Grassed paving

Beyond Asphalt a Grassy Path, Paving the Future Green

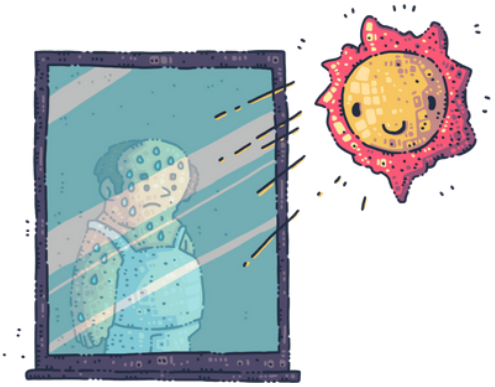
Keywords:

grassed paving, heat island effect, water drainage, sustainable design, urban green spaces

Target group:

primary school pupils (ages 6-11)

Objectives:



This activity introduces pupils to the environmental and functional benefits of grassed paving in urban spaces. Through hands-on design and model-building, pupils will explore how grassed paving helps reduce the heat island effect, improve water drainage, and bring greenery into built environments. They will learn how sustainable design choices can make cities cooler, healthier, and more pleasant places to live. By the end of the activity, pupils will understand the role of permeable paving and green surfaces in urban planning, and will be able to design and present their own model of a space that uses grassed paving effectively and creatively.

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:

- Pictures or diagrams of grassed paving in different settings (e.g. plazas, walkways, parking lots)
- Coloured paper, crayons, markers, glue, scissors, cardboard, bottle caps, or mesh-like recycled materials
- LEGO sets or building blocks
- Small plant pots, soil, and grass seeds (optional)
- Tablets or computers with educational apps or design tools (optional)

Note: Encourage pupils to use their imagination and repurpose available materials in creative and functional ways. If LEGO bricks are not available, pupils may draw, cut, and construct using paper and craft supplies.

Introduction:

Begin by asking pupils to think about hot, paved places in a city — like parking lots or sidewalks — and how they feel during summer. Introduce the heat island effect, explaining in simple terms how concrete and asphalt trap heat, making cities warmer than surrounding countryside. Then show images of grassed paving — a system that allows grass to grow in between hard surfaces — and discuss how it helps lower temperatures and manage rainwater.

Ask pupils why green spaces are important in cities and what they would change to make their schoolyard, playground, or neighbourhood more comfortable and eco-friendly.

Procedure:

Preparation:

Start by introducing the concept of grassed paving and its environmental benefits, such as reducing surface temperatures and improving rainwater absorption. Show pupils real-life examples of grassed paving used in parks, plazas, parking areas, walkways, and playgrounds.

Construction:

Divide pupils into small groups and provide materials such as LEGO pieces, craft supplies, or recycled items. Invite each group to design and build a model of an urban area that includes grassed paving. Their models can represent:

- Public plazas with integrated green paving
- Parking lots that manage water runoff
- Bicycle paths and walkways with cooling green lanes
- Community parks or schoolyards with mixed hard and soft surfaces

Details:
Guide pupils to think beyond appearance and focus on the functions of their designs. Ask: How does it stay cool on a hot day? Where can plants and insects live? Support them in adding features like rainwater channels, small garden plots, seating shaded by greenery, or signs explaining eco-friendly choices. Reinforce that well-designed public spaces serve both people and nature.

Stories:
Invite pupils to imagine that their grassed paving project has just been completed and is now part of a real neighbourhood. Ask them to create a story from the perspective of someone who experiences the space — a cyclist riding on a green bike path, a dog walker enjoying a cool plaza, a child playing in a shaded corner, or even a raindrop travelling through the paving into the ground. Encourage them to describe how the space looks, feels, and functions throughout the day or in different weather conditions. The story can include challenges (like a storm or heatwave) and how the sustainable design helped solve them.

Presentation:

- Invite each group to present their grassed paving model and share the story they created. Pupils should describe the main features of their design — such as where the green paving is located, how it manages water, and how it reduces heat. Encourage them to explain how their space benefits both people and the environment, and what makes it unique.
- After each presentation, allow time for questions, compliments, and short reflections.

Tips:

- Encourage pupils to experiment with a variety of materials — both natural and recycled — when designing their models.
- Spark creativity by showing real-life examples of innovative green surfaces and asking open-ended questions like “How would your design feel during summer?”

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 walk around the school or neighbourhood to identify areas that could benefit from grassed paving or more greenery.
- Invite a local urban planner or landscape architect to speak about sustainable design.
- Use simulations or educational apps to experiment with different materials and see their impact on urban environments.
- As a class project, create a proposal for redesigning part of the school yard using the concepts learned in this activity.

Curriculum Connections:

This activity integrates:
Science *(heat island effect, water drainage, sustainable land use, and heat absorption)*
Social Studies *(urban planning, community development, green public spaces)*
Art *(design, creativity, construction)*
Language *(oral communication, storytelling, and listening skills)*
Technology *(usage of digital tools and educational apps)*
Health and Physical Education *(impact of green spaces on well-being and comfort)*

SDG Connections:

- **SDG 11:** Sustainable Cities and Communities – Pupils design green infrastructure that improves urban quality of life.
- **SDG 13:** Climate Action – The activity addresses how design choices can reduce urban temperatures and manage stormwater.
- **SDG 15:** Life on Land – Pupils explore how green surfaces support biodiversity and ecosystem health in cities.

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