noise?

Gorse (*Ulex spp.*) is noted for its sunshine-splash of colour throughout the year in the old saying "when gorse is out of bloom, kissing is out of season". They are at their most spectacular visually in early spring, but listen hard in the long hot days of summer and your ears might be in for a treat too. The distinctive pop-pop-pop of the seed pods drying and cracking and firing the seeds away from the parent plant is a fantastic starting point for a discussion about seed dispersal. The bright flowers smell of coconut – interestingly some people detect the smell much more strongly than others – and are edible, but beware the forest of prickles protecting them!

Links to Science Curriculum:

- Working scientifically
  - making predictions
  - making observations
  - gathering & recording data
  - drawing conclusions
  - tables & graphs (follow-up work)
- Parts of a plant and their functions
- Plant requirements
- Flowers & seeds
- Lifecycles & reproduction of plants

Loan Box Contents:

- Hoops x 10
- Plant spotters guide

Other resources you will need to bring:

- Clipboards x 10
- Pencils x 10
- Worksheets photocopied from this pack
- Sticky strips (see p.23)
- Blindfolds x 15 - optional

Meat-eater with roots and leaves

The common sundew (*Drosera rotundifolia*) lives in the poor soil of the bog. To make up for the lack of nutrients available via its roots, the sundew supplements its diet of air and sunlight with any insect unlucky enough to stroll across its sticky hairs. Once the creature is stuck, the plant secretes a thick fluid to suffocate it, and then uses enzymes to digest all its juicy bits.

Heathers

There are three species of heather present on Thursley NNR, and they flower one after the other to wash the heath with purple all summer long. Bell heather (deep purple flowers), common heather also called 'ling' (lilac flowers) and cross-leaved heath (pink flowers) all produce lots of nectar which is a valuable food source for butterflies and bees.

Heather (*Calluna vulgaris*)

Bracken

Bracken is a species of fern. Ferns are an ancient group of plants that lived alongside the dinosaurs before flowering plants had evolved, and they reproduce using spores instead of seeds. Its scientific name is *Pteridium aquilinum* which translates as 'Eagle Fern' because of the way its leaves swoop out from either side of the stem like an eagle's wings. Many place names around Thursley are named after ferns, for example Farnham, Fernhust, Farncombe, and Farnborough.

Heathland Management

Heathland was originally a man-made habitat. Commons were accessible to commoners (local people) who were allowed to harvest firewood and bedding materials and graze their animals on the land.

Plants such as heather and gorse, and animals such as reptiles and many invertebrates, were favoured by the open spaces created and the patchwork of areas left to grow for another year's fuel and fodder.

One of the key management issues on a heathland today is keeping on top of birch and pine seedlings which want to establish themselves amongst the heather. If these trees were allowed to grow wherever they seeded, there would soon be no heathland left, and many specialised species would die out as their habitat disappeared.

Leading Education Sessions

The map on page 6 shows the recommended areas for running a Fabulous Flora session.

This lesson can follow a clear route which is marked on the map as the 'flora trail' (purple line). Begin by circumnavigating the lake to the right from the car park, where you will find a good spot to do the introductory activity. The path between the car park and the suggested introductory activity site runs alongside a road for 8-10 metres – place adults along this stretch to ensure children do not stray.

The key activity is a comparative study which uses two sites next to each other, one an open site and one woodland. The woodland in the recommended area (**marked on the map on page 6 as Activity Zone 4, or AZ.4**) doesn't have much undergrowth so you will be able to keep your class in sight at all times.

If you need to make your own Spotter's Guide (i.e. you don't have the loan box), the following species are some that might be found during this session:

Scots pine, silver birch, holly, gorse, ling (common heather), bell heather, heath milkwort, heath bedstraw, bracken.

Fabulous Flora Activities:

A. Introductory activity: Meet a Tree

Time: 10 minutes

Resources: blindfolds optional

Pupils divide into pairs. One closes their eyes/is blindfolded, and the other spins them gently to disorientate them.

The blindfolded child is led to a tree, which they feel up as high and down as low as they can, and all the way around the trunk, noting soft, rough, smooth, uneven, or twiggy areas.

They are then led back to where they started, spun again and told to open their eyes. Can they find 'their' tree? Pupils swap roles and repeat.

NOTE: Twisty silver birch can provide a contrast to straight and similar Scots pine in this activity.

