Let's mix the unmixable liquids

Grade 8

Introduction

- We are mixing oil and water
- We are interested because water can't be mixed with oil because of density

What is an emulsifier?

First and emulsifier is a substance that stabilizes liquids that usually separate

For example, mayonnaise is a product of emulsion as is lotion

Research

To make an emulsifier you need to have a vacuum to mix liquids

You can use a vacuum sealed blender for a emulsifier

Hypothesis

We think that if we use a vacuum sealed blender the liquids will mix

Materials list

- Water ,oil, cooking oil, olive oil, and blender

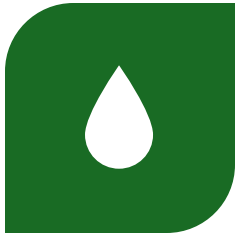
Safety considerations

Do not drink the oil with water

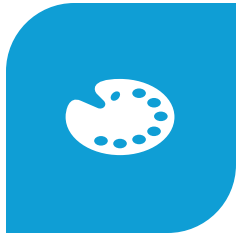
Be careful with blender

Procedures

STEP ONE GET A BLENDER AND PUT IT ON A TABLE



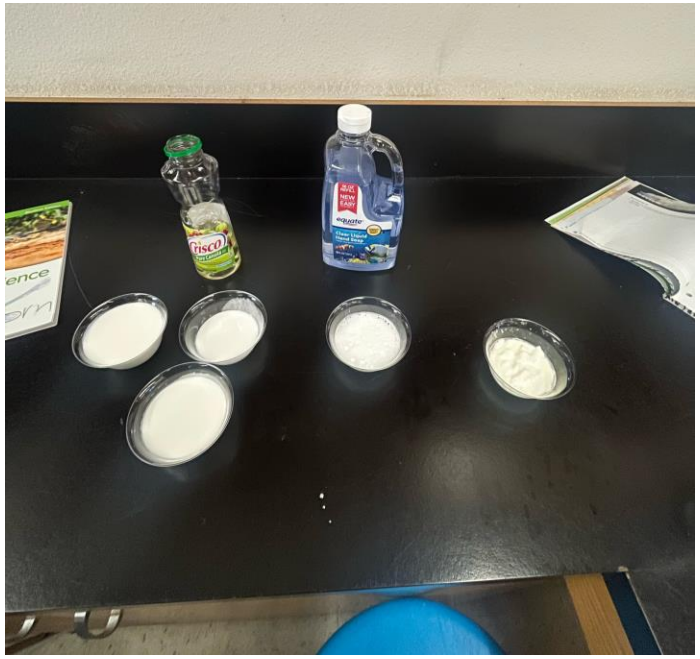
STEP TWO PUT THE WATER AND OIL IN THE BLENDER



