Waterpark

Splash into Sustainability: Design an Eco-Waterpark

Keywords:

sustainability, water park, renewable energy, water conservation, eco-friendly

Target group:

primary school pupils (ages 6-11)

Objectives:

This activity introduces pupils to the concept of sustainable entertainment by exploring the environmental impact of traditional water parks and the principles of eco-friendly design. Through creative teamwork and hands-on problem-solving, pupils will develop an understanding of water conservation, renewable energy, and resource efficiency.

By the end of the activity, pupils will be able to explain key sustainability challenges related to recreational spaces, collaborate on designing an eco-waterpark using repurposed materials, and present their ideas in a clear way.

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 cardboard sheets or foam boards (for the layout of the waterpark)
- Blue construction paper or fabric (to represent water)
- Recycled materials such as plastic bottles, egg cartons, cardboard, and bottle caps (for creative structures)
- Pictures or diagrams illustrating water conservation techniques, renewable energy sources, and aquatic ecosystems
- LEGO bricks or other types of building blocks (optional)
- Drawing supplies: paper, crayons, markers, scissors, glue

Note: Encourage pupils to use their imagination and repurpose materials creatively. If construction sets are not available, pupils can draw, cut, and build their ideas using simple craft supplies.

Introduction:

Begin the activity by inviting pupils to share their favourite experiences related to water parks. Use this as a starting point to introduce the concept of traditional water parks and discuss their potential environmental impacts, such as high water consumption and energy use.
Explain the importance of designing recreational spaces that are both enjoyable and environmentally responsible. Introduce the term eco-waterpark and outline its key features, including water conservation, the use of renewable energy sources, eco-friendly construction materials, the planting of greenery to reduce temperature and improve the microclimate, and the use of aquatic plants to support natural water filtration.

Procedure:

Preparation:

Divide pupils into small groups of three to four members. Begin by introducing the concept of water scarcity and the importance of conserving water resources. Discuss how recreational facilities, such as water parks, can contribute to environmental challenges if not designed responsibly.
Use visual aids to showcase examples of eco-friendly water park features, such as rainwater harvesting systems, solar panels, water-efficient slides, and natural shade created by vegetation. Emphasise how aquatic plants can contribute to water purification. Encourage pupils to think critically about how these features could be integrated into the design of their own eco-waterparks.

Construction:

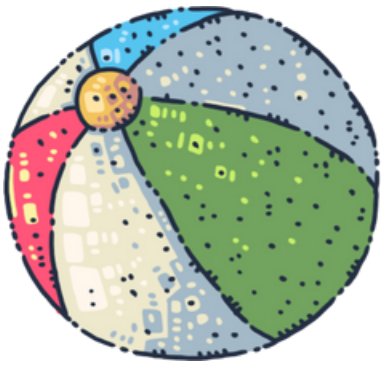
- Provide each group with the necessary materials for planning and constructing their eco-waterpark model.
- Encourage creativity and innovation for water park attractions and features while reminding pupils to incorporate sustainable elements into their designs.

Details:

- As pupils develop their eco-waterpark models, place particular emphasis on sustainable solutions. Discuss specific water conservation techniques, such as the use of recycled water, low-flow systems, or water-efficient slides. Encourage the inclusion of renewable energy sources — such as solar panels or wind turbines — to power different elements of the park.
- Highlight the importance of natural shade and green landscaping, which help to reduce heat and improve the microclimate within the park. Invite pupils to consider additional elements, such as the use of aquatic plants for water filtration or strategies to minimise waste and promote recycling within the park infrastructure.

Stories:

- Invite pupils to imagine a day spent at their eco-waterpark from the perspective of a visitor. Encourage them to create a short narrative that highlights the park's sustainable features and how these contribute to both enjoyment and environmental responsibility.
- Additionally, prompt pupils to consider the point of view of a marine creature living near the waterpark.



Presentation:

- Ask each group to prepare a brief presentation in the form of a commercial or advertisement promoting their eco-waterpark. Pupils should highlight the unique and sustainable features of their design and explain how these contribute to environmental protection and visitor enjoyment.
- Provide time for each group to present their model to the class. Encourage classmates to ask questions, offer feedback, and reflect on the different approaches taken.

Tips:

- Connect the activity to real-world examples by introducing existing sustainable water parks or successful water conservation initiatives.
- Conclude the activity with a discussion on how sustainability can be promoted in everyday life, inspiring them to take action beyond the school.

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:

- Encourage pupils to research water scarcity in different regions or explore professions related to water conservation. Pupils may also design a public awareness campaign or create educational materials promoting water-saving habits in their community.
- Collaborate with local water conservation organizations or water parks.

Curriculum Connections:

This activity integrates:
Science *(water cycle, water conservation and renewable energy)*
Social Studies *(environmental issues, resource management)*
Art *(design, creativity, spatial reasoning skills)*
Language *(oral communication, storytelling, and listening skills)*

SDG Connections:

- **SDG 6:** Clean Water and Sanitation – Pupils explore water conservation strategies and the importance of protecting clean water sources.
- **SDG 7:** Affordable and Clean Energy – The activity promotes the use of renewable energy sources in recreational spaces.
- **SDG 12:** Responsible Consumption and Production – Pupils consider how to reduce waste and use resources efficiently in the context of waterpark design.
- **SDG 13:** Climate Action – The activity fosters awareness of how sustainable infrastructure can contribute to reducing the environmental impact of human activity.

Co-funded by the European Union

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