Lesson Plan: IT'S COOL TO BE GREEN

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Subject: NATURAL SCIENCE

Title : Lesson	**Time : 2 hours**
Subject : Environmental Science/Technology	
Aim: Create a campaign to promote the importance of being green.	
Key CS elements: decomposition, pattern recognition, abstraction, algorithm design	
Age group : 12-14	
Learning situations: classrooms	**Activity type : lesson plan**

Resources :

- Whiteboard and markers
- Computer and projector for presentation
- Internet access for research
- Printed worksheets or digital tools for collaboration
- Poster-making supplies

Lesson Objectives:

1. **Introduce the Importance of Environmental Care:** Students will understand the significance of protecting the environment and explore how their actions can make a positive impact.
2. **Teach Computational Thinking Principles:** Students will learn and apply the four principles of computational thinking: Decomposition, Pattern Recognition, Abstraction, and Algorithm Design.
3. **Connect Computational Thinking with Environmental Solutions:** Students will use computational thinking to identify and solve environmental problems.
4. **Promote Sustainable Living:** Students will discover practical and cool ways to adopt green practices in their daily lives.

Introduction: The Coolness of Being Green.

- Start with a discussion about the environment:
  - Why is it important to care for the environment?
  - What are some cool and innovative ways people are going green today?
- Show a short video or presentation showcasing innovative green technologies (e.g., solar-powered gadgets, eco-friendly fashion) to inspire students.

Learning development:

1. Decomposing:

The students analyze the types of waste generated at the school in order to implement an awareness campaign as well as a waste collection and recycling campaign.

The main idea is to consider school part of our house, so that students can understand the importance of both maintaining it clean and, at the same time, recycling in order to be "greener".

The small parts of this task would be to identify the different types of waste which are generated at schools:

- paper
- plastic
- metal
- textile
- glass
- ceramic
- organic (both from students' breakfast and from school cafeteria)

2. Pattern recognition:

Students agree that it is easy to recycle in the classroom as each one has its own bin/container for paper, however, they state that they don't usually recycle because there are not enough containers or maybe they are not visible enough in the playground. At the same time, they agree that they need to be encouraged to do certain tasks. So, having a chart with the shifts for taking out the bin is a good idea, so everyone knows when they are responsible for that.

3. Abstraction:

Decide what type of waste is directly connected to students and teachers, so that they can take action on it.

Once the reality of school is analyzed, the students decide what type of waste can be recycled:

- paper
- plastic (bottles, juices bricks)
- organic waste (from students themselves and from school dinning- room)

4. Algorithm design:

step 1. place enough recycling bins in the classrooms and corridors for plastic and paper.

step 2. place enough recycling bins for organic waste in the playground, as it is the place where students have their snacks.

step 3. after the break, take the bins with organic waste to the containers in order to recycle them properly. Those containers are located in the street, close to the school gate.

step 4. after lessons, all paper and plastic are emptied in a big one (every day, one student will be responsible for this task), so that school staff can take them out when they finish cleaning the classrooms in the evening.
Assessment: After a month, the students evaluate if the campaign is being a success or not. This could be measured by checking if the classrooms, corridors and playground remains clean after using.
Expected results: As this lesson plan emphasizes the importance of environmental care while integrating computational thinking, it may be both educational and fun for students to learn how cool it is to be green.
Notes: Take-Home Challenge. If they don't do the same at home, recycling can be also done at home, where not everyone recycles, as they have confessed.

ANEXES.

BADGES FOR PRIMARY TO IDENTIFY THE RESPONSIBLE KIDS TO CLEAN

CHART TO CHECK SHIFTS.

INFANT AND PRIMARY

SECONDARY