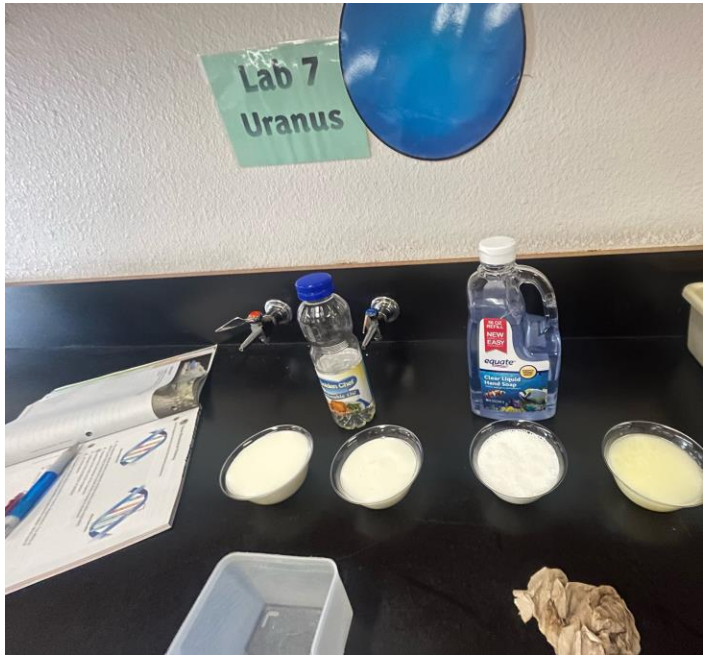
STEP THREE TURN ON THE BLENDER TO MIX

STEP FOUR PUT THE MIX IN A CUP

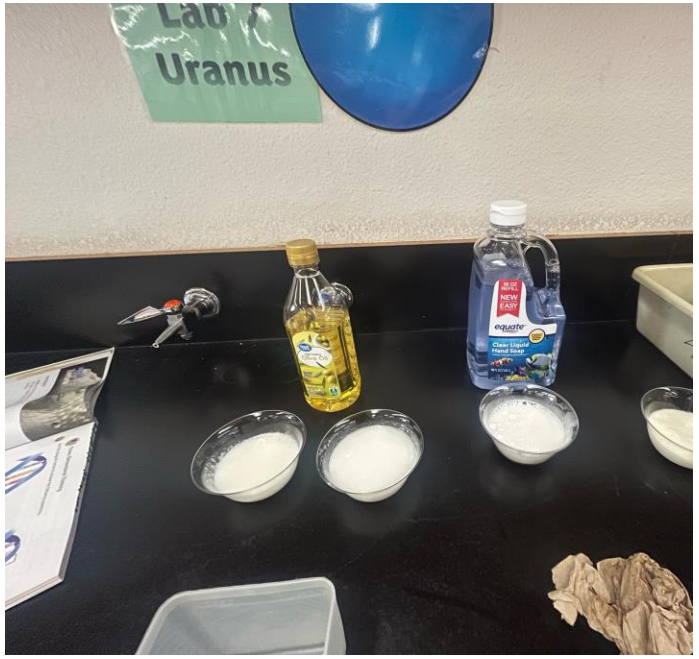
AND THAT'S HOW YOU GET EMULSIFIER WITH THE PRUDUCT



Canola oil



Vegetable oil



Olive oil

Results

Data

	Water and oil in blender			Water, oil, and egg			Water, oil, and soap		
	Emulsion Created?	Texture	Effect on skin	Emulsion created?	Texture	Effect on skin	Emulsion created?	Texture	Effect on skin
Canola Oil	Yes, but for a short period of time	Oily and water like	Made the skin oily	Yes	White chunky and water like	We did not try it because of the texture	Yes	Bubbled up and water like	It was like lotion
Vegetable Oil	Same with the canola oil	Oily and water like	The skin absorbed the mixture	Yes	Yellow and bubbly and dense	We did not try it because of the texture	yes	Bubbled up and water like	It was like hand soap
Olive Oil	Same with the canola oil	Very oily and water like	Made the skin very oily	Yes	White and chunky	We did not try it because of the texture	yes	Bubbled up and water like	It was like lotion

Analysis

- Oil, water, egg, and the oil, water, and soap created an emulsion. The water and oil by themselves did not create a stable emulsion because over a period of time it separated. It took about 6 hours to separate the oil and water after we blended it.

Future research

- We would like to research about how to make, regular store bought, eggs turn into a chick
- We are interested in this because we are currently learning about DNA and DNA traits. So this might be a fun thing to learn/do for possibly future projects

Works Cited

- Hungry SciANNtist : How to mix oil and water
- https://www.youtube.com/watch?v=KJpBQZH-dto&t=84s
- Action lab shorts : How to make water and o il mix
- https://www.youtube.com/shorts/woKF2XDM7Dg
- American egg board
- https://www.incredibleegg.org/professionals/manufacturers/real-egg-functionality/emulsification/#:~:text=For%20example%2C%20oil%20must%20be,improve%20product%20appearance%20and%20texture.