Birch (*Betula*)

Fabulous Flora Activities:

B. Key activity: Plants love the light!

Time: 45 minutes

Resources:

- Items in red are required if you DO NOT have the loan box
- PE hoops x 10
- Spotter's guide/ID sheet made by you
- Pencils x 10
- Clipboards x 10
- Photocopied worksheets

Vocabulary

Root, Anther, Leaf, Pollen, Stem, Style, Flower, Ovary, Petal, Dispersal, Sepal, Pollination, Stamen

This activity compares plants growing in light and in shaded areas. Pupils will be asked to make a prediction, gather data, and draw a conclusion.

The recommended area for these activities is marked as AZ.4 on the map on page 6.

Tell pupils that they are going to do a survey of the plants growing on the open heath and in the woodland. Do they think that the plants growing in the two areas will be the same? Do they predict any differences?

Explain that you won't ask them to look at every single plant growing on Thursley NNR; instead, they will use hoops to take a sample of the plants in one area, and then again to take a sample of the plants in the second area.

Split the children into groups of 3 or 4, and give each group a hoop to use as a quadrat. They should lay the hoop on the ground in the open heath and record what is inside it on the worksheet.

The data they record should be:

- how many different types of plants
- the names if they know them (you can use the spotter's guides in the loan box to help)
- how much ground cover by plants
- how much light reaches the plants in their quadrat

How much light reaches the plants can be recorded by one child holdingtheir arms above their head, using their hands to show how big the largest bit of open sky is that they can see as explained below.

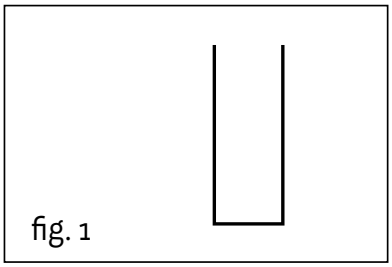


fig. 1

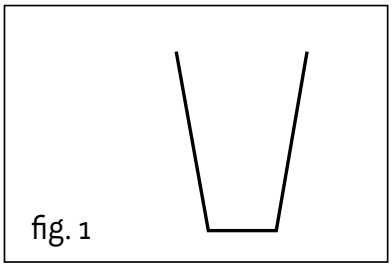


fig. 1

They can then tick on the worksheet what their friend's arms look like. For example, in the woodland you might expect their arms to be held straight up above their head, and so they would tick the symbol in fig. 1

In the heathland they are likely to hold their arms open, and would tick the symbol in fig.2

Repeat the study in the woodland:

take 25-30 steps into the woodland to ensure a useful contrast in your results. Be aware that they probably won't consider the trees as plants to be surveyed – this is not a problem for their data, but it does make an interesting conversation.

Gather the children together to discuss what they found.

- Where did they find more plants?
- Why do they think plants prefer the open heath?
- What did their friend's arms look like in the open heath?
- What did their friend's arms look like in the woodland?
- So where was there more light?
- What else, apart from light, do plants need to survive?

Plants need **light**, **air**, **water**, and **nutrients** to survive. When they are seeds, they need all these things PLUS **space** and **warmth** to germinate and grow.

Look at the open heath – you might find lots more Scots pine seedlings and saplings than there are in the woodland. This is because in the managed heathland there is lots of space and the open skies allow **light** and **warmth** to reach the ground.

This is why continuing to manage the heathland is so important – if we left it to go wild, it would soon become a forest and many species that are adapted to live on heathlands would die out.

Thursley NNR

Fabulous Flora Activities:

C. Extra Activities

Room to Grow

Time: 5 minutes

Resources: none, except a good amount of space!

To demonstrate to children the importance of space to a seedling as it grows, ask them all to curl in on themselves and make themselves as tiny as they can. Instruct them to waddle closer to each other, as close as they can get, until they are in a tight huddle, then ask them to close their eyes and listen.

Tell them that they are seeds, fallen to the ground. In winter it rains a lot, but it's too cold to grow, so they just wait. In spring, the days get longer and brighter, and the sun gets warmer, and the little seeds start to wake up. Talk them through their germination – an example follows, with the important bits in bold:

"*You're starting to wake up. Don't forget that **you can't move your feet**, you're a plant growing roots into the ground. **Open your eyes**. Now, **very slowly**, start to grow. Lift your head, slowly lift an arm, grow upwards. Start to stand up, slowly, and straighten yourself right up, and like a plant reach for the sun, stretch your arms upwards and outwards...*"

The children will soon realise the impossibility of all of them following your instructions without any of them moving their feet!

