

Green Minds Nature Trail (Lancaster)

The nature trail starts in the green space between College Main and the Library.

Welcome to our campus nature trail. To start getting your senses tuned in to your surroundings, have a look around this area of grass and trees and see if you can spot this fellow life form:

- ◆ This species is generally considered to be non-native—its presence in this country is probably the result of human intervention. Its ancestors may have lived in the mountains of central or northern Europe.
- ◆ It's considered by some to be a weed and a nuisance—you'll find its seedlings in many of the flowerbeds nearby and it's unlikely the gardener welcomes them there; its leaves have been called "the wrong sort of leaves" because they cause trains to skid when they brake.
- ◆ Others welcome its presence though: its long spikes of greenish-yellow flowers provide bees with nectar and pollen, its leaves provide food and shelter for insects and micro-organisms, and the timber can be used to make violins.
- ◆ You'll see that many of the leaves have black blotches on them. This is the tar-spot fungus, a sign that the air is fairly clean up here, because this fungus is very sensitive to sulphur dioxide pollution.
- ◆ The leaves are what botanists call "palmate" - they have 5 lobes, in the shape of a hand (and if they blow inside out, so the saying goes, "there's bad weather about").
- ◆ And surely every child delights in the two-winged seeds, which twirl through the air like little helicopters.*

This area of the campus is popular with birds and squirrels. The photographs on the information panel will help you identify some of them. What do you think attracts them to this particular spot?

Follow the curving walkway down and under the bridge. Turn right and walk between two low walls to a circular area with trees and benches, known as the outdoor classroom.

Take a seat, close your eyes and keep them closed for at least 5 minutes. How many different sounds can you hear? How far away is each sound, and in which direction? Try to build up a mental sound map, or if you have pen and paper, draw an actual map, with yourself in the centre and the sounds you heard represented by symbols.

***Answer: Sycamore: there's a sycamore tree opposite the bay window of College Main.**

To continue the nature trail, walk up the slope between the buildings, past the fire escape on the left, until you reach the pond. Listen to how the soundscape changes as you walk along.

Again, spend at least 5 minutes investigating the pond, but this time focus on what you can see (please don't reach over to touch the water). Gaze into the depths of the pond as well as looking at the water surface. How many different colours can you see? Can you see any creatures in, on or above the water? Depending on the time of year you might see frogspawn, tadpoles, frogs, water snails, pond skaters, damselflies and dragonflies.



Frogspawn



Damselflies mating

You probably noticed the large colourful Koi which live in the pond, which wouldn't be present in a wild pond in this country. They are fed regularly, the pond is dredged and the vegetation cut back every year, and the water is circulated artificially through the fountain. What impact do you think this management has on the plants and creatures who live in the pond? What would happen if the pond was left alone?

Continue past the pond, go through a gap in the wall and take a seat on one of the benches overlooking the football pitch.

As you sit, try to focus your attention onto one object, for example a nearby tree, the hills in the distance, or the sounds of birds. If you find your mind has wandered, acknowledge this and return your focus to your chosen object. Try to stay for at least 5 minutes. You may be surprised how quickly your mind wanders, but don't worry, just gently bring it back each time.

The next location is up to you. Which area are you drawn to investigate? Maybe the walls and flower beds to the right, the sports pitch in front of you or the trees and hedges along the main road.

Focus on the detail—how many different types of plant or animal can you see in this flower bed or on this wall? What else grows on the sports pitch apart from grass? What is living on this tree?

Return to the gap in the wall but instead of turning towards the pond, turn right round the side of the Humanities Building until you come to a hedge with a car park beyond.

Very carefully (there are many spikes and thorns!) use your senses of touch and smell to explore the hedge. Depending on the time of year, you might find buds, flowers and leaves as well as the stems and twigs of a wide variety of plants. Gently explore their different shapes and textures: holly leaves, for example, are thick and waxy with sharp spikes; bramble stems are long and rambling and covered in thorns. Try crushing the softer leaves between your fingers to release their scent. Turn leaves over and see if anything is hiding underneath—you might see insects, spiders or tiny eggs, carefully hidden or cleverly camouflaged. Look for other signs of the presence of insects such as leaves which have been partially eaten or have discoloured blotches.

Holly and hazel leaves showing insect damage:



Continue along the hedge line as it passes behind the sports pitch.

Beyond the car park the hedge is much taller and less dense. Here it's mostly made up of beech: look for the pale-yellow flowers in spring, the prickly brown seedcases in autumn, or the long, thin leaf-buds in winter. Compare the two types of hedge—does one seem to attract more wildlife?

Continue along the path around the sports pitch.

