



A Sensory, Sustainable Garden

Improving an ALN Space Through Sustainability, Curiosity, and Outdoor Learning

Introduction: Why I Wanted to Transform Our Garden

Introduction: Why I Wanted to Transform Our Garden

Spending so much time in our school's outdoor space made me realise something important — the garden wasn't working. It felt uninspiring, under-stimulating, and lacked purpose. For many of the children I support, especially those with Additional Learning Needs (ALN), the outdoors should be a place of wonder, calm, and sensory exploration — but this space simply didn't offer that.

The current environment, dominated by plastic and structured equipment, fails to meet the diverse sensory needs of our children. Many of our learners, particularly those with autism, experience the world in a heightened way — their senses may be more sensitive, or they may actively seek sensory input to feel regulated. But this garden lacked texture, smell,

sound, movement, and opportunity. It didn't invite curiosity, support emotional wellbeing, or offer space to connect with nature. It simply wasn't enough.

That's why I decided to create a garden that's both **sensory-rich** and **sustainably designed**. I wanted to build a space where children can explore freely, connect with nature, and feel calm, excited, and safe all at once. A space where learning doesn't feel forced — it simply happens through touch, movement, rhythm, and curiosity.

This project has been deeply inspired by the **Curiosity Approach**, the **Montessori philosophy**, and the principles behind the **John Muir Award**, which encourages us to discover, explore, conserve, and share the natural world. It's also rooted in the values of the **UN Sustainable Development Goals** and our **Curriculum for Wales**, which place a strong emphasis on outdoor learning and well-being.

This scrapbook captures the journey of transforming our garden into a meaningful, inclusive, and sustainable learning space — and the positive difference it's already making for the children who use it every day.

What I Noticed in the Garden



Observation: Current Garden Space

- Predominantly **plastic play equipment**
- A **lack of natural materials**
- Sparse and **underused grassy space** with little biodiversity
- **No sensory zones** or variety in surfaces or elements
- A **plastic scooter** and minimal loose parts, limiting open-ended play
- **No shaded or quiet areas** for regulation and calm-down
- Absence of wildlife-friendly features (no bug hotels, bird feeders, or planting)
- Visually **uninspiring**, offering little for children to be curious about or interact with

What this means for learners:

- Children have **limited sensory input** — no smells, sounds, or textures from nature
- Opportunities for **imaginative or exploratory play are minimal**
- Plastic toys are **closed-ended**, not promoting creativity, risk-taking, or problem-solving
- The space does not reflect **sustainability, curiosity, or inclusive design**
- ALN learners may find this space **either overstimulating or boring**, as it lacks rhythm, predictability, and engagement
- There's little to **connect learners with nature**, which is key for well-being and sustainability education

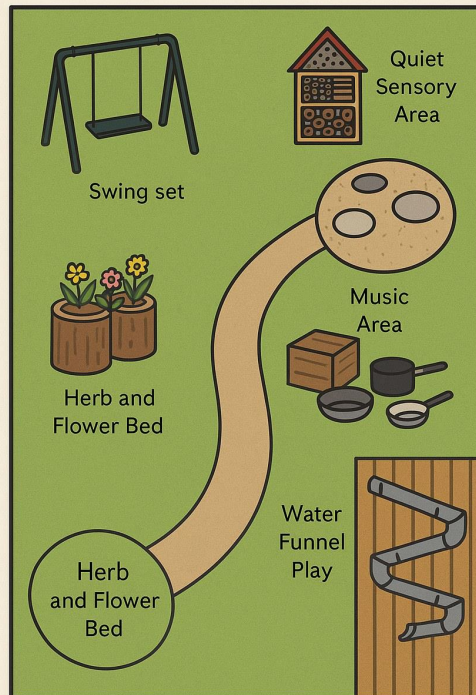
What I Wanted to Change



To create a calm, inclusive, and sustainable space, I planned to:

- Replace plastic with natural and recycled resources
- Introduce plants, herbs, and bug-friendly features
- Create musical and water zones using reused materials
- Encourage problem-solving and risk-taking
- Ensure sensory and autism-friendly areas
- Link activities to the John Muir Award and the new curriculum

