

# Abstract

**Project Title:** Rock salt: not a solution for our future

**Project ID:** 239

## Abstract

A brief explanation of your project. Enables judges to receive a base understanding of your project and work.

My topic was to investigate if there is a matter other than salt that can lower the freezing point of water without polluting the environment.

My topic is important because people these days throw salt on snow to lower its freezing point and prevent it from turning into ice, but when the snow melts the salt goes into the environment and pollutes it.

My independent variable was the matter I'm using and my dependent variable was the freezing point of the water after putting the matter on it.

## Items to Include:

**Introduction:** Why did you do this project and why is it important? How will this effect people and why is it needed. Inspire the reader to continue learning more about your research and read your report.

I did this project

I did this project because it can make the world a better place and it is important because it can decrease pollution and it can make more clean water available, and it affects people by decreasing harmful pollution and decreasing the water pollution which gives more clean water sources

**Problem Statement and Engineering Goal / Hypothesis:** What is the problem you were solving and what was your engineering goal or hypothesis.

The problem I was trying to solve is that when people spray rock salt on the streets, it goes through the ground to underground water and it might go off to lakes and rivers which pollutes water, it also harms the environment because when a big amount of rock salt is concentrated in one specific spot, it can be harmful for the environment around it.

**Procedures:** How did you solve the problem and or test your hypothesis. Don't go into details, provide a broad, conceptual view of what you did. For engineering, what was your design criteria.

I solved the problem by trying 5 different materials and mixing them with water and kept a pure water cup, then, I put them in a freezer and took them out when the water frozen, then, I tested their TDS (total dissolved solutions) with a TDS meter and the one that didn't freeze and had low TDS with the least problems would be the best solution for the problem.

**Results:** What was the outcome? Use your data and numbers to describe your result.

The outcome was that Propylene Glycol is the best solution for the problem because it lowers the freezing point of water, it had TDS lower than 60 in two of its trials, and it also has no side effects on the environment.

**Conclusion:** Was your hypothesis supported or the engineering goal met?

Yes, my hypothesis was supported.