This activity is an excellent springboard for discussing seed dispersal strategies and why plants produce so many seeds.

Fascinating Seed Fact

Gorse seeds have a sugary pouch attached to them which is very attractive to heathland ants. The seeds may be carried away to the ants' underground colonies, ending up as far as four metres from the parent plant, and in a perfect spot for germination.

Natural Sculpture

Time: 20 minutes

Resources: none

Begin with a quick Q & A session on parts of a plant or of a flower, whichever is age-appropriate. What is each part called?

In small groups or individually, children use fallen natural materials to create an image of a plant/flower, ensuring that each part is specifically recognisable. While they work, encourage dialogue about the functions of each part.

This activity can be repeated in the classroom with pipe cleaners/paper/etc. Try challenging your class to do it all with recycled materials!

Sticky Strips

Time: Throughout session, or 10 minutes

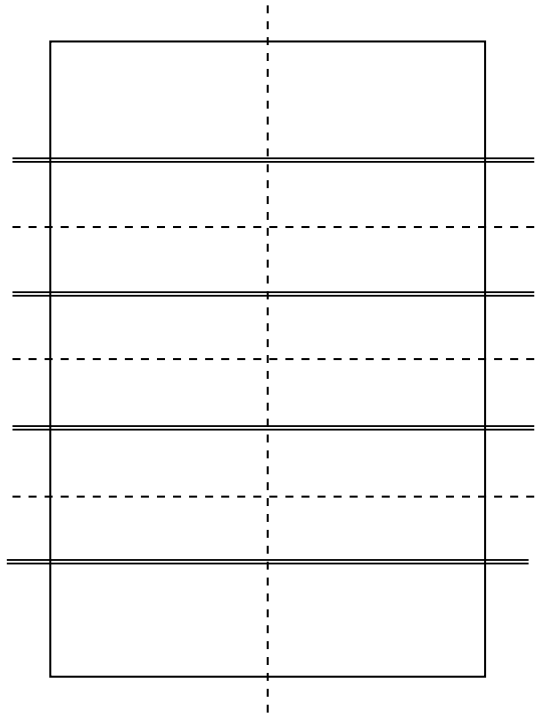
Resources: card, double-sided sticky tape

Before your visit to Thursley NNR, prepare the sticky strips. Stick four lengths of double-sided tape at equal intervals down a piece of A4 card. Cut the card into eight pieces, so that each piece has tape across the middle of it. Make enough for your class i.e. do this four times to make 32 sticky strips.

When the time comes on the reserve, peel the protective layer off the tape so that each child has their own sticky palette to fill with colour.

Remind them that this is a nature reserve, so they should only take tiny pieces of natural things for their collection (fingernail-sized is a good guide).

You can guide what they collect e.g. if you are discussing pollination, collect bright colours that would attract a bee or butterfly; if you are discussing food chains, see how many shades of green you can find; if you are discussing seeds, how many different seeds can you find?



Follow-up activities & cross-curricular links

- Art & Design: repeat the natural sculpture exercise in the classroom or school grounds using recycled materials.
- Maths: make bar charts of individual or class results.
- Science: use the names of the plants they recorded to introduce Linnaeus and the binomial naming system.
- English: write a recipe for a plant or flower, or an instruction manual to somebody trying to build one. Write a story from the point of view of the tree they 'met' in the introductory activity.

Adapting activities for higher/lower key stages

All the activities in this pack can be adapted to suit children of different ages and abilities, and to tie in with different stages in the curriculum. For example;

For key stage 1:

The key activity Plants Love the Light! can be adapted for younger students as followed:

- Do the activity just once, on the open heath.
- Instead of quadrats, get 4 children to hold hands and look inside the circle they've made.
- Each of them should count how many different types of plant they can see.
- Can they name any of them?
- Ask one member of each group to point to a leaf, then one to a stem, one to a root, and one to a flower (seasonally dependent).
- If they kneel down where they were standing, can they see any minibeasts on the plants in their circle?
- Do they think the minibeasts on the plants are herbivores or carnivores?
- When walking through the wood, ask them why there are fewer plants growing underneath the trees.

The introductory and extra activities are suitable for key stage 1 without modification.