Sensory Garden



My Proposal- Sensory zones

- Bug hotel corner
- Log planters for herbs and flowers
- Quiet sensory path
- Musical area (crates, pots and pans)
- Water funnel wall (using old plastic drainage pipes)



1 - Placing a bug hotel in the school's sensory garden will create a calm and engaging environment where children with Additional Learning Needs (ALN) will be able to observe and experience nature in a simple, hands-on way. The bug hotel will be made from recycled wood and natural materials such as pine cones, bark, and twigs, supporting sustainability by reusing resources and encouraging biodiversity. It will provide a safe space for insects like ladybirds, beetles, and bees, giving children the chance to watch these creatures up close and build an awareness of the natural world in a sensory-friendly setting. This will support the aims of the John Muir Award, which promotes exploration and care for wild places, and will link directly to the Welsh curriculum's focus on outdoor learning and environmental responsibility. The bug hotel will be a valuable and lasting addition to the sensory garden, offering a meaningful way for children to connect with nature and learn through experience.



2 - For the sensory garden, I propose planting a selection of herbs and plants that are safe, calming, and stimulating for children with Additional Learning Needs (ALN). These will include lavender, mint, rosemary, thyme, and chamomile—all of which have soothing scents and different textures that encourage sensory exploration. We will also include brightly coloured, pollinator-friendly plants such as marigolds and sunflowers to support biodiversity and attract bees and butterflies. These plants are low maintenance, can be grown organically, and support sustainability by encouraging natural pollination and reducing the need for artificial inputs. Using perennial herbs and plants also ensures long-term growth, reducing waste and the need for regular replanting. These choices will help create a calming, interactive, and environmentally responsible space for children to enjoy and learn from.



3 - I propose creating a musical area in the sensory garden using recycled materials such as wooden pallets and old household items like pots, pans, and metal utensils. This area will promote sustainability by repurposing items that would otherwise go to landfill, encouraging children to understand the value of recycling and creative reuse. Inspired by Montessori principles, which emphasize hands-on, sensory-rich learning experiences, the musical wall will allow children with Additional Learning Needs (ALN) to explore sound, rhythm, and vibration through active play. The different materials will offer a variety of textures and tones, supporting sensory development, motor skills, and emotional expression. This aligns with early years theories that highlight the importance of sensory exploration in cognitive and social development, making the musical area an inclusive, educational, and environmentally responsible addition to the garden.



4 - I propose creating a water exploration area in the sensory garden using a recycled wooden pallet fitted with old guttering and drainpipes to create a simple, hands-on water wall. This sustainable approach reuses materials that might otherwise be discarded, encouraging children to learn about water flow, gravity, and cause-and-effect through play. Water play is especially beneficial for children with Additional Learning Needs (ALN), as it offers calming sensory input, supports fine and gross motor development, and encourages focus, coordination, and problem-solving in a playful way. Aligned with early years theories such as those of Froebel, who emphasised learning through active, exploratory play, this feature will offer a safe and stimulating environment for children to engage with water, supporting both their development and an awareness of sustainability.



While developing the sensory garden, one challenge I anticipate is ensuring that all materials and plants are safe and appropriate for the children, especially as I know some children are

likely to explore by tasting or touching. To address this, I've carefully researched and selected herbs and plants that are non-toxic and safe for children, such as lavender, mint, rosemary, chamomile, and marigolds. These not only support sensory development but are also safe if touched or accidentally tasted. I've also considered the sustainability of the project by choosing to plant in upcycled items such as hollowed-out logs and reclaimed wooden planters, which reduces waste and gives natural materials a second life. Reusing materials like these also encourages children to think creatively about recycling and the environment. Although maintaining safety and sustainability together can be a balancing act, thoughtful planning and knowledge of the children's individual needs make it both achievable and meaningful.

To do list.....