As you walk along, look closely at the path edges, where all sorts of little plants have found a home, despite the danger of being trampled on. Think about their survival strategies for this tough environment. Mosses, lichens and liverworts, for example, can grow on hard surfaces as they don't have proper roots. In fact liverworts don't have stems, leaves or flowers either, just flat green plates or fronds. The umbrella liverwort shown in the photograph might be familiar if you buy plants from garden centres—the "umbrella" is part of the plant's reproductive mechanism.



Umbrella liverwort



Plantain



Pineapple weed

Turn right towards the Sports Centre. For the next activity you'll need a magnifying glass each: these are available to borrow from the Sports Centre Reception. As you leave the Sports Centre, turn left and take the path which runs down the side of the building.

Take a moment to think about what you'd like to investigate "in close-up". You might like to examine the structure of a flower or the bark of a tree, or you might like to search the undergrowth, dead leaves and fallen branches for mini-beasts. Examine colours, shapes, textures, movement. Spend 10 or 15 minutes looking closely, but be very careful to avoid causing harm or distress, and if you move anything, put it back carefully.

Continue to the end of the path, and on to the grass if you wish.

This is one of the wilder corners of the campus and it's likely that there are many birds and small mammals around, even if you don't notice them at first. Please cause as little disturbance as possible during your visit. Use the skills you've developed in the earlier activities and see what signs of life you can detect:

- Try to keep your attention focused on your surroundings
- Look at ground level for signs of animal activity—trails of flattened vegetation, tufts of hair caught on brambles, animal or bird droppings
- Look up into the tree canopy for insects and birds
- Listen carefully for movement, birdsong, or even the squeaking of small mammals
- What can you smell?
- Use your magnifying glass to get a close-up view of buds, leaves, insects and anything else that catches your attention. Search for signs of life such as partially eaten leaves or insect eggs.

If you keep very still, you may find that creatures that were frightened by your approach relax a little and return to their normal activities. As you watch and listen, try to discover what they are doing—are they searching for food? Building a home? Do they interact with other creatures?

If you like, you can keep the magnifying glass until you finish the trail.

Please remember to return it to the Sports Centre afterwards.

Head now towards the corner of the all-weather sports pitch nearest to the main car park. You can follow the path or walk across the grass.

From this vantage point you can see a range of contrasting habitats: tarmac car park, shrub borders, a variety of trees, a grass and an all-weather sports pitch, buildings and paved paths. Consider these habitats from the point of view of different organisms: plants, insects, birds, mammals (including humans!). What are their advantages and disadvantages? What do they offer in terms of food and drink, shelter and security, somewhere to raise a family? What is their aesthetic, recreational, intellectual and practical value? Can you think of any changes that could be made to improve the balance between these different needs?

Being careful to avoid the traffic, go down the slope and across the road to a path which continues downhill between halls of residence on the right and a bank of trees on the left. If you wish, you can walk to the top of the bank where you will find a young orchard. Otherwise, walk down the path and turn left.

On the grass slopes below the path you will often see jackdaws, black-headed gulls, magpies and wood pigeons. Watch them carefully for a while. What are they doing? What do you think they eat and how do they find their food? How do they interact with each other? Are they sociable or solitary birds? What do you think makes them feel unsafe, and do they pose a threat to other creatures? What do you admire most about them?

Continue along the path until it joins the avenue of trees.

Many of the trees in the avenue are host to a rich variety of beautiful lichens. A lichen is a dual organism made up of an alga and a fungus. The alga provides the structure and uses sunlight to manufacture sugars (photosynthesis). The fungus provides minerals and a sheltered environment. Lichens repay close examination, but they are by no means easy to categorize. See if you can find examples that might fit into the following categories:

- Crust
- Scaly
- Leafy
- Shrubby
- Beard
- Cup



Cross back over the road (again be careful to avoid the traffic) and walk up the hill towards the library on your left and the Gateway Building on your right.

As you walk, look closely at the bank to the left of the pavement. Depending on the time of year, this bank has many hidden gems to offer. In late winter, look out for snowdrops and crocuses. As spring arrives, daffodils and cowslips begin to emerge. And in the autumn you may be lucky enough to see the shaggy inkcap fungus.



Cowslip



Shaggy inkcap

If you haven't already done so, please remember to return your magnifying glasses to the Sports Centre!

This nature trail has only scratched the surface of the natural beauty of the campus. We hope you feel inspired to continue your exploration. If you have a favourite spot on the campus that you would like to see included in the nature trail or if you would like to share your experiences of enjoying the campus environment, please contact us at Greenminds@cumbria.ac.uk.

This nature trail was inspired by Cornell, J. B. (2015) *Sharing nature: nature awareness activities for all ages*. Nevada City, California: Crystal Clarity.