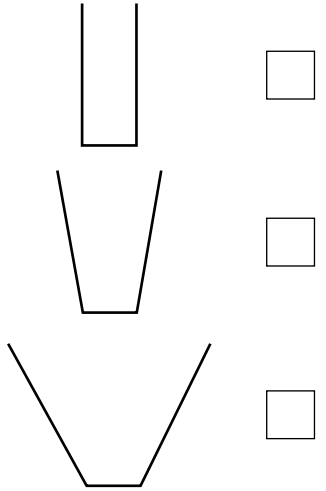
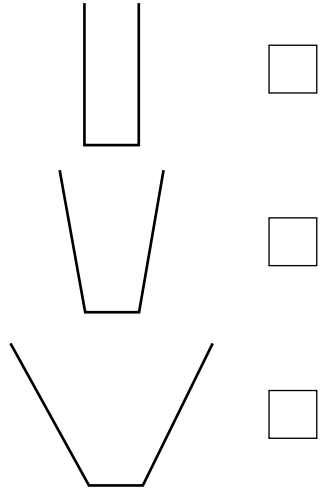
For key stage 3:

The key activity is a good introduction to the use of quadrats as a sampling technique.

- Eliminate bias by marking out a grid with two tape measures and placing the quadrats with pairs of random numbers.
- Students should work in pairs or groups of three, and each group should survey three quadrats in each area.
- If possible use a light meter to measure light levels in the two study areas.
- Evaluation should include a discussion about the variables which were not considered or tested, such as soil type, pH, and moisture levels.

The extra activity Sticky Strips can be used to make an ID strip of plant leaves to make sure plants are identified correctly in the key activity.

Fabulous Flora Activity Sheet:

OPEN HEATH	How many different types of plant are in your hoop? Draw one of their leaves in this space:	Can you name any of them?	How much of the ground in your hoop is covered by plants? MOST ☐ SOME ☐ NOT MUCH ☐ NONE ☐	What do your friend's arms look like? 
WOODLAND	How many different types of plant are in your hoop? Draw one of their leaves in this space:	Can you name any of them?	How much of the ground in your hoop is covered by plants? MOST ☐ SOME ☐ NOT MUCH ☐ NONE ☐	What do your friend's arms look like? 

Heathland Habitats

Section 3.

A habitat is a place where an animal or plant lives.

The word describes both the living and non-living features of an organism's surroundings, like climate and weather, soil, competing species and food sources.

Bell heather (*Erica cinereas*)

Links to Science Curriculum:

- Working scientifically
- scientific enquiry
- careful observations
- take measurements
- record data
- labelled drawings
- Soils
- Classification keys
- Adaptation

Loan Box Contents:

- A thermometer
- Bubbles x 5
- A reel of ribbon
- Scissors
- A compass
- Coloured laminates & picture cards

Other resources you will need to bring:

- Clipboards x 5
- Pencils x 5
- Worksheets photocopied from this pack
- Loose leaf of paper
- Modelling clay - optional

Teachers Notes

At Thursley NNR, there are three main habitat types: wet heath (bog & ponds), dry heath, and woodland.

Wind

Heathlands, by virtue of their lack of tree cover, are open to the elements. This means that heathland plants need to be hardy enough to withstand winds and rain and scorching in the sun. Heather has special adaptations to enable it to cope with the windy conditions, and even turns them to its advantage. Low-growing, woody stems and a strong root system prevent wind damage, and small leaves with sunken pores limit water loss. The seeds of all heather species at Thursley NNR are wind-dispersed, making the most of the wild winds whistling across the heath!

Fire

Often heathland soils are sandy and free-draining, leading to frequent droughts in summer, and a higher risk of fire. Uncontrolled fires on heathland can be dangerous and destructive to the animals that call the heath home, as well as to people and their property.

Gorse is well adapted to survive these extreme events. The plant itself is highly flammable, so fire burns through the area quickly. After a fire, gorse resprouts quickly from its burnt stumps. Perhaps most remarkably, the heat of fire actually stimulates its seeds to germinate. This 'phoenix' plant is fantastic habitat for birds to nest in, with dense cover and thick prickles protecting their eggs and young.

Sometimes controlled fire is used by conservationists as a management tool, to burn unwanted saplings and keep the heathland open. This type of management is done in winter, when many heathland inhabitants are hibernating and so are unlikely to be hurt.