Bug Hotel

- Recycled wood (frames & structure)
- Pinecones, bark, twigs, dry leaves (bug hideouts)
- Hollow sticks / bamboo canes (for bees)
- Bricks with holes or broken tiles
- Chicken wire or mesh (optional cover)

Found around school:

- Old pallets
- Garden waste (twigs, pinecones, bark)
- Bricks or tiles from maintenance area

Plants & Herbs (Safe & Sensory-Friendly)

- Lavender
- Mint
- Rosemary
- Sunflowers
- Compost / soil

Sourced from:

- Donations from garden centres or parents

- School gardening club compost

Planters & Containers

- Hollowed-out logs (reuse ones no longer used)
- Old buckets or containers with drainage
- Wooden crates or old drawers

Found around school:

- Logs or branches from grounds
- Discarded containers or furniture

Musical Wall (Recycle & Rock!)

- Wooden pallet (base)
- Old pots, pans, muffin tins, utensils
- Strong string or cable ties
- Screws/nails, hammer or drill

Found around school:

- Lost property kitchenware
- Delivery pallets
- Tools from caretaker

Water Exploration Wall

- Pallet or fence section
- Old guttering, plastic bottles, tubing, funnels
- Buckets or trays to catch water

Found around school:

- Leftover guttering or tubing
- Recycled plastic bottles
- Plant pots or trays

General Supplies

- Gloves
- Trowels & watering cans

- Labels/signs (wooden sticks, painted stones)
- Non-toxic paint

Found around school:

- Art supplies
- Garden tools
- Lolly sticks, cardboard

Exploring the Garden: Let the Hard Work Begin!



5 - It was important to me to get the children involved as much as possible. I wanted them to enjoy creating this space and feel a sense of ownership and pride in what they helped to build. In line with Montessori principles, I chose to use real tools rather than plastic ones, so the children could experience the weight and texture of authentic materials. This helped make the experience more meaningful and tactile. Throughout the process, I used the opportunity to introduce them to some key concepts—such as why we water plants and how to care for living things. I also modelled what to do when we came across worms or bugs, encouraging curiosity and respect for nature.



6 - During our time outdoors, we found a worm. I used the opportunity to model calm and curious behaviour, showing the children that there was nothing to be afraid of. I explained that worms are friendly and safe to be around. As the children in my group were aged under 5 and had additional learning needs (ALN), I decided to engage them through song. We sang "There's a Worm at the Bottom of the Garden and His Name is Wiggly Woo", which they really enjoyed. This helped them to feel relaxed and engaged, and they squealed with excitement as they watched the worm wriggling.

This experience reflects **Bandura's** social learning theory, as I modelled positive behaviour and the children responded through imitation and shared enthusiasm. It also supports **Vygotsky's** emphasis on the importance of social interaction in learning—by providing a familiar, playful framework like singing, I was able to scaffold their understanding in a meaningful and developmentally appropriate way.

Afterwards, we noticed some litter in the area, so together we collected it and placed it in the bin. This promoted care for the environment and a sense of responsibility, further reinforcing values of respect for living things and our shared spaces—ideas that align with **Froebel's** view of nature as a key learning context for young children.



7 - While exploring the garden area, we lifted an old plastic tuff tray and found a slug underneath. The children were curious and interested, which led to a lovely conversation about where insects and bugs live. It made me think about how important it is to consider the small habitats that already exist in the space.

Originally, I had planned to remove the tuff tray, but seeing that insects had made it their home made me change my mind. I decided to keep it in place so the slugs, woodlice, and other bugs wouldn't lose their habitat. This experience reminded me how small changes in the environment can have a big impact on the creatures that live there—and how important it is to notice and respond to that with the children.



8 - We really enjoyed planting sunflowers together. The children were excited to explore the gardening tools, learning how to use them safely and with care. They were fascinated by the feel of the cold, squishy soil between their fingers—an experience that sparked lots of sensory exploration and conversation. It was a lovely opportunity for hands-on learning and building confidence in the garden.

Some information I researched about the bugs found in the garden and why they are good for a sustainable garden:

Why These Bugs Are Good for a Sustainable Garden

1. Worms

- **Soil aeration:** Worms tunnel through the soil, improving air flow and helping water reach plant roots.
- **Natural composters:** As they eat organic matter like dead leaves, they break it down and produce nutrient-rich worm castings (poo!) that fertilise the soil.
- **Encourage plant growth:** Healthier soil leads to stronger, more resilient plants.

