



Pools of water

Create reflections of light, curiosity for students, and a cooling factor on your school grounds, by installing wildlife ponds.



Benefits for nature

Creating a pond is one of the best things you can do to invite nature into your space. Even the smallest areas of freshwater can support a wide range of living things that could otherwise not survive – those that live their whole lives in water and those that depend on it for parts of their lifecycle, as well as those that visit to drink, bathe or eat.

Ponds also store excess rainwater, reducing the risk of flooding during heavy rains, and provide a water source for plants and wildlife during periods of drought. They help to cool down their immediate surroundings, creating more comfortable spaces, especially in built-up areas.



Benefits for people

Pond dipping is fun and allows young people to explore life cycles and habitats. Time spent near water has been shown to reduce stress levels and promote mental wellbeing. As long as safety and environmental sustainability are incorporated, ponds make a great addition to any site.



Is it easy to do?

Whether you create a raised pond on hard standing or remove paving and dig a larger pond, *Pools of water* can have a big impact. It takes a little more digging or installation than some other options, but the result is a long-term, low-maintenance feature that's brimming with life.



Where to start?

In this first year of the National Education Nature Park, the focus is on turning previously grey spaces to green (or blue!) ones, so take a look at the paved or gravel areas of your site and see where might benefit from a new wildlife pond. The guidance below helps you select the right option for your site and supports you with planning, creating and maintaining your pond.

Cost

££-£££

Season

Any time

Impact for nature

High

Key Vocabulary

Grey spaces

Spaces that have no, or very few, plants e.g. playgrounds, paths, car parks, tarmac and asphalt.

Green spaces

Spaces that have some plants already.

Pond liner

A black plastic or rubber lining that makes your pond watertight.

Underlay

A soft lining that goes under the pond liner, to protect it from being pierced by sharp stones etc.

If you think you'd like to enhance your site with **Pools of water**, the rest of this document will show you how...

Planning and design

In this first phase of the National Education Nature Park, the focus is on creating new spaces for nature in areas that were previously grey, so this document explains how you can create new *Pools of water* on your site.

Later in the programme, we'll share new guidance to support you with enhancing existing ponds or creating new ones in existing natural areas. Before you change any existing habitats, you will want to study what is currently living there so you will be able to measure any nature gains you achieve. Guidance on our website for each specific habitat will provide surveys and activities to explore and understand your existing green areas before you start to make changes.

For now, let's turn grey to green...



Some options

Here are some suggestions for different ways of adding *Pools of water* to your site, catering to different scales and budgets. Don't take these as absolute rules – get creative and design a pond that suits you and your learners, and makes the most of the site, materials and resources you have.

Start small

Raised ponds (sometimes called 'above-ground' ponds) are large containers, a bit like raised flowerbeds, that can be placed on hard standing without needing to dig a hole. They are fairly easy to install as the containers are usually purchased as kits, although you may need to buy the pond liner separately. As they are raised up, you'll need to create a ramp, steps or bank of earth to allow wildlife to access the pond. Place bricks inside the pond to create different depths, and add plants. The rest of the wildlife will arrive by itself! Smaller container ponds can also be created, but they are more likely to dry out or become stagnant, so be aware of health and safety issues around stagnant water.



Make a bigger impact

Removing paving in order to dig a wildlife pond requires more work and resources, but provides a more natural long-term habitat than a raised pond, with greater connectivity to other natural areas and better access for wildlife. Seek professional help to remove paving and dig the hole, even if you want to install the pond yourself with your learners.

Pre-formed plastic ponds can be purchased and placed into the ground on a base lining of sand, but you must dig the hole to the exact shape of the pre-formed pond. Alternatively you can dig a hole of any shape and size to meet your needs and line it with a specialist underlay and pond liner. Buy the best quality pond liner and underlay you can afford.

Step-by-step advice is available on the RHS website.