Micro-habitats

Heather is a great creator and protector of micro-habitats. Four main phases are recognised in the lifecycle of heather:

- the pioneer phase – until the plant is six years old (up to 15cm tall)
- the building phase – until the plant is 15 years old (15 – 40cm tall)
- the mature phase – until the plant is 25 years old (up to 1m tall)
- the degenerate phase – up to & beyond 30 years old (collapses on itself)

Once a heather plant reaches the mature phase, gaps begin to open in its canopy and its branches grow along the ground. This central 'courtyard' provides a safe and humid spot for bryophytes (mainly mosses) to thrive in the micro-climate.

Leading Education Sessions

These Heathland Habitat activities can be carried out anywhere on the reserve.

Gorse (*Ulex europaeus*)

Heathland Habitat Activities:

A. Introductory activity: Mind Maps

Time: 20 minutes

Resources: none for children, paper and pen for teacher

This activity takes place in two separate areas, one a woodland and one open heath.

In the first area, get children quiet and ask them to think of words to describe this place, and how it makes them feel. For example; bright, free, mossy, green, brown, soggy... Trying with eyes open and then eyes closed can give different results.

In the second area (this does not have to be immediately after the first area, it can be done at any time during the session), repeat the activity.

This draws the children's attention to the ways in which habitats differ from each other, and gets them thinking about some of the features of the different habitats that plants and animals are adapted to.

Ask them to imagine that they are a **deer** or a **lizard**, where might they like to live and why?

Once completed, these mind maps can be used back at school for follow-up work in English.

Simple examples of adaptations to habitat features:

- In the woodland, it is dark, so plants have to grow long thick trunks to reach all the way up to the light.
- In the open heathland, there's no shelter from the wind, so heather uses the wind to disperse its seeds.

© Jon Hawkins

Common lizard (*Lacerta Zootoca vivipara*)

Heathland Habitat Activities:

B. An Hour in the Life... of an Ecologist!

Time: 1 hour

Resources:

■ Items in red are required if you DO NOT have the loan box

- A thermometer
- Bubbles x 5
- A reel of ribbon
- Scissors
- A compass
- Pencils x 5
- Clipboards x 5
- Photocopied worksheets

Vocabulary

Habitat
Micro-habitat
Adaptation
Ecology
Thermometer
Compass
Beaufort scale
Heathland
Bog
Woodland

This activity allows children to explore the heathland at Thursley NNR and take measurements to record all they can about the habitat.

If possible, children should be in groups of six with one adult per group. If this is not possible, activities can be undertaken in larger groups or as a whole class.

In an area of open heath, ask the children the following questions. Make sure all the bullet points are covered in their answers:

What can you see?

- Plants
- Animals
- Sky – sunshine/clouds
- Soil

What can you hear?

- Animals e.g. birdsong, insects buzzing
- The wind

What can you feel?

- Sunshine/rain/wind or hot/cold

Tell the children that for the next hour they are going to be ecologists – measuring and finding out more about all the things they can see, hear, and feel. These things are all part of the heathland habitat that makes Thursley special – so special that the government have chosen to protect it as a National Nature Reserve.

Ecology

-ology means 'the study of'

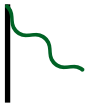
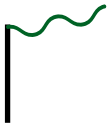
eco- comes from the Greek 'oikos' meaning home.

So '**ecology**' means 'the study of homes'

Part One: non-living parts of the habitat

Each group should have a copy of the worksheet 'An Hour in the life... of an Ecologist'. The adult with each group should lead them through the following activities.

Part of habitat	What to do
Temperature	Children should place a thermometer out of direct sunlight and leave it to adjust. A reading can be taken after 5 minutes and recorded on the worksheet.
Soil	Children should pick up a small handful of soil and follow the worksheet soil key.
Sky	Look up (not into the sun!). How much cloud cover is there? Match it to the pictures on the worksheet.
Wind speed	Cut 25cm of ribbon for each group. Each group should find a straight stick – about finger thick – and tie the ribbon to one end of it. Holding the stick above their heads so their bodies don't block the wind, children should draw the angle of the ribbon on the worksheet. Use the pictures in the table below to estimate the wind speed.
Wind direction	Each group blows bubbles to find out the wind direction. Ask them which way the wind is going (they are likely to say 'that way!'). To make this scientific, use a compass to find North and discover which direction the wind is coming from. Add an arrow in the right place on the compass on the worksheet. REMEMBER, a Southerly wind comes from the South, a Northerly from the North etc.

