

Project Title:

How does human activity impact water quality, and what solutions can we create to improve it?

Grade Level

Middle School (6th through 8th grade)

Project Overview

This project allows students to investigate the effects of human activities on water quality by identifying pollutants, analyzing their sources, and understanding the impacts on ecosystems and human health. Students will develop science-based solutions to improve water quality. The project is aligned with Next Generation Science Standards (NGSS) and Common Core standards and includes detailed rubrics to assess student performance.

Project Sections

- **General Guidelines:** Introduces students to water pollution and outlines research, experimentation, and solution design tasks.
- **Brainstorming:** Encourages students to generate ideas on human activities and solutions to water quality issues.
- **Project Planning and Designing:** Guides students through creating a goal sheet, dividing tasks, and designing water filtration solutions.
- **Project Execution:** Helps students follow a plan, lead teamwork, and incorporate feedback into their solutions.
- **Experimenting:** Students test water quality, create filtration systems, and measure the impact of their designs.
- **Presentation:** Students choose a presentation method (slide deck, poster, or video) to showcase their findings and solutions.

Why Use This Project?

This project immerses students in real-world environmental issues, helping them understand the critical role of water quality. By combining research, hands-on experimentation, and creative problem-solving, students gain valuable STEM skills. Teachers benefit from a comprehensive lesson plan that meets educational standards, fosters teamwork, and encourages critical thinking. The inclusion of rubrics ensures clear assessment and targeted feedback, making it easier to track student progress.