2. Slugs

Slugs often get a bad name for nibbling leaves, but they also play a valuable role in the garden:

- They **break down decaying matter**, helping to recycle nutrients into the soil.
- They **feed other wildlife**, such as birds, frogs, and hedgehogs—supporting the garden's food chain.

3. Woodlice

- **Decomposers:** Woodlice feed on dead plants and rotting wood, returning nutrients to the soil.
- **Improve soil structure:** By breaking down organic matter, they help create a rich, crumbly soil ideal for planting.

Conserve Time: Caring for Nature, Reusing with Purpose



9 - Creating Our Sensory Garden

Word spread quickly around the school about my plans to create a sensory garden for our area—and the response was incredible. It brought out true team spirit and highlighted the value of recycling and repurposing what we already had.

Many of the materials used were no longer needed by others or were kindly donated. The wooden pallets, for example, were a generous gift from our local shop. Our caretaker also played a big part, helping me mount them on the wall and assisting with other bits and bobs along the way.

In this photo, I'm attaching the final items to our music wall—a fun and creative addition to the sensory space. The whole project has been a brilliant example of collaboration, sustainability, and community effort.



10 - Lets hope they like it!!



11 - Success!

As soon as the music wall was finished, the children rushed over and started banging away on the old tins and donated crockery. It was noisy, chaotic—and absolutely brilliant!

A perfect mix of sustainability, creativity, and sensory fun... Definitely a winner!



12 - Now it's time to tidy up the garden and get rid of the plastic!!



*13 - **A Home for the Bugs!** After chatting about the idea of building a bug house, another member of staff mentioned she had one she wasn't using—and kindly donated it to our class.*



14 - Now... Where to Put the Bug House?

After some thought, I decided to place the bug house next to the old tuff tray. I'd noticed that beetles, spiders, woodlice, and worms were already living happily underneath it, so it seemed like the perfect spot to encourage even more insect visitors.

Rather than removing the tuff tray, I've given it a new purpose too! I'll turn it into a water area—not just for insects to enjoy, but also as a sensory feature where the children can splash and explore. A dual-purpose idea that supports both wildlife and play!



15 - Curious Explorers!

The children were eager to come and explore the area—especially when they saw me filling up the water feature! Their excitement was infectious, and it was wonderful to see them so interested in nature and sensory play.

Moments like this show just how powerful outdoor learning can be, combining curiosity, hands-on discovery, and fun in one shared space.



16 - And of course, with my class being an ALN class, shoes were quickly off! The children couldn't wait to experience the cool water under their feet and splash around freely. It was a moment full of laughter, curiosity, and joyful learning.

