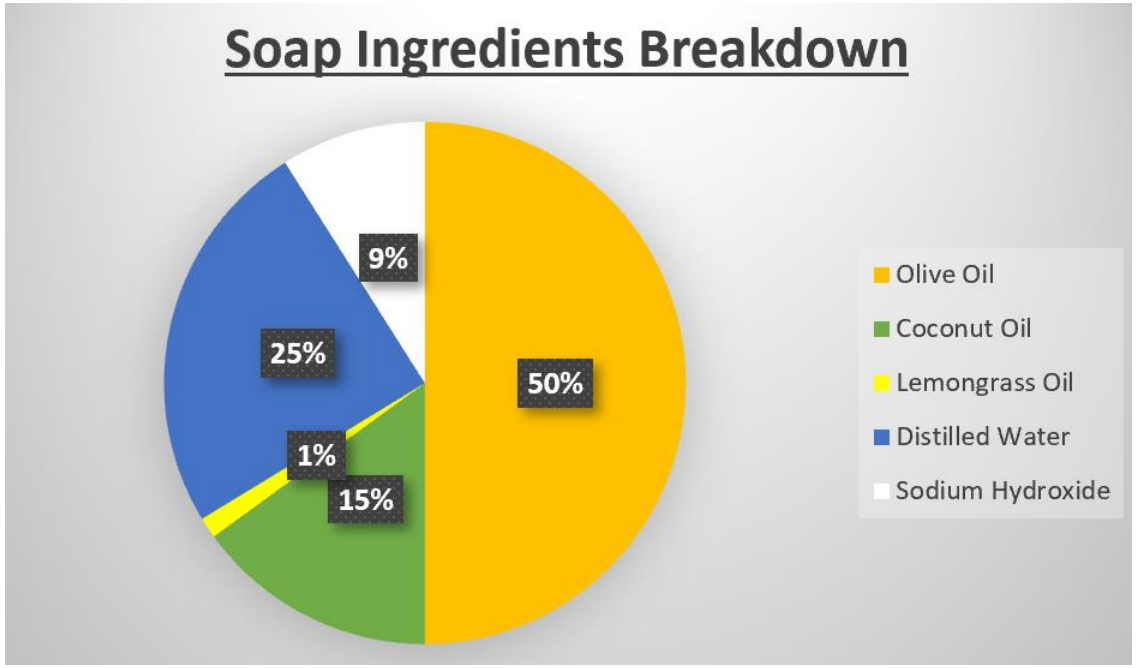
Zesting

"You're the Zest!"

Methodology:



1.Prepared the ingredients and measured out each of the oils we were using along with the lye and water.
2.Melted down the solid oils and combined them with the liquid oils (excluding the essential oil).
3.While these oils were heating, we also made the lye solution. It is important that anyone working with the lye solution is wearing the proper safety equipment. This includes safety glasses, gloves, and a lab coat. This process also needs to be done in a well ventilated area.
4.Poured the calculated amount of lye (NaOH) into the water. It is dangerous to mix them the other way around. We then proceeded to use a magnetically stirred hot plate to ensure that the lye was fully dissolved.
5.Added the lye solution to the base oils. Since the lye solution is exothermic, make sure that it isn't that much hotter than the oils it is being added to.
6.Mixed the soap until "trace" was reached. This is the point when the mixture has started to thicken.
7.We then added lemongrass essential oil to fragrance the soap and quickly mixed them together
8.Poured the soap into the mold and let it set for one week.

Soap Calculator Explanation

When making soap, it is important to have a good recipe to follow. There are many important choices which can greatly affect how the soap turns out. You need to have the right mix of oils or your soap could turn out overly drying, or not bubbly enough. Perhaps even more important is exactly how much lye to use. Too little and the soap won't function. Too much and it could potentially be dangerous. Each oil has unique properties and saponification values, so in order to ensure a recipe will work, one must use soap calculator.

We made our own soap calculators for the design our soap. In short, each oil has some unique properties. We would input percentages for each of the oils and the soap calculator would return the properties of the soap. Once we had found the exact type of soap we wanted to create we needed to determine the amounts of non-oil ingredients. The soap calculator determines how much lye is needed based on the saponification values of each oil as well as how much water is needed based on the total mass of oils used. Combining all of this info we were able to make a successful recipe which was both safe and effective.

Benefits/Facts:

Our lemongrass soap is made with 100% pure lemongrass essential oil that delivers a number of benefits to your skin and well-being. Lemongrass oil acts as an anti-bacterial and anti-fungal agent that helps keep your hands clean.

In addition, the components of our castile soap make for an all round natural body cleanser that lathers effortlessly; without the need of any chemical

It helps rid the skin of all impurities, as well as treat common skin diseases such as eczema, and psoriasis, by providing a highly anti-inflammatory compound called oleocanthal.

Marketing/Design:

For the design and marketing aspect of our soap, the approach we have decided to take is the use of coffee filter papers to wrap our individual portions of soap as well as some sticker papers containing all useful information regarding the ingredients, benefits and safety precautions related to the use of the product. The packaging for the soap will be done in a way which will allow us to limit the materials used as well as keep an ergonomic factor. It will be assembled in a way to simplify its day to day use.

When it comes to the sales prices, the cost of production, including the making of the actual soap as well as the packaging costs, we have decided to sell each portion of Sunny Lemon soap for a starting price of $2.50 dollars.

Green Engineering:

<u>Definition:</u>

Creating and selling a product that minimalizes pollution, promotes sustainability, and protects human health.

- We understand the importance of being eco-friendly and have used the principles of green engineering to make our soap, both packaging and product, as environmentally friendly as possible.
- This is why we have chosen to wrap our soap in a biodegradable packaging (coffee filters made from bamboo) that are safe for the environment.

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