Angle of Ribbon	Number on Beaufort Scale	Wind Speed (mph)	Description & Effects
	0	Below 1	**Calm** Smoke rises vertically
	1	1-3	**Light air** Smoke drifts, weathervanes motionless
	2	4-7	**Light breeze** Leaves rustle, weathervanes move
	3	8-12	**Gentle breeze** Leaves & twigs move, flags extended
	4	13-18	**Moderate breeze** Branches sway, flags flap, dust raised
	5	19-24	**Fresh breeze** Small trees sway

Part Two: living parts of the habitat

Time: 15 – 30 minutes (longer if desired)
Resources: none or modelling clay

Ask the children how many different kinds of plants they can see. Encourage them to look closely to spot differences in the leaves, flowers, and overall shape of the plants. Count up their answers on your fingers to get a total. Repeat for different kinds of animals.

Ask the children what they would include in a drawing of the habitat. When they have discussed and decided, one of them (or take it in turns) can make a sketch on the worksheet. All children should contribute a label to the sketch.

When the sketch is completed, give out the 'favourite plant/animal' worksheet – one per pupil. Each pupil should choose a plant to draw. Make sure they get up close to their chosen plant and really examine it as they sketch! This is likely to be harder with their favourite animal, so you can collect the sheets in when they've completed their plant drawing (labelled if appropriate), and do the animal drawing from a photograph back at school/for homework.

At the end of the activities, gather children back together and ask each group what they learned about the heathland habitat at Thursley NNR by being an Ecologist for an hour.

Silver studded blue (*Plebejus argus*)

Heathland Habitats Activities:

C. Extra Activities

Habitat Match

Time: 10 minutes

Resources: Something green, something yellow, something blue (e.g. card or ribbon). If you have the loan box, use the picture cards.

Wet heath (or bog), dry heath, and woodland are the three main habitats at Thursley NNR.

Choose one adult to represent each and give them the colours to hold up:

Blue for bog
Yellow for heath
Green for woodland

In groups of three, children are given the name of a heathland animal or plant (or picture cards from the loan box). The children discuss and decide within their groups which habitat 'their' animal or plant belongs in.

When they approach the adult representing their habitat, they should be asked why they've chosen this one i.e. what feature of the animal or plant suits this habitat?

Spotter's List

Time: throughout lesson

Resources: spotter's guide/ID sheet, photocopied Heathland Spotter's Checklist (p.37)

To make the most of your time at Thursley NNR and ensure that the children understand what makes this such a special place, they can fill in a spotter's checklist during your visit.

If you have the loan box, there are illustrated 'Spotter's Guides' included.

If you do not have the loan box, you can make your own visual guide or download one from the internet - see the last page of this pack for suggestions.

Imaginary Habitats

Time: 15 – 30 minutes (longer if desired)

Resources: none, or modelling clay

Children are asked either to imagine a creature or to make one from modelling clay. A habitat for their model-sized creature can be constructed from fallen heath or woodland materials, including habitat features such as shelter and food sources.

Ask them questions as they work, for example:

- What is the name of their creature?
- What does it eat?
- What is it eaten by?
- Does its shelter keep it warm or keep it cool?
- Does it come out during the day or during the night?

Make a Map

Time: 20 minutes

Materials: none

Children have 5 minutes to explore the area within a clearly defined boundary (use ribbons to demarcate an area). Call them back and ask them to construct a map of this 'territory' on the ground, made from fallen natural materials they can find. They can work alone or in groups – prepare to be surprised by their resourcefulness and creativity!

Educational Play

Follow-up activities & cross-curricular links

- Geography: Key stage 1 weather, compass directions, devise a simple map, physical features surrounding school grounds. Key stage 2 land use, compass directions, sketches and maps.
- History: Key stage 1 & 2 how human interaction with the land has changed in living memory and beyond.
- Art & Design: Key stage 1 & 2 use a range of materials and a wide range of techniques including sculpture.

Adapting activities for higher/lower key stages

All the activities in this pack can be adapted to suit children of different ages and abilities, and to tie in with different stages in the curriculum. For example;

For key stage 1:

The Mind Map activity is a perfect introduction to the word habitat. It can be extended by children using their 'imagining hats' to introduce micro-habitats as well. Follow on with an exploration of the woodland floor, looking under fallen branches etc.