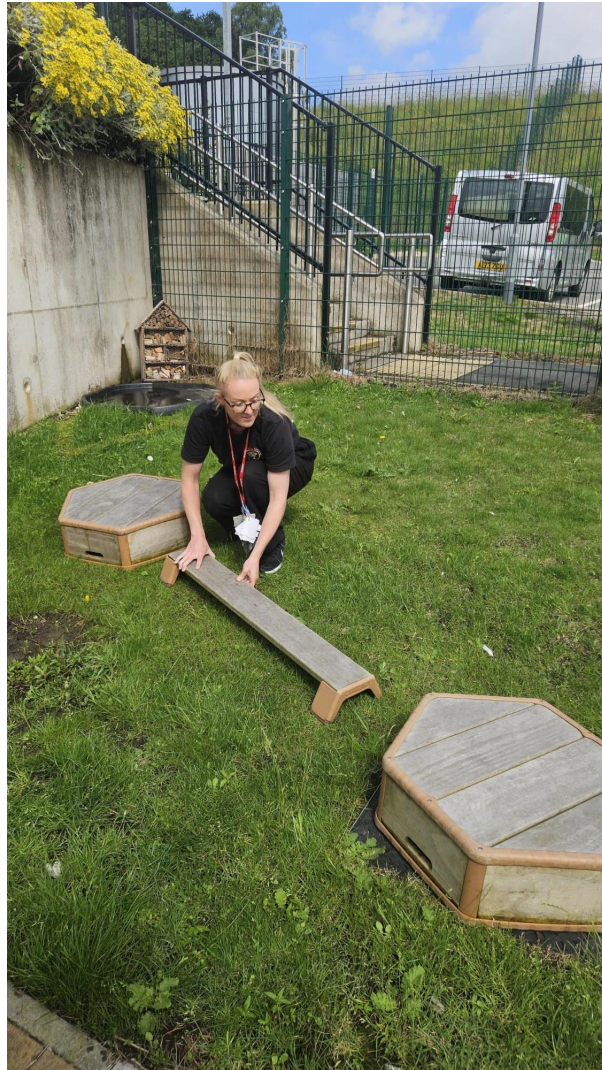
Building a Path of Possibilities

Thanks to generous donations from other areas around the school, I was thrilled to be offered wooden planks and platforms. I immediately saw the opportunity to create a *challenging path* in the sensory garden—something that would promote both fun and physical challenge.

These materials are also considered *loose parts*, meaning they aren't fixed in place. This allows the children—supported as needed—to move, adjust, and reconfigure the path themselves. This element of choice and control is key to encouraging problem-solving, creativity, and confidence.

This approach aligns closely with Montessori's emphasis on independence and hands-on learning. Maria Montessori believed that children learn best through movement and by engaging directly with their environment. Similarly, theorists like Friedrich Froebel advocated for outdoor, open-ended play as a foundation for development. Jean Piaget also highlighted the importance of active, physical experiences in supporting children's cognitive growth through stages of development.

The Curriculum for Wales supports this too, particularly within the *Health and Well-being* and *Expressive Arts* Areas of Learning and Experience. The path encourages risk-taking in a safe environment, balance, coordination, and imaginative play—all while allowing learners to lead their own discovery.



*17 - **Ready, Set, Explore!** Before I could even finish setting up the wooden planks and platforms, the children were already eager to explore the new path I'd created. Their excitement was contagious as they stepped, balanced, and navigated the challenges—turning the garden into a lively space full of discovery and fun.*

Creating a Water Feature

Next up was building the water feature using funnels, old guttering, and various tubes I had lying around the school. Recycling and reusing have truly become my middle name!

This hands-on project not only added another sensory element but also gave the children a chance to explore cause and effect, water flow, and teamwork—all while using materials that might have otherwise gone to waste.



18 - Teamwork in Action

Once again, our fantastic caretaker stepped in to help, skillfully mounting the gifted pallets and securing the old guttering in place.

Now, it's my turn to attach all the tubes using zip ties—connecting everything to create a flowing, interactive water feature that will add even more sensory fun to our garden.



19 - And Again, Success!

As soon as the children saw me pouring water down the tubes, they were quick to come over and start playing. The excitement was instant!

For our autistic children, sensory input is incredibly important, and engaging with water in so many different ways helps them to feel calm and focused—all while having fun. Plus, as the sun came out, the cool water was a perfect way to keep them refreshed on a warm day.

Herb Shopping for the Sensory Garden

When planning which herbs to include in the sensory garden, I researched varieties that would provide wonderful scents and sensory experiences—especially considering the needs of our autistic children, many of whom are hypersensitive to smells and textures.

- **Mint** Mint offers a strong, refreshing scent that can be very calming for children with autism. Its fragrance is stimulating but not overwhelming, and it also attracts beneficial insects like bees and butterflies, helping support our garden's ecosystem.
- **Parsley** Parsley is a gentle herb with a mild scent that adds a soft sensory layer. It's rich in vitamins and antioxidants, and children can explore its curly or flat leaves, enhancing tactile experiences.
- **Coriander (Cilantro)** Coriander has a distinctive aroma and taste that some children may find intriguing. Its feathery leaves offer a unique texture, and growing coriander encourages curiosity and exploration of different smells and flavours.

- **Basil** Basil's sweet, slightly spicy scent adds warmth to the garden. It's easy to grow and harvest, offering children a chance to touch, smell, and even taste fresh herbs—a full sensory engagement.

Including these herbs not only enriches the sensory garden but also encourages mindfulness, exploration, and connection with nature.



20 - Hurray – Herb Shopping Success!

