Climate School 180

Bamboo and Climate Change Education

Introduction

The benefits of planting bamboo in your school grounds are many and varied. Planning, planting and access to these plants, offers a wealth of cross curricular opportunities, including measurement and mapping, instructional writing, citizen science, design technology and health and wellbeing – to name just a few. However, these plants grow at a fast rate and additional planning and preparation should occur before they are planted on your school grounds.

With regards to mitigating the effects of climate change, bamboo can help by providing shade, reducing the impact of severe weather events in your school grounds and if you are in a built-up area, play a part in reducing the Urban Heat Island effect.



Bamboo can also provide craft material when established. Giving children the opportunity to plant and nurture plants in their school grounds and then harvest their own craft materials sends a powerful message. It gives children the opportunity to experience choosing sustainable materials and evaluate the carbon footprint of their products whilst taking part in a design/build process, which can be adapted to many different school topics.

For example, a class could be a part of building a bamboo teepee or bamboo bead necklace. The children can enjoy the

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process of harvesting the bamboo, from an established plant, and designing their own den or toy and compare the journey to a plastic equivalent. Children can compare how plastic is made, the treatment of the workers, the air miles, and the carbon sequestration throughout the process. After the project, children could bury a plastic item next to cut bamboo and test how long each material takes to decompose.

The positive impact of Bamboo in relation to climate change


Provide shade, moderate temperature and help to reduce wind speed.


Support a wealth of biodiversity and play an important role in a balanced ecosystem.


Reduce the risk of water run-off and subsequent flooding.


Capture and store CO^2, one of the key greenhouse gases.


Improve air quality by capturing pollutants and reduce noise pollution near busy roads.

Making the change

- **Plan**

Bamboo is a group of tropical and sub-tropical plants some of which will grow happily in this country. Some, for example *Phyllostachys aurea* (also known as *Bambusa vulgaris. P. aurea*) can grow to over 10m. If planting bamboo close to site boundaries or buildings, it is important to plant it in a container or within a specific bamboo root barrier.

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Bamboo is a grass and developed underground, the reason it is one of the most sustainable plants in the world, is because of the speed at which it grows. Each cane of bamboo reproduces once or twice a year, so harvesting more mature bamboo canes creates a healthier plant. This means that anything made from bamboo, (socks, houses, chopping boards, toys) is made from the waste product of a plant, unlike many wooden objects, which are made from trees which have been cut down, after years and years of growth.





- **Prepare**

Bamboo grows straight and tall so is ideal for screening, for example hiding less attractive but vital components of the school grounds such as waste bins. It can spread quickly, so is best in a container filled with planting compost or in an area with hard edges such as between paved areas. Leaves are shed and form a dense litter at the base of the stems that is very slow to break down however this is a great mulch, keeping the soil happy underneath. The dry leaves are papery and scrunchy so can be part of a sensory experience.



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- **Plant**

Bamboo is easy to plant and provides green foliage year-round. Although you can plant bamboo at any time of year, it is best to plant in spring, to give it time to settle before winter. Bamboo's rapid growth rate means that it will create green spaces quickly. When planting close to a building or in a space you do not want it to spread it is best to plant it in an underground root barrier or pot.



- **Protect**

Support their growth by removing the grass around the base of each tree and replacing with bark chippings or a mulch. This helps reduce weed growth and the competition for soil nutrients.

Management and maintenance

Ensure the grounds maintenance team are aware that new plants have been planted and where. Consider cordoning off the space whilst they establish and work with the pupils to create suitable signage. Use the planting experience as a teachable moment, highlighting the climate positive benefits of bamboo.

Maintain a 1m weed free zone around the base of the bamboo for at least the first three years and water during extended periods of dry weather.

Once the bamboo clump is established, you can start harvesting bamboo poles to use for crafts, fencing or dens. Look for the oldest canes in the clump and harvest these first by sawing them at the bottom or using loppers to chop the cane off at the third node from the bottom (nodes are the lines on the bamboo.)



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Useful resources and sources of more information

- The Royal Horticultural Society
  https://www.rhs.org.uk/plants/types/grasses/bamboo/growing-guide

- Learning through Landscapes
  Tool use and gardening and tree planting RBA examples
  https://ltl.org.uk/understanding-risk/

- School Grounds Maintenance support
  Polli:Nation maintenance guide| Learning through Landscapes (ltl.org.uk)

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