The Spotter's Checklist is an excellent opportunity for children to learn to identify and name a variety of wild plants and animals. It can be used as a lead in to discuss how the animals found at Thursley NNR are different from the animals found in the familiar environments of our gardens and school grounds.

The key activity, A Day in the Life... of an Ecologist, can be simplified to address the Four Seasons statutory requirement in year 1, offering a chance to observe and describe the weather using simple and fun equipment.

Emphasis can be put on the drawing part of the activity – use magnifying glasses to observe closely and make sure you draw all the parts of the plant. The animal drawings can be used to introduce comparing the structure of different animals when back in the classroom.

Worksheet : An Hour in the life... of an Ecologist

1. Can you roll the soil into a good ball?
No = SAND
Yes = go to Q2 >

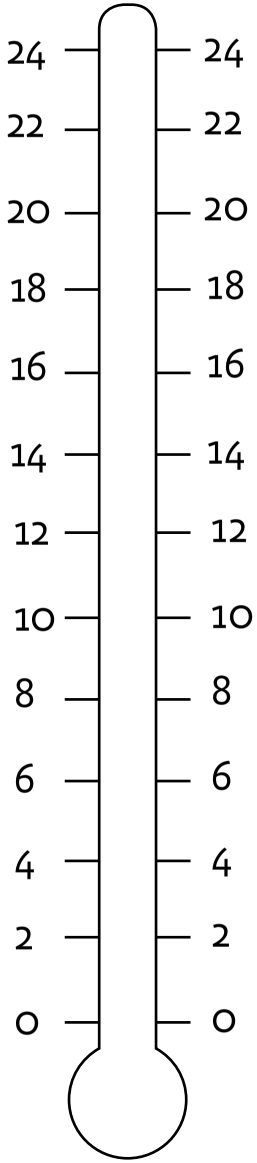
2. Can you roll the soil into a sausage?
No = LOAM
Yes = go to Q3 >

3. Can you bend the sausage into a horseshoe shape without it cracking?
No = SILT
Yes = CLAY

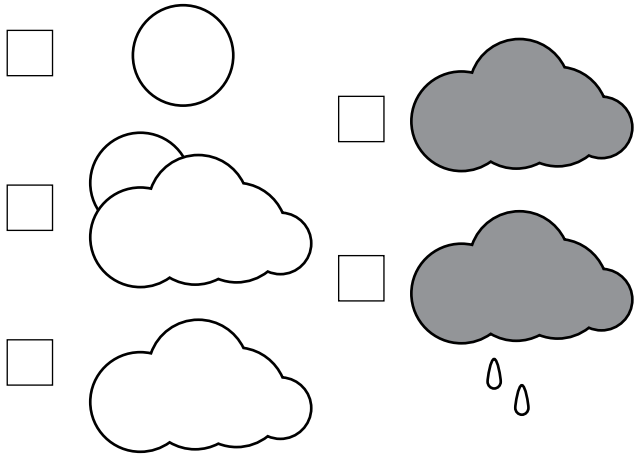
Wind Speed

Draw the ribbon on the picture below and use the pictures to estimate wind speed

..... mph

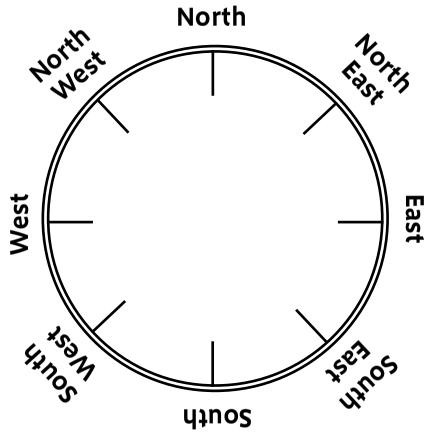


Cloud Cover



Wind Direction

Draw an **arrow** on the compass towards where the wind is coming **from**



The Heathland Habitat - A Field Sketch

Label key features!