I managed to get everything I wanted for our sensory garden!

I decided to go for two types of parsley—flat leaf and curly. I tested them both for their scent and texture, and I'm so excited to plant them soon. Not only do they smell incredible, but they're also completely safe for our children to taste, making them ideal for hands-on, sensory exploration.

Even better, these herbs will help attract local wildlife like bees and butterflies, adding to the garden's growing biodiversity and making it a richer, more engaging space for everyone.



21 - Herbs, Hands, and Happy Faces!

The children especially loved planting the herbs into the planters. I encouraged them to smell and, where appropriate, taste the different herbs—such as mint and basil—which brought them so much joy. This sensory experience was particularly meaningful, as we're often reminding them not to touch or eat plants. Giving them permission to explore these herbs with

their senses helped build trust and engagement. For many of our sensory-seeking children, especially those with autism, it was a chance to connect with nature in a safe, supported, and rewarding way.



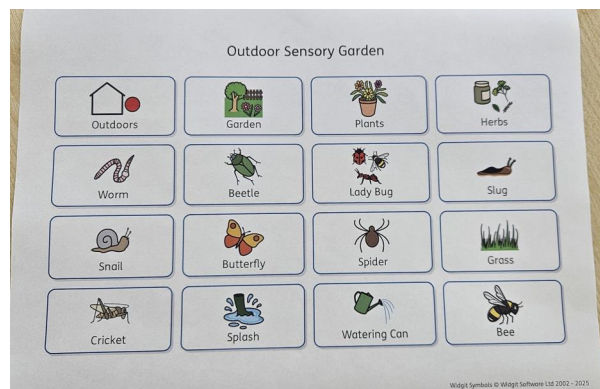
22 - Learning Through Doing!

The children did a fantastic job, and it became a rich opportunity for outdoor learning, hands-on skills, and exploration—fully in line with the Welsh Curriculum's emphasis on experiential and holistic learning.

Embedding Communication: Core Boards in Key Areas

With the children now fully engaged in the sensory garden, I wanted to further support their communication—particularly for our non-verbal children and those developing early language skills.

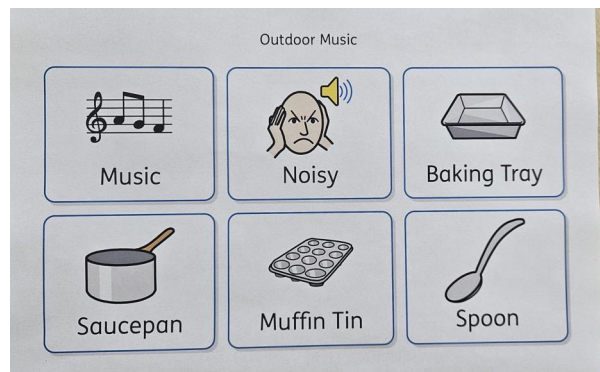
To do this, I created **core boards** for our three key sensory garden areas: the **water feature**, the **music wall**, and the **main garden space**. These boards include simple, high-frequency words and symbols that the children can point to in order to express themselves, make choices, or engage with others.



23 - Sensory Garden core board



24 - Water feature core board



25 - Music wall core board

These communication aids are aligned with **AAC (Augmentative and Alternative Communication)** strategies and reflect best practice for learners with Additional Learning Needs (ALN). By **modelling** language during natural, hands-on activities, we are building vocabulary, promoting understanding, and reducing communication frustration.

This approach is fully supported by the **ALN Code for Wales**, which emphasises the need for inclusive, learner-centred planning and communication-friendly environments. Using core boards ensures children have equitable access to their learning and development, in line with the **principles of person-centred practice** and **universal provision**.

By embedding visual communication tools in key sensory areas, we are creating a language-rich, inclusive space where every child—regardless of verbal ability—can feel confident, connected, and understood.

Preserving and Protecting our Sensory Garden

Preserving and Protecting Our Sensory Garden

Now that our sensory garden is fully up and running, it's important to think about how we will **preserve and care for it over time**. As part of our commitment to nature and sustainability, we've taken steps—and made plans—for ongoing protection and maintenance.

