

# Investigatory project argumentative essay



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Cleanliness is necessary to everyone. It affects the people, the community and their environment. It is a contributing factor that leads to the goodness of one's health for a better and safe environment for a healthy community. The people use different cleaning products to prevail cleanliness. One of these is soap. Nowadays, people have been using different herbal soaps that are expensive and less effective. The researchers aim to provide a much cheaper and more effective herbal soap.

This gave the researchers the idea to look for an herbal plant that could serve as a component in creating a more effective herbal soap. The researchers have come to an idea of using pineapple skin extract as a component in soap making. Theoretical Background: According to research, pineapple has properties which are relevant to the skin. It has sugar, alpha-hydroxy acids (AHA) and some common enzymes. AHA is responsible for rejuvenating the skin. Pineapple contains enzymes that make the skin elastic, improve skin hydration, and remove damaged and dead cells.

Thus, it helps one achieve a clear and glowing complexion. The enzymes in pineapples also fight free-radical damage and can reduce age spots and fine lines. These active principles also provide a moisturizing and anti-ageing action. These also have antifungal and purifying effects on the skin. The extract of pineapple also gives the skin the needed vitamin C and minerals for the skin to look young. Pineapple skin extract has benefits in making herbal soaps due to its properties that protect the skin and can make the skin look good.

Chapter 2 Methodology

The researchers have gone to several procedures in conducting the experiment. The researchers have decided to separate the procedures for their ingredients. There have been procedures for the pineapple skin extract and for the lye. For the pineapple skin extract, the researchers gathered the necessary ingredients such as pineapple skin and water. The equipments used were pot, a clean container, lid and a strainer. First, the researchers cut the pineapple skin into one-inch squares with a sharp knife.

The pineapple skin were put in a pot and water was poured into the pot until the skins were barely covered. The pot was covered with a lid and was put on the stove at medium-high heat. The water was allowed to boil for 20 minutes. Then, the pot was removed from the stove. The mixture was strained using a strainer. The researchers then discarded the skins and put the liquid in a clean container. Finally, the container was covered and kept in a refrigerator.

For the lye, the following ingredients and equipments were prepared: two plastic buckets (a small one and a large one. The small one should fit into the large one in such a way that liquid from the small one drips slowly into the large one), some fresh ash from burning hard wood, gallons of rain water and a handful of straw. A few holes were made in the small bucket. The researchers made sure that the holes were tiny enough to allow only liquid stuff through. The holes were checked by pouring some water through the bucket.

The small bucket was set inside the large bucket. A space between the base of the small bucket and the large one was observed. This was important as

liquid should drip through holes drop by drop and not smudge the bottom of the small bucket. A straw was placed inside the small bucket to hide the holes. This was because lye water, when formed, will seep through the holes only through the straw. This prevent other hard blocks of wood or ash from collecting directly into the large bucket. Then, wood ash was placed above the straw and cold water was poured over it.

The researchers ensured that the ash was above the straw and not directly near the holes. The straw base acted as a filter and prevented wood ash from flowing down with water. As the water was poured slowly, liquid lye dripping through the holes in the small bucket, getting collected in the large bucket was seen. When all the water was poured onto ash, the process was repeated with the liquid collected in the large bucket. The collected lye solution was poured onto the wood ash (above the straw) once again.

The process was repeated and the lye solution was recycled at least three times. This was done to concentrate the lye solution. After repeating the process, the lye solution was collected from the large bucket and was stored in another plastic or wooden container and used it in soap making. The researchers avoided metal utensils as it could result in increase in temperature of lye. Before the lye was stored, its strength was tested. In olden days, the researchers allowed some people to test the lye with fresh egg.

If a fresh egg floats near the surface of the solution with a little lye water above it, the lye is of right strength. If the same egg drowned, lye lacks strength. If the egg floated above the solution, then it is too strong. When

the lye lacked strength, the researchers added more wood ash and repeated the process with the same solution. When the lye was too strong, water was added and the strength was tested with the egg again. Water was added until the researchers were certain that the lye was of the appropriate strength.