Draw your favourite plant from Thursley

Name one thing that makes this plant suited to its habitat

Draw your favourite animal from Thursley

Name one thing that makes this animal suited to its habitat

Thursley NNR Heathland Spotter's Checklist

- ☐ Scots pine
- ☐ Heather
- ☐ Bracken
- ☐ Damselfly
- ☐ Silver birch
- ☐ Wood ant hill
- ☐ Silver-studded blue
- ☐ Sphagnum Moss
- ☐ Dragonfly
- ☐ Hobby
- ☐ Gorse
- ☐ Evidence of fire
- ☐ Common lizard

What else did you spot at Thursley NNR?

.....

.....

.....

.....

.....

Risk Assesment

Things to consider

Possible hazard	Suggested precautions to reduce risk
Exposure – sunburn, hypothermia	■ Appropriate clothing, hats, suncream, drinking water. ■ Session cancelled if weather conditions extreme.
Trips and falls	■ Introductory talk highlighting potential dangers. ■ Adequate adult supervision. ■ Appropriate footwear.
Health hazards e.g. infection	■ Open wounds to be covered. ■ Wet wipes available. ■ Children told to keep hands out of mouths. ■ Wash hands before eating/drinking.
Boardwalk no hand rails slippery when wet	■ Inform children before walking on the boardwalk to walk slowly and to stay away from the edges. Kneel if looking over the edge. ■ Avoid boardwalk in wet weather.
Open water (lakes, clearly visible) Concealed water (in boggy areas)	■ Stick to the paths in boggy areas of the reserve (i.e. near the boardwalk).
Dog-walkers Horses & cyclists on bridleway	■ Tell children not to pat dogs they do not know. ■ Be aware when you are on the bridleway (marked on map on page 6).
Livestock – Belted Galloway cattle graze the reserve	■ Do not approach the cattle too closely.
Animal bites/stings – adders, bees etc.	■ Teacher able to identify an adder. ■ Do not attempt to handle snakes. ■ Carry appropriate medication for stings. ■ Teacher aware of any allergies.

Losing a child/children	■ Adequate child/adult ratio. ■ Set boundaries for children e.g. no-one to go beyond this path or that line of trees. Take ribbon to tie in obvious places along boundary line as visual reminder.
The site was used for military purposes in the past and there is a small possibility of finding ordnance. **If any suspicious metal objects are uncovered, do not touch them and inform the Reserve Manager.**	

These precautions are for guidance only. Anybody bringing a group to the reserve must visit beforehand to familiarise themselves with the site and hazards. They must also carry out a full risk assessment to satisfy their own organisation's Health & Safety policies.

- Ensure a first aid kit and emergency phone are available at all times.
- Ensure that staff members are aware of any allergies and any child requiring medication is under supervision of the correctly-equipped adult.
- Have an emergency action plan in place in case it is required.
- In an emergency, inform the Reserve Manager. If necessary dial 999.

The postcode for the Moat Car Park is GU8 6LW. The nearest Accident & Emergency is the Royal Surrey County Hospital, Egerton Road, Guildford, Surrey, GU2 7XX.

The Countryside Code

RESPECT | PROTECT | ENJOY

Please:

Respect other people:

- consider the local community and other people enjoying the outdoors
- leave gates and property as you find them and follow paths unless wider access is available

Protect the natural environment:

- leave no trace of your visit and take your litter home
- keep dogs under effective control

Enjoy the outdoors:

- plan ahead and be prepared
- follow advice and local signs

Please respect the special nature of Thursley NNR

As well as being a National Nature Reserve, Thursley NNR has European designations as an SAC (Special Area of Conservation) and a SPA (Special Protected Area). It is also recognised as an internationally important wetland and is a Ramsar site. In addition to these protections, Thursley is part of a larger Site of Special Scientific Interest (SSSI).

Thank you

Further Information

Good to know

For more information about Thursley National Nature Reserve you can download our free information leaflet:

www.naturalengland.org.uk/thursleynnr

Free identification guides can be downloaded and printed from:

www.naturedetectives.org.uk/packs/pack_spotting
www.wildlifewatch.org.uk/spotting-sheets
www.canalrivertrust.org.uk/spotters-guide-to-canal-wildlife

A wide range of identification guides are available to buy from the Field Studies Council:

www.field-studies-council.org/publications

Some great videos to introduce your class to damselflies, dragonflies and carnivorous plants can be found online at **www.bbc.co.uk/nature/life/Odonata**

If you have any comments or queries about the content of the pack, please contact:

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Email: james.giles@naturalengland.org.uk

We hope you find this pack both useful and inspirational, and that you enjoy yourselves at Thursley NNR!