Clear Waters Ahead: Young Engineers in Action

Grade Levels: Kindergarten and 1st Grade

Subject: STEM - Environmental Engineering

Duration: 1 hour

Standards:

- NGSS K-2-ETS1-1: Ask questions, make observations, and gather information to define a simple problem that can be solved through the development of a new or improved object or tool.

Objectives:

- Students will learn about the importance of clean water and the role of environmental engineers.
- Students will develop basic skills in using tools to remove visible debris from water.
- Students will enhance their understanding of teamwork in solving problems.

Materials:

- Containers of "dirty" water (water with visible trash and large particles)
- Large tweezers and tongs
- Large strainers
- Safety goggles

Procedure:

1. Introduction (10 minutes): Discuss what environmental engineers do, focusing on their role in ensuring water is clean and safe. Explain how filtering water is a task that environmental engineers might tackle to solve community problems.
2. Activity (30 minutes): Students use tweezers and strainers to remove trash and particles from water. The teacher guides the activity, demonstrating how to use each tool.
3. Discussion (10 minutes): Talk about what was removed from the water and why clean water is important for health.

4. Cleanup and Recap (10 minutes): Review what was learned and clean up the materials.

Assessment:

- Observe students' ability to follow instructions and use tools correctly.
- Evaluate students' participation in discussions and ability to identify why clean water is important.

Extension Activity:

- Story Time: Read a story about water conservation or a community that gained access to clean water, emphasizing the impact of environmental engineering on communities.