Designing for nature

Maximise the value of your pond, regardless of its size, through careful placement, design, and planting. Here are some top tips to consider when adding *Pools of water* to your site:

- Position your pond so it is not in full sun or full shade for the whole day. This ensures the water temperature is well-regulated and will provide suitable conditions for a wider range of creatures.
- Design your pond and its surrounding area to have a range of different microhabitats. You can create different water depths even in small ponds using stones, gravel, and plants.
- Create access for wildlife with slopes or steps in and out. Consider using natural deadwood to create a haul-out spot for amphibians and other creatures. This will also help to prevent wildlife from becoming trapped by steep sides.
- Choose non-invasive and (where possible) native pond plants to support a diverse range of wildlife. Plant labels will tell you if it is native to the UK. Look carefully at how large each plant grows and spreads, and buy accordingly.
- Don't be tempted to add anything from other ponds, including water, sludge or frogspawn, as this could spread disease and bring unwanted parasites or invasive non-native plants to your new pond.
- Don't introduce any fish to your wildlife pond, as they predate on young amphibians and compete with them for food.



Access and connection to surrounding habitats

- Strike a balance between providing access to the pond for learners and teachers to enjoy and use for pond dipping, and trying to leave wildlife as undisturbed as possible. Ensure learners can get to the pond, so consider paths, pond dipping platforms, or kneeling areas to safely look in.
- Likewise, more wildlife will use the pond if it can safely access it, so try to locate it close to other natural habitats or create a new connection or habitat corridor to link natural spaces up. This isn't always possible in areas without much greenery to start with, so think of your space as a whole and get creative about how you could add elements of greenery and connectivity within your site over the coming years. It doesn't all have to be done in one go!

Safety considerations

- Designed correctly, ponds and other water bodies are safe for education settings.
- Smaller ponds and pools can be covered with strong metal mesh or grids to prevent falling in. Larger ponds should be surrounded by a secure post and rail fence (or similar) with an access gate which only adults can open. The Department for Education provide technical specifications for fencing to ensure it is safe. However, make sure the fence has a small gap at the base (c. 15cm high) to allow animals like amphibians and small mammals to come and go.
- Children should always be supervised when around water bodies of any size or depth.
- Wash your hands after touching the water and cover cuts and grazes with a waterproof plaster.
- Ensure you have risk assessed the creation and use of the pond, including consideration of waterborne illnesses such as Leptospirosis (Weil's disease). Good hygiene practices such as hand washing is the recommended control measure.
- Further advice is on the RHS website.



A metal grid over a pond can make it safer for young people while still allowing wildlife to move freely in and out.



Sustainability and maintenance on education sites

Water

Pond wildlife has evolved to cope with varying water levels. It may not look as nice when a pond dries out or water levels get low, but it's completely fine for them to dry up in summer. You don't need to add tap water. Tap water is not suitable in most areas of the country because it has high levels of nitrogen and phosphorus, which will increase the growth of algae and duckweed and choke the pondlife. Mains water can be alkaline in some areas, due to the underlying geology, which is not always suitable for some wetland plants. It's also not an effective use of water resources. If you wish to top up a pond, always use rainwater from a water butt (see *Catching every raindrop* guidance). If you are digging your pond into the ground (rather than adding a raised pond), try to locate it in a lower-lying area where water will naturally drain towards it, so it forms part of the drainage infrastructure of your site.

Maintenance

Ponds are fairly easy to maintain and can cope with not being looked after over school holidays or busy periods when you don't have time to spend outside. A bit of maintenance in autumn or winter to remove fallen leaves, excess silt and vegetation ensures the area doesn't become clogged up and retains areas of open water. Bear in mind that pond liners have different lifespans. Pre-formed ponds have a typical lifespan of about 10 years, PVC liners for about 20 years if used with a suitable underlay and not exposed to the sun, and rubber liners upwards of 25 years. Buy the best quality liner and underlay you can afford. Designing a pond with easy access for maintenance and pond dipping can help to avoid accidental punctures to the liner.

Step-by-step guidance on installing *Pools of water*

Wildfowl and Wetlands Trust guide to creating mini-wetlands

Freshwater Habitats Trust creating garden ponds for wildlife

Freshwater Habitats Trust step-by-step guide to creating a pond

Royal Horticultural Society pond construction and repair



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