



# **Green Shade Builders: Creating Cool Spaces In Our School**

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# What happens when we cut down trees?

## Climate Change

Climate change means the Earth is getting hotter because of too much smoke and harmful gases in the air. Planting trees and flowers helps cool the environment, clean the air, and make our school a better place to learn. That's why our project is important.

## Causes of Climate Change

- Burning fuels like petrol, diesel, and firewood releases harmful gases into the air.
- Cutting down too many trees reduces the Earth's natural air cleaners.
- Too much waste and plastic pollution heat up the environment.
- Smoke from factories, cars, and generators increases heat in the atmosphere.



# What Climate Change Looks Like Around Us

🌱 **Rising Temperatures:** Our classrooms are becoming unbearably hot during the day, making it hard to learn.

🌱 **Dust & Air Pollution:** Without trees to block the wind, dust blows freely into our school, affecting our health.

🌱 **Soil Erosion:** Heavy rains wash away our topsoil because there are no tree roots to hold the ground together.



# Environmental Benefits of Trees

- **Fights Climate Change:** Trees act as "carbon sinks," pulling greenhouse gases out of the atmosphere to slow down global warming.
- **Purifies the Air:** They absorb  $\text{CO}_2$  and filter out harmful pollutants like dust and smoke.
- **Provides Oxygen:** Through photosynthesis, trees release the clean oxygen we need to breathe.
- **Cools the Environment:** They provide shade and release moisture into the air, significantly lowering local temperatures.



# Why Our School Needs Trees



## Thermal Comfort

Trees provide natural shade, significantly reducing the temperature in our classrooms and playground, making learning more comfortable.



## Cleaner Air


Trees act as the "lungs" of our school, filtering out dust and pollutants to provide fresh, clean oxygen for everyone.





## Mental Focus

Green spaces reduce stress and fatigue. A cooler, greener environment helps us concentrate better on our studies.


# STEAM Connections

 **Science:** Student Understand photosynthesis, plant biology, and the local ecosystem.

 **Technology:** Student learn to Use modern gardening tools and research best planting practices.

 **Engineering:** Student Plan the layout, correct dimensions of tree spacing, and design local windbreaks.

 **Art:** Student design a beautiful garden space to inspire creativity and peace

 **Math:** Student observe and measure growth rates, calculate spacing distance, and track water usage.



# Materials Required for tree Planting

## 1. The Plant and the Soil



**Organic Compost**

The main purpose is to amend the existing soil. This gives the young roots a nutrient-rich and soft start.



**Healthy Saplings**

Mango, Guava, or Neem trees.  
Choose **native** species appropriate for your local climate; they have the best survival rate..



**Water**

Essential for the plant's first "drink."  
Bring a full bucket or watering cans to ensure immediate hydration after planting.

# Materials Required for tree Planting

## 2. Tools and Equipment



**Shovels / Spades/Hand trowels**

To dig and fine tune the hole, and scooping the soil. Good for close-up work and managing the backfill soil around the roots. Adult supervision is required for safety.



**Buckets / Wheelbarrow**

To carry water, soil, and mulch. Buckets are great for students to work in teams. They also help keep the planting site tidy.



**Gloves**

To protect hands from dirt, thorns, and blisters. Provide durable gardening gloves in various sizes.



**Tape Measure**

To measure the root ball and the depth/width of the hole. Great way to incorporate math into the activity.

# Materials Required for tree Planting

## 3. Recycled Materials



Large Tires

Can be placed around the tree trunk to act as a permanent border, helping to **retain water** and protect the base from mowers



Large Plastic Bottles

Cut off the bottom and place upside down over small seedlings to create a **mini-greenhouse/tree guard** (remove once the plant is established).



Large Plastic Bottles (e.g., soda, milk jugs)

Can be repurposed to create a **slow-drip irrigation system** by poking small holes in the cap or base, burying the bottle next to the plant, and filling it with water. This saves water and delivers it directly to the roots.

# Steps in Tree Planting

- **Dig the Hole:** Dig a hole that is twice as wide as the root ball and just as deep. This gives roots room to spread. ( use the tape to ensure accuracy )
- **Prepare the Soil:** Mix the soil dug out with organic compost. This gives the nursery tree plenty of food.
- **Remove Nursery seedling from the the Bag:** Gently cut or slide the black nursery bag off the roots. Be careful not to break the soil ball!
- **Place & Fill:** Place the tree in the center of the hole. It should stand straight. Fill the hole with soil mix and press down gently with hands.
- **Water & Mulch:** Give the tree a big drink of water immediately. Place dry leaves (mulch) around the base to keep the soil cool and moist.



# Teamwork, Agency & Problem Solving

The students are the owners of this project; these trees are their responsibility.

🌱 **Collaboration:** Students work in teams—Diggers, Planters, and Waterers. Everyone has a role.

🌱 **Problem Solving:** If a tree looks sick or dry, Students work together to figure out why and fix it.

🌱 **Agency:** Students take direct action to improve our school. They are not just students; they are changemakers.



# Individual & Community Impact

## Individual Growth

By caring for a living thing, students:

- Learn a sense of responsibility and patience.
- Leave a legacy—years from now, they can come back and see the tall trees they planted today.
- Build leadership by becoming stewards of a sustainable future.

## Community Benefit

- The trees will provide shade for community meetings and playtimes.
- Fruit trees will provide nutritional benefits.
- The community becomes cooler, healthier and more conducive for everyone.

# Caring for Our Trees – Weekly Commitment

## Our Promise:

- 🌱 **Weekly Watering:** Every team is assigned a day to ensure the trees are never thirsty.
- 🌱 **Weeding:** they keep the area around the trunk clean so the tree doesn't have to fight for nutrients.
- 🌱 **Protection:** Each team place stones or small fences to protect their "babies" from being trampled during playtime.



# Image Sources



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