Orchard

Fruitful Findings & Sustainable Orchard Exploration

Keywords:

orchard, sustainability, agriculture, community, fruit, environment, ecosystem, biodiversity, pollination, soil health, water conservation

Target group:

primary school pupils (ages 6-11)

Objectives:

This activity introduces pupils to the concept of a sustainable orchard as a living ecosystem that produces food, supports biodiversity, and promotes environmental health. Through teamwork, exploration, and hands-on design, pupils will learn how fruit trees, pollinators, soil organisms, and water systems interact in a balanced environment. They will explore eco-friendly practices for managing orchards—such as composting, rainwater harvesting, and natural pest control — and reflect on the role of orchards in local food systems and community life.

General Guideline on Time Allocation:

The duration needed to carry out this activity may vary depending on the specific group of children. Teachers are encouraged to adapt the implementation according to the needs, interests, and dynamics of the group.

In the preparatory phase, teachers may use a variety of activities to introduce and contextualize the chosen topic. These can include discussions, videos, drawings, storytelling, or even a field trip, depending on the age and background knowledge of the children.

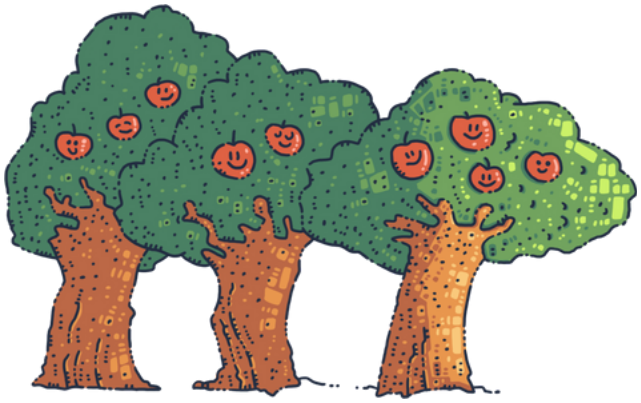
The main construction phase, during which children plan and build their urban element using LEGO bricks, should typically not exceed 45 to 60 minutes. However, this phase often stimulates further curiosity and questions among the children, potentially leading to extended engagement or follow-up activities. For more detailed instructions and pedagogical support on how to implement activities of INNO–kids project, please download the Teacher's Methodological Guide.

Materials and Resources Needed:

- Large sheets of paper, markers, crayons, coloured pencils, scissors and glue
- Soil samples, seeds, and small plastic or toy gardening tools (for simulating planting and care)
- Recycled materials such as cardboard, plastic bottles, bottle caps (to represent compost bins, water systems, and orchard structures)
- Pictures or diagrams of orchards, fruit trees, pollinators, and soil organisms (for inspiration and discussion)
- Books or printed resources about fruit trees, biodiversity, and sustainable farming
- Tablets or internet-connected devices (optional – for research on orchard ecosystems and climate-friendly practices)
- LEGO bricks or other types of building blocks

Note: Encourage pupils to repurpose available materials creatively. If LEGO bricks are not available, pupils may use basic craft supplies to bring their ideas to life through drawings and handmade models.

Introduction:



Begin the activity by inviting pupils to think about where fruit comes from. Ask them to name their favourite fruits and discuss whether they've ever seen a fruit tree in real life. Use this conversation to introduce the idea of an orchard as more than just a place for growing fruit — it's a living ecosystem.

Show pictures of different orchards and highlight the variety of life they support, including bees, worms, birds, and beneficial insects. Explain that a healthy orchard depends on many parts working together: soil, water, pollinators, and people.

Procedure:

Preparation:

Divide pupils into small groups of three to four members. Begin with a brainstorming session: What do you think grows in an orchard? What else might live there besides trees? Guide the discussion toward the idea of an orchard as a small ecosystem. Encourage pupils to think about how orchards can be both productive and nature-friendly.

Construction:
Give each group large sheets of paper, craft materials, and any additional resources. Invite them to design and construct a model of a sustainable orchard. Their designs should consider:

- A variety of fruit trees with different pollination needs
- Compost bins or natural fertilisers to maintain soil health
- Water conservation features such as rain barrels or swales
- Wildflower strips or insect hotels to attract pollinators
- Natural pest control strategies (e.g. birdhouses, mixed planting)
- Pathways and signs that help people learn about orchard care

Details:
As groups develop their orchard models, encourage them to add realistic details and reflect on the needs of plants, animals, and people. Ask guiding questions like: How does your orchard store and use water? How do you prevent pests without chemicals? Where do pollinators live? Support pupils in thinking beyond design toward everyday care and long-term sustainability. If possible, let them simulate basic activities like “planting seeds,” “watering trees,” or “collecting compost” using soil samples, seeds, and toy tools.

Stories:
Invite pupils to imagine what happens in their orchard across the seasons. Ask them to create a short story that follows the life of a person, an animal, or even a tree living in the orchard. Their story could show the daily work of a young orchard keeper, the adventures of a pollinator visiting blossoms, or how the community gathers fruit in late summer. Encourage them to include challenges — like drought, pests, or overripe fruit — and show how these are solved using sustainable practices.

Presentation:
Invite each group to present their orchard model. During the presentation, pupils should describe the sustainable features included in their design and explain how these help maintain a healthy orchard ecosystem. Encourage them to highlight elements such as water-saving systems, support for pollinators, natural pest control, and ways the orchard benefits both people and nature. Allow time for classmates to ask questions or offer positive feedback after each presentation.

Tips:

- Encourage pupils to explore real-life examples of orchards or gardens in their community or through virtual tours. Make the activity more engaging by including sensory elements — such as touching soil, or tasting fruit.
- Invite local farmers or experts to share their knowledge.

Additional Considerations:

Differentiation:

Provide additional support or simplified instructions for pupils who may require extra assistance. For advanced pupils, offer extension tasks such as researching further sustainable practices or designing more complex models.

Assessment:

Assess pupils based on their participation and engagement during discussions and hands-on activities. Evaluate the creativity, effort, collaboration, depth of understanding demonstrated in their models, critical thinking, ability to provide constructive feedback and presentation skills.

Extension Activities:

Plan a visit to a local orchard, farm, or school garden to observe real-world sustainable practices. Create a small orchard or fruit corner on school grounds using native or potted plants. Pupils can also create posters, comics, or short videos explaining how to care for an orchard.

Curriculum Connections:

This activity integrates:
Science *(ecosystems, biodiversity, food chains, soil science, water cycle, ecology, botany)*
Social Studies *(community, economics, geography, agriculture)*
Health and Physical Education *(nutrition, healthy eating)*
Arts *(design, drawing)*
Mathematics *(measurement)*

SDG Connections:

- **SDG 2:** Zero Hunger – Pupils explore how orchards support food security and sustainable fruit production.
- **SDG 3:** Good Health and Well-being – The activity promotes healthy eating habits and outdoor learning.
- **SDG 6:** Clean Water and Sanitation – Pupils learn about water conservation in agriculture.
- **SDG 11:** Sustainable Cities and Communities – Orchards are explored as green spaces that support community life.
- **SDG 12:** Responsible Consumption and Production – Pupils reflect on how orchards reduce waste and support local food.
- **SDG 13:** Climate Action – The activity encourages climate-friendly orchard practices.
- **SDG 15:** Life on Land – Pupils design orchards that protect biodiversity and ecosystem health.

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