

Woodwork: Sustainability

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“Sustainability means meeting our own needs without compromising the ability of future generations to meet their own needs.” (WCED, 1987, p.43)

In this resource I take a look at the role woodwork can play in achieving greater sustainability, and how we can utilise woodwork to enhance our understanding of the wider environment.



- **Make and repair:** Woodwork helps counteract the current culture of “consume and dispose” by developing understanding of the value and joy of making and repairing. In a world driven by consumerism it is important we are mindful of demands on the world limited resources. Children need to develop an understanding that we can make and repair – and through woodwork children develop a sense of agency - that can-do spirit.
- **Design:** By passively consuming, children are also removed from the design process. Through making and also deconstruction, children discover how things are made, see the elements of design and develop a sensitivity to material, its functional possibilities and the designed elements of an object. Through woodwork children will discovering what it means to design and make, seeing their ideas come to life. In the future we will need innovative designers to create new ways of producing products, especially with efficient and sustainable resource conserving practices. Woodwork also can help foster an understanding of the properties of a variety of resources, from wood, to plastic, fabric, metal and so forth.
- **Re-purpose:** Children can discover how they can re-purpose materials, by making models from a selection of recycled materials, utilising off cuts of wood and other items such as bottle tops and corks. This helps foster a mind-set of being resourceful and improvising.



- **Connecting to nature:** Children can develop an understanding of where wood comes from. Seeing the beauty of wood, the feel and smell of wood etc, and the variety of types of trees how long trees take to grow... all can help create a stronger bond with the natural world and can develop respect for the value of wood and the need for us to take responsibility for our shared environment. Utilise found wood (sticks etc) as well as prepared wood. Children are more likely to protect what they care about. Planting trees with the children can further support this. Early years children are developing their fundamental attitudes and values, so any opportunity to embed thinking around sustainability should be embraced.



- **Creative and critical thinking:** The thinking skills developed are higher order cognitive skills which we will need in the future to meet the challenges we face, to innovate and find new solutions – especially to the challenge we will all face of climate change. Woodwork is exceptional for developing creative and critical thinking with high levels of sustained engagement.



- **More trees:** By using wood as a material, somewhat counterintuitively, we are encouraging even more trees being planted! We desperately need more global tree coverage. Trees benefit the environment by creating oxygen and storing carbon, in this way trees help counter climate change and offer some compensation for the environmental damage of our modern lifestyles. Trees are also good for the land; they can also help prevent flooding and soil erosion and regulate water and nutrient cycles, as well as provide a habitat for nature. So the more FSC wood we use results in more land that is dedicated to sustainably managed forestry. See below for detailed explanation.



Wood used in the woodwork area:



The majority of wood used will be recycled, using **offcuts**. It is great to be able to utilise waste materials.

If buying wood, such as **pine**, source it from responsibly managed forestation. It will have a FSC logo stamp.

Balsa wood is more problematic: It is a fast-growing tree, harvested and replanted, and is sustainably managed but being equatorial it does have a large carbon transportation footprint. (Predominantly by sea). Use it sparingly for the initial stages, then move straight on to more other soft wood such as pine. There are also alternatives to balsa such as using layered cardboard or thick felt. See Soft start handout.

Education for Sustainable Development (ESD) is all about developing an understanding of environmental and sustainability issues. It also acknowledges that woodwork develops many of the skills that are important to sustainability: these include critical thinking and reflection, systemic thinking, looking for connections and solutions to problems, promoting dialogue and negotiation and decision-making when working on group projects, and envisioning – imagining the future. Woodwork can also be seen to support Eco-schools’ sustainability agenda.

Education for sustainable development (ESD) incorporates the principles and practices of sustainable development into all aspects of education and learning; aspiring to create a satisfying and meaningful present and a hopeful, fairer future for all people – and our planet.

See: <http://www.eceresourcebank.org/>
<http://www.omep.org.uk/omep-uk-early-childhood-sustainable-citizenship-award/>

‘Young children appreciate the beauty of nature and the world surrounding them through engaging in Woodwork. I do believe Woodwork is the bridge between children and the world. Woodwork is the heart of Education for Sustainable Development and it invites children and adults to engage in dialogue for the future.’ Dr Mari Mori, Professor, Tsurukawa College, Tokyo, Japan



The Sustainable Development Goals

The 17 SDGs (sometimes called ‘The GlobalGoals’) is a collection of independent but interconnected goals carefully designed to give all of us on our planet a better future.

Woodwork particularly addresses: 12, 13, 15, 8, 9, 4



Trees and CO2 – Can't see the wood for the trees? Read on!

Trees are absolutely essential to countering the effects of global warming, and our forests are the lungs of the Earth. Basically, we cannot survive on this planet without trees.

