

Problem Statement for Science Fair Project

Title

Reducing Water Pollution Through Biodegradable Waste Materials

Background

Water pollution is a growing environmental concern caused by the disposal of non-biodegradable and harmful substances into water bodies. This contamination affects aquatic life, disrupts ecosystems, and poses health risks to humans.

Identifying sustainable and eco-friendly solutions to reduce water pollution is critical for preserving water quality and protecting the environment.

Problem Description

Despite increased awareness about water pollution, the use of chemical treatments to purify water often results in secondary environmental problems, such as toxic byproducts. Additionally, non-biodegradable materials like plastics exacerbate water pollution, impacting both aquatic ecosystems and human health. There is a need for innovative, natural methods to reduce water pollution effectively while minimizing environmental impact.

Goals or Objectives

The aim of this science fair project is to:

- Investigate the potential of biodegradable waste materials, such as fruit peels or agricultural byproducts, in reducing pollutants in water.
- Analyze the effectiveness of these materials in removing contaminants, such as heavy metals or dyes, from water samples.
- Develop a cost-effective, eco-friendly method that can be scaled for broader applications.

Justification

This project is important because it explores a sustainable solution to a critical environmental issue. By utilizing biodegradable waste materials, it offers a dual benefit of reducing water pollution and promoting waste recycling. The findings from this project can contribute to the development of greener water treatment practices, encouraging sustainable resource management and environmental conservation.