Caring for the Plants

The herbs and plants we've introduced will need regular watering, especially in dry weather. We've made it part of our daily routine to check the soil and make sure everything is thriving. This gives the children another meaningful job and deepens their connection to the garden.

Protecting Wildlife

We've made a conscious decision **not to cut the grass too short**, as it provides a habitat for important insects like bees, beetles, and butterflies. We've also positioned the bug house in a calm, shaded spot and agreed to leave fallen leaves and logs in place where appropriate to support insect life.

No Harmful Chemicals

We've chosen **not to use any pesticides or weed killers** in the garden. Instead, we'll manage the space using natural methods and teach the children to respect the insects and plants that live here.

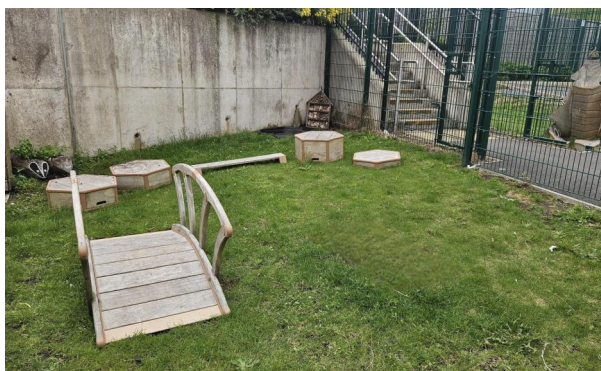
Tidy, But Natural

We will regularly tidy the area to keep it safe and accessible, especially the walkways and water areas, while still leaving wild spaces untouched so that nature can continue to flourish. The children help with simple jobs like collecting fallen twigs or sweeping the path.

Maintaining the Features

We'll also be keeping an eye on the physical structures—like the music wall, water feature, and planks—making sure they stay secure, clean, and safe to use.

By looking after our sensory garden in this way, we're not only protecting the environment—we're also giving our children the opportunity to **take responsibility, notice changes in nature, and learn the value of long-term care.**



26 - The sensory garden is now complete, transformed into a rich, sustainable, and engaging space for the children. We've moved away from plastic and instead used recycled wooden platforms to create a more natural feel. A beautiful bug house—kindly gifted to us—invites insects to visit and thrive, supporting biodiversity and sparking the children's curiosity. The herbs, lovingly planted by the children themselves, offer opportunities to smell, taste, and explore, providing valuable sensory input and encouraging a connection with nature. We've also added a tuff tray filled with collected rainwater,

promoting sustainability while giving the children a chance to splash, play, and observe small animals like birds that come to drink. This garden is not just a play area—it's a living, learning environment built with care and curiosity.



27 - John Muir

John Muir, the great naturalist and conservationist, dedicated his life to exploring and protecting the wild places of the Earth. He believed deeply in the power of nature to inspire and heal. My journey, captured in this scrapbook, reflects that same spirit of adventure and respect for the environment. I created a sensory sustainable garden with the children, teaching them to care for the Earth and modelling positive behaviour to the younger ones. By documenting my experiences and discoveries, I am honouring Muir's legacy, and I'm sure he would be proud to see how I am carrying forward his love for the natural world.

Sharing Our Experience

As the sensory garden took shape, the children became more and more engaged—what started as a project quickly became part of our daily routine. The children loved checking under the tuff tray for bugs, watering the plants, and spotting butterflies and bees together. Watching their confidence grow as they explored was a joy. They giggled while smelling the herbs—especially the mint—and some even had a little taste! I do have to stop some of them eating the mud though, but the water feature is definitely their favourite. For our ALN learners, the garden has become a calm, inviting space full of curiosity, routine, and sensory delight.



Closing Reflection

Our sensory garden has blossomed into a vibrant, living classroom where both children and nature thrive together. Yes, the grass is becoming longer, but this wildness is intentional—it provides a rich habitat for insects and offers a varied sensory experience for our children.

Through discovering, exploring, conserving, and sharing, we have created a space that supports curiosity, communication, and wellbeing for all our learners, especially those with Additional Learning Needs. This garden is more than just a project; it's a place where children connect with nature every day, learning respect, care, and joy along the way.