In a sense, they breathe for the earth, absorbing carbon dioxide from our atmosphere, and producing the oxygen that we require in return. By storing carbon, trees help to regulate the global climate, absorbing nearly 40 percent of the fossil-fuel emissions we produce. (Through photosynthesis trees absorb carbon dioxide to produce oxygen and wood)



So trees breathe it in just like we breathe in oxygen! But when a tree breathes, it inhales carbon dioxide and exhales oxygen — the exact opposite of humans. As trees remove carbon dioxide from the atmosphere and release oxygen it helps limit global warming, providing for a cleaner, healthier climate.

For many, the term “sustainable forestry” may seem like an oxymoron. How can logging ever be sustainable when, by definition, it requires that trees be cut down? The complete answer is complex, but if we had to reduce it to one word, it would be “balance.”

Commercial forestry is nearly always sustainably managed – they have to be otherwise they would go out of business.. They need to have lots more trees growing waiting to be harvested, so there is always a huge stock in relation to those being harvested.

So growing trees is not only sustainable, it also helps solve the climate problem. Trees are 50 percent carbon, so as trees grow, 50 percent of what you see is less carbon in the atmosphere. One mature tree stores about 1 ton of carbon dioxide.

So when we cut trees and sell them for things like paper or timber, we give people incentives to grow more of them. The greater our demand, the greater the incentives people have to plant and grow more trees! As we harvest more trees, the stock is increased. Wood in this sense is infinitely more sustainable and environmentally friendly than many other materials such as brick, concrete, plastic, glass etc.

To avoid a 1.5°C global temperature rise we must remove a staggering 730 billion tonnes of carbon dioxide from the atmosphere by the end of this century – a figure that, according to the Intergovernmental Panel for Climate Change (IPCC), will require an additional one billion hectares worth of additional tree cover.

In 1993, the Rainforest Alliance co-founded the Forest Stewardship Council (FSC), an international body that develops and maintains the most globally respected standard for managing forests, and we certify forestry businesses that meet the standard’s strict environmental, social, and economic criteria.



The global FSC standard embraces many criteria, but central to becoming FSC-certified, forestry operations must put into place a clearly mapped management plan that specifies the number of trees that can be harvested per acre, and the frequency at which this can occur, based on the growth and regeneration rates of the species found in that ecosystem. The goal is to harvest in such a way that allows these species the chance to regenerate, and ensures that the forest's overall ecological health is maintained, restored, or even enhanced.

If you buy new wood – ensure it has the FSC stamp – these days nearly all will. FSC certifies forests all over the world to ensure they meet the highest environmental and social standards. Products made with wood and paper from FSC forests are marked with our 'tick tree' logo. FSC labels can be found on millions of products around the world – from toilet rolls to your favourite book, to that milk carton in your fridge, and other food products. What does the label mean? Simply put: by choosing products with FSC labels, you are helping to take care of the world's forests.

Sustainability in woodwork practice:

Aside from making woodwork provision readily available!

Facilitate creative woodwork

Ensure woodwork is creative, with children making what they want to make. Ensure a wide range of materials to allow complexity. Thus creative and critical thinking will be at the heart as children design, problem-solve, refine and make.... The sustained engagement so often shown with woodwork is a wonderful counterbalance to the prevailing 'instant access' culture.

Plant trees



An integral part of woodwork provision should be to plant trees, and to discuss to take opportunity to develop understanding of the wider issues. There are lots of organisations that can support you to plant trees and hedges in your setting. Your Local Authority may also have a Community Tree Planting team that could work on a project with you. The Woodland Trust donates tree packs to settings:

See: www.woodlandtrust.org.uk/plant-trees/schools-and-communities

Also check out: <http://treetoolsforschools.org.uk/menu>

<https://www.treesforcities.org/>

<https://earthwatch.org.uk/get-involved/tiny-forest>

<https://queensgreencanopy.org/>

Investigate wood and the context of wood

Take time to think about wood, closely observe wood, look at the grain, the tree rings, explore different types of wood, the types of tree. Learning can go in many directions depending on children's interests – seasons, physical properties, what's made of wood etc. This helps develop a sensitivity to material and builds a deeper connection to wood as a natural material.

Make use of 'found' wood, branches, sticks, bark etc. and combine these with other wood at the workbench.

Talk about the environment

Talk about the importance of trees for our environment, for absorbing CO2.. and why we need to take care of our planet. Wood can become a starting point for so much discussion and enquiry – be guided by children's interests! Books too can be a great starting point – see my book list around trees and wood....

Pete Moorhouse June 21

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Other resources: Forest bathing: Shinrin-Yoku, or forest bathing, is the practice of spending time in the forest for greater health, a strengthened immune system, happiness and a sense of calm.

Check out the book Shinrin Yoku - The Art and Science of Forest Bathing

<https://www.nationalforest.org/blog/articles/5-ways-get-started-forest-bathing-and-mindfulness>

<https://www.forestryengland.uk/resource/forest-bathing-home-activity-sheets>

More info on woodwork training and free resources see:

<https://irresistible-learning.co.uk>