Name(s)

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Project Number

J1123

Project Title

Natural Water Purifier: Using Banana Peels to Remove Lead from Water

Abstract

Objectives

The goal of this project was to determine the effect of banana peels on lead contaminated water. My hypothesis was that if banana peels are mixed into lead contaminated water, then the amount of lead in that water would decrease. My objective for this project was to see if banana peels could be used as a purifier for water that is contaminated with lead and other impurities.

Methods

The experimental set-up was made up of 5 jars. Each jar was filled with 250 mL of contaminated water. The samples were tested for lead, pH, water hardness, and nitrate as the control. Each of the 5 jars was mixed with 50 mg of banana peels and then let it sit at room temperature. Samples were tested at various times (3, 6, 9, 12, and 24 hours) after the initial set up. The samples were tested for lead and other impurities using Novo Blue and Healthy Star water test strips and the results were recorded.

Results

All water samples containing banana peels showed a decrease in lead concentration over time. The pH level of the water with lead in it stayed at 6.0 all the time. The nitrate water sample that contained banana peels increased slightly. Banana peels didn t impact the water hardness. The pH level of tap water decreased constantly over time.

Conclusions

My results supported my hypothesis; banana peels have a positive effect in removing lead from lead contaminated water. Banana peels can be considered as a natural and environment friendly method for removing heavy metal such as lead from contaminated water.

Summary Statement

My project proved that banana peels are highly effective in reducing the amount of lead in contaminated water.

Help Received

Parents helped collect water from local resources and purchase test strips.