YOUNG SMART CITIES

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LESSON PLAN

Smart Campaigns for Responsible Toilet Use

Age Level: 12–18
Duration: 8–10 hours of lessons

Role of teacher: Coaching, guiding, moderating
Role of student: Taking agency, acquiring knowledge and skills, collaborating, reflecting

Learning objectives

- Understand how sewage systems and water management work in modern cities.
- Identify how everyday behaviours affect sewage systems, water quality, and public health.
- Analyse the links between sanitation, environmental protection, and sustainable cities.
- Develop critical thinking, collaboration, communication, and active citizenship skills.
- Produce an evidence-based educational campaign aimed at promoting responsible toilet and sink use.
- Present and refine a solution after feedback.

Skills development

- Critical thinking
- Collaboration
- Communication
- Empathy
- Active citizenship

Nb: Teachers can explore the Teacher Training on Skills HERE to select those most appropriate.

Material needed

- Large paper/poster boards, markers, and post-its
- Laptops or tablets
- Internet access
- Projector for videos/slides

Relevant YSC Knowledge Pills

1. Sewage Systems and Smart Cities
2. Urban Planning

Didactic objective of lessons

Lessons	Phase	Didactic objective
Lesson 1	**Explore**	Engage students in the topic by exploring their prior knowledge and everyday behaviours related to water use and sanitation, introducing key concepts through the Knowledge Pills on sewage systems and urban planning, and ensuring everyone reaches a shared foundational understanding of the subject.
Lesson 2–6	**Research, Analyse, and Ideate**	Guide students to identify what empirical evidence is needed, collect and analyse it, and use their findings to develop feasible, age-appropriate, and effective educational campaigns promoting responsible toilet and sink use.
Lesson 7–8	**Present, Feedback, Reflect**	Support students as they present their campaign proposals, gather feedback from peers, experts or stakeholders, and reflect critically to refine and improve their final products.

Nb: timeline is flexible

Problem-Oriented Learning Situation on sewage systems and water management

Driving Question:

How can an educational campaign be designed to effectively raise awareness among young people about what can and cannot be flushed down the toilet and sink, and why this matters for sewage systems?

Scenario:

Local authorities and water management services are concerned about increasing damage to sewage systems caused by improper waste disposal. Blockages, overflows, and water pollution lead to high maintenance costs, environmental harm, and risks to public health.

To address this issue, local stakeholders are seeking educational initiatives that can help young residents better understand how sewage systems work and how individual behaviour impacts urban infrastructure maintenance and the environment.

As local students, you have been asked to design an educational campaign aimed at young people. The campaign should communicate clear, accurate messages about responsible toilet and sink use in an engaging and accessible way.

Task:

Students design an evidence-based proposal responding to the local authorities' call for educational solutions. Working in groups, they develop an educational campaign aimed at young people. The goal is to demonstrate that the campaign is feasible, age-appropriate, and effective in raising awareness about sewage systems, correct waste disposal, and their importance for sustainable and healthy cities.

LESSON OUTLINE

LESSON 1: Explore (1 lesson)

Introduction to Sewage Systems and Water Management (1 lesson)

Objective*: Students build a shared understanding of how the sewage systems work, and why everyday behaviour matters for urban sustainability and public health.*

Opening Discussion

Teacher Action:

- Ask: *“What happens after we flush the toilet or use the sink?”*
- Collect keywords (sewage, water treatment, pollution, health, environment).
- Help students connect everyday actions to city-wide systems.

Student Action:

- Share assumptions and experiences related to waste disposal.
- Identify items they think can or cannot be flushed.

Why:

- Activates prior knowledge and highlights common misconceptions.

Short Presentation on Sewage Systems and Water Management

Teacher Action:

- Introduce key ideas from the Knowledge Pills *Sewage Systems and Smart Cities*.
- Explain how sewage systems work and why blockages or pollution occurs.
- Highlight links to public health and SDGs (SDG 6 and SDG 11).

Student Action:

- Observe and take notes.
- Relate concepts to their local context.

Why:

- Provides scientific and systemic background needed for the research phase.

Introduce the Learning Situation & Driving Question

Teacher Action:

- Present the driving question.
- Present the task and explain the enquiry-based process:
  Explore → Research → Analyse → Ideate → Present → Reflect

Student Action:

Read the assigned Knowledge Pills on

- Sewage Systems and Smart Cities

- Urban Planning

Why:

- Frames the challenge and clarifies expectations.

LESSONS 2–6: Research, Analyse, and Ideate

Objective: *In smaller groups (3–4 persons), students gather evidence, analyse behaviours and misconceptions, and develop an educational campaign based strictly on research and analysis.*

***Nb**: Remind students that effective project management, including careful planning, clear role allocation, and setting realistic deadlines, is essential for completing their work efficiently.*

Step 1: Research & Evidence Collection (Lessons 2–3)

Teacher Action:

- Guide students to identify what evidence is needed to design an effective awareness campaign.
- Explain evidence types:
    - *First-hand:* surveys, interviews, observations
    - *Second-hand:* Knowledge Pills, reports, statistics, educational materials

Student Action:

- Identify common incorrect behaviours and misconceptions.
- Collect first-hand and second-hand evidence.

Why:

- Grounds the campaign in real behaviours and knowledge gaps.

Step 2: Analyse Evidence (Lessons 4–5)

Teacher Action:

- Support analysis of collected data, focusing on causes and impacts.

Student Action:

- Analyse evidence focusing on:
    - **Where:** behaviours occur (home, school, public spaces)
    - **Who:** target groups among young people
    - **Why:** reasons for incorrect disposal
    - **How:** communication strategies that could work

Why:

- Ensures campaigns address real causes, not assumptions.

Step 3: Ideate Evidence-Based Solutions (Lesson 6)

Teacher Action:

- Encourage creative but realistic campaign ideas.
- Emphasise clarity, accuracy, and age-appropriateness.

Student Action:

- Design an educational campaign concept.
- Define key messages, format, and channels.
- Explain expected impact on awareness and behaviour.

Why:

- Ensures solutions are feasible and meaningful.

LESSONS 7–8: Present, Feedback, Reflect

Presentation & Feedback (Lesson 7)

Teacher Action:

- Facilitate presentations and structured peer feedback.

Student Action:

- Present campaign proposals.
- Reflect on feedback and revise.

Reflection Prompts:

- What did we learn about sewage systems and waste disposal?
- Which messages are most effective and why?

- How can awareness lead to long-term behaviour change?

Why:

- Develops reflection and communication skills.

Final Submission & Voting (Lesson 8)

Teacher Action:

- Collect refined proposals and facilitate voting.

Student Action:

- Submit final campaign proposal.
- Vote based on clarity, feasibility, and expected impact.
- Share proposals with local stakeholders (if applicable).

Optional Extensions:

- Visit or virtual tour of a wastewater treatment plant
- Guest speaker (water utility, environmental organisation)

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