Waste Dump Model

From Trash to Treasure

Keywords:

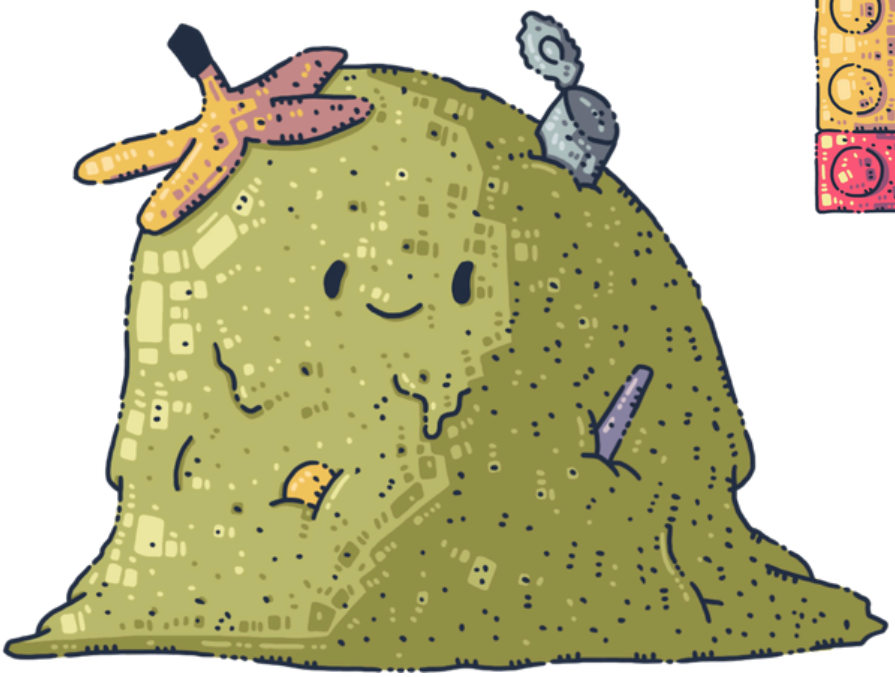
construction, waste management, recycling, environmental impact

Target group:

primary school pupils (ages 6-11)

Objective:

Through building and analyzing a waste dump model, students will discover how landfills function, explore waste management systems, and identify recycling solutions—turning theory into tangible understanding.



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:

- Cardboard box, Cardboard sheets, Colored papers, Scissors, Utility knife, Brush, Container for water, Palette, Small toy trucks, String, Glue.
- Small pieces of plastic, paper, metal, and glass (to represent different types of waste), Sand, Pebbles.

Introduction:

This activity begins by exploring real-world waste dumps through photos, sparking a discussion about their purpose and role in waste management. Students will then investigate how these facilities operate and examine their environmental impact, from pollution risks to land use challenges. Through guided conversation, the group will delve into the importance of responsible waste management and recycling, considering how individual and collective actions can make a difference. By blending visual analysis with critical discussion, this session prepares learners to think creatively about sustainable solutions—setting the stage for hands-on modeling and problem-solving.

Procedure:

Preparation
Gather all the necessary materials. Print or display photos of real waste dumps to provide context for discussion. Before starting construction, prepare labels for recycling areas and different waste types to emphasize proper waste separation.

Construction

- Turn the cardboard box with the opening facing outward.
- Use cardboard sheets to create sections for different types of waste (plastic, paper, metal, glass).

Details

- Decorate small toy trucks to represent garbage trucks, attaching strings so they can be "moved" around the model.
- Place small pieces of plastic, paper, metal, and glass in the corresponding sections.
- Glue sand and pebbles around the bottom to represent the surrounding area.

- Use colored paper to represent plants and other natural elements, adding signs for recycling areas.

Discussion

- Discuss the different parts of the waste dump and their purposes.
- Explain how recycling reduces the amount of waste.
- Talk about the environmental threats around waste dumps and how proper waste management protects these areas.

Tips:

- Organize materials into workstations for easy access during the activity. If possible, include images of sustainable landfills to inspire creative solutions!

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.

Curriculum Connections:

This activity integrates:
Environmental Studies *(landfills work, exploration of waste management systems, recycling, environmental impact of waste, and sustainability solutions)*
Citizenship Education *(environmental responsibility and awareness of individual and collective roles in waste reduction)*
Mathematics *(classification and quantification, basic operations, spatial organisation)*

Art *(creative expression, design, creativity, construction)*
Social Skills *(teamwork, communication and shared decision-making in collaborative tasks)*

SDG Connections:

- **SDG 12:** Responsible Consumption and Production – Pupils repurpose cardboard and waste materials to build their models, while discussing how communities can reduce, reuse, and recycle resources more effectively.
- **SDG 15:** Life on Land – Students analyze how landfills impact soil and water systems, then design their models to minimize environmental harm (e.g., adding "protective barriers" with LEGO or recycled materials).

Note: onclude with a discussion on how recycling and proper waste management can protect the environment around waste dumps.

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