

# Making A Compost Heap

## Summary:

Teaching children about composting is crucial for fostering environmental awareness and instilling sustainable practices from an early age. Composting education not only introduces young minds to the natural cycle of decomposition but also empowers them to actively participate in reducing waste and caring for the planet. By understanding how organic materials can be transformed into nutrient-rich soil through composting, children gain a first hand appreciation for the interconnectedness of ecosystems. (See link to making a wormery)

This knowledge encourages a sense of responsibility and environmental stewardship, teaching children that their actions can have a positive impact on the world around them. Furthermore, composting education provides valuable lessons about resource conservation, recycling, and the importance of minimising the environmental footprint. As future decision-makers, these lessons empower children to make informed choices that contribute to a more sustainable and ecologically conscious society. Ultimately, by incorporating composting education into their learning experiences, we equip children with the tools to become environmentally responsible citizens who actively contribute to a healthier, more sustainable planet.

*This activity sheet is aimed at educators, to provide you with information and guidance so that you can lead this activity with your learners.*

**Key Stage / Age group:** It can be easily tailored to any age group - the links below are from the [National Curriculum for England](#).

## National Curriculum links (Primary):

### KS1 & KS2 - Science

Working Scientifically - please see National Curriculum Guidance for working scientifically objectives

#### Year 1:

- Plants: identify and name a variety of common wild and garden plants.
- Animals including humans: identify and name a variety of common animals
- Seasonal Changes: observe changes across the four seasons

#### Year 2:

- Living things and their habitats: identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other; identify and name a variety of plants and animals in their habitats including mirror habitats.
- Plants: observe and describe how seeds and bulbs grow into mature plants; find out and describe how plants need water light and a suitable temperature to grow and stay healthy.

#### Year 3:

- Plants: explore the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow) and how they vary from plant to plant.
- Rocks: recognise that soils are made from rocks and organic matter

**Year 4:**

- Living things and their habitats: recognise that living things can be grouped in a variety of ways; explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment; recognise that environments can change and that this can sometimes pose dangers to living things.

**Year 5:**

- Living things and their habitats: describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird; describe the life process of reproduction in some plants and animals.

**Year 6:**

- Living things and their habitats: describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences including microorganisms, plants and animals; give reasons for classifying plants and animals based on specific characteristics.

**Time needed:** Initial set up 1 - 1.5 hours

**Location:** Outside in an area where the ground is free-draining

**Activity links:**

You can link this section to the developing a [wormery section](#) within the resources, this will develop the understanding of composting and the symbiotic relationships between worms and soil.

# The Do's & Don'ts

Creating a successful traditional compost heap requires the right balance of ingredients and proper maintenance. Here are the main requirements for a traditional compost heap:

## **Green Materials (Nitrogen-rich):**

Examples include kitchen scraps (fruit and vegetable peels, coffee grounds), fresh yard waste, and green plant material.

These materials provide nitrogen, which is essential for the development of microorganisms that break down organic matter.

## **Brown Materials (Carbon-rich):**

Includes dry leaves, straw, shredded newspaper, cardboard, and other dried plant material.

Carbon helps create the right C:N (carbon-to-nitrogen) ratio, balancing the compost and preventing odours.

## **Adequate Moisture:**

The compost pile should be as damp as a wrung-out sponge. Moisture is crucial for the microbial activity that breaks down the organic matter.

Water the compost heap when it becomes too dry, and cover it during heavy rain to prevent oversaturation.

## **Proper Aeration:**

Turning the compost regularly provides aeration, ensuring that oxygen reaches all parts of the heap. Oxygen supports aerobic decomposition, which is more efficient and less likely to produce unpleasant odours.

## **Layering or Mixing:**

Alternate layers of green and brown materials for optimal decomposition.

Mixing the compost occasionally helps distribute moisture and accelerate the decomposition process.

## **Size of Materials:**

Chop or shred larger materials to speed up decomposition. Smaller pieces create more surface area for microbes to work on.

## **Location:**

Choose a well-drained location with good air circulation.

The compost heap can be on bare soil or placed on a pallet or similar structure to allow drainage.

## **Exclusion of Certain Materials:**

Avoid composting diseased plants, meat, dairy, and oily foods in a traditional compost heap to prevent pests and unpleasant smells.

Pet waste should also be excluded due to potential health risks.



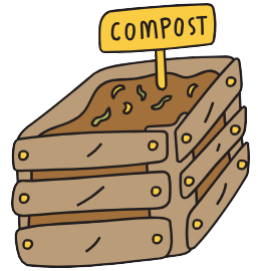
# Making a traditional compost heap!

## Objective:

To teach students about the importance of composting and how it contributes to a healthier environment.

## Materials Needed:

- Organic waste materials (fruit and vegetable scraps, coffee grounds, eggshells, etc.)
- Dry materials (leaves, straw, shredded newspaper)
- Compost bin or designated compost area Shovels or pitchforks
- Watering cans or hoses



## Introduction:

Begin with a discussion about waste and its impact on the environment. Explain the concept of composting as a way to reduce waste and create nutrient-rich soil. Emphasise the importance of recycling organic materials instead of sending them to landfills.

## Activity 1: Importance of Composting (20 minutes):

Show pictures or videos explaining the composting process.

Discuss how composting reduces the need for chemical fertilisers and helps plants grow healthier. Explain how composting reduces methane emissions from landfills.

## Activity 2: Setting Up the Compost Heap (30 minutes):

Choose a suitable location for the compost heap, either in a designated area outside or using a compost bin. Divide the students into small groups and provide each group with a mix of organic and dry materials.

Instruct the students on how to layer the materials in the compost heap for proper decomposition.

Demonstrate how to turn the compost and explain its role in the composting process.

## Activity 3: Monitoring and Maintaining the Compost Heap (15 minutes):

Discuss the importance of regularly turning the compost to ensure proper aeration. Assign students to take turns monitoring the compost heap and watering it as needed.

## Conclusion (10 minutes):

Recap the importance of composting and how it benefits the environment.

Discuss how the class will use the finished compost in school gardens or for potted plants.

## Extension Activities:

**Composting Journal:** Have students maintain a composting journal to document changes in the compost heap over time.

**Class Growing:** Use the finished compost in a class garden, allowing students to see the direct benefits of their composting efforts.

Composting takes time, typically a few months to a year, depending on factors like size, composition, and environmental conditions.

Be patient and allow the composting process to work its course.



## Learn More:

There are lots of fabulous books that talk about compost for learners of all ages from picture books to the excellent RHS book RHS Under Your Feet: Soil, Sand and other stuff (Underground and All Around). Many of these books involve looking through the geography and science of soils, exploring organic matter and finding out what action we can all take.

Here are some interesting books to take a look at:

<https://www.booksfortopics.com/book/soil/>

<https://www.booksfortopics.com/book/home-lab-exciting-experiments-for-budding-scientists/>

## Additional Information:

<https://schoolgardening.rhs.org.uk/resources/Info-Sheet/Composting-for-schools>

<https://www.booksfortopics.com/book/yucky-worms/>

<https://www.rhs.org.uk/soil-composts-mulches/composting>

<https://www.compostingcouncil.org/page/CompostBenefits>

<https://www.wildlifetrusts.org/actions/how-compost-your-waste#:~:text=This%20will%20boost%20fertility%20and,water%20retention%20and%20nutrient%20content.>

<https://www.wildlifewatch.org.uk/how-make-compost>