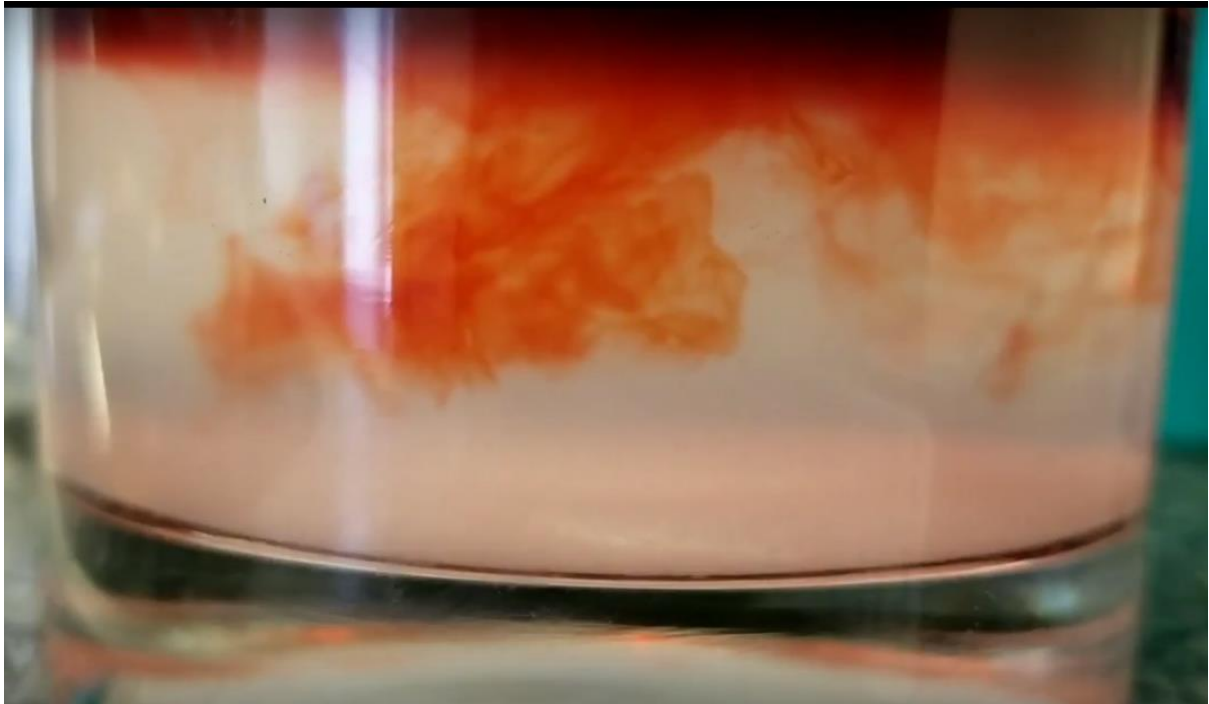


Food Color in a Salted Water



Team Third
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Flow Visualization
A Course in the Physics and Art of Fluid Flow
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Projected with Gabriel Elbert, Cade Haley, Michael Sandoval, and Lucas Sorensen

Background

The objective of the Team Third assignment was to develop an idea for a flow visualization experiment, to creatively gather materials and design the experiment, and to photograph the results. The video contains essence of the art of flow visualization with a balance between demonstrating the physics of the flow and showing any aesthetic photograph.

Experimental Setup, Physics, and Chemistry

In the video, it shows that the food colorings are on the top of the beaker. It is because of the density difference between the salted water and food coloring. The density of the salted water is very high, which makes the liquid heavier. The food coloring is less heavier since it has less density, so it tends to go upward.

Visualization Technique

In this experiment, I have used a salted water and droplets in a beaker. I have poured a lot of salt into water and swirled so that the water and salt mix into a mixture. The droplets of food coloring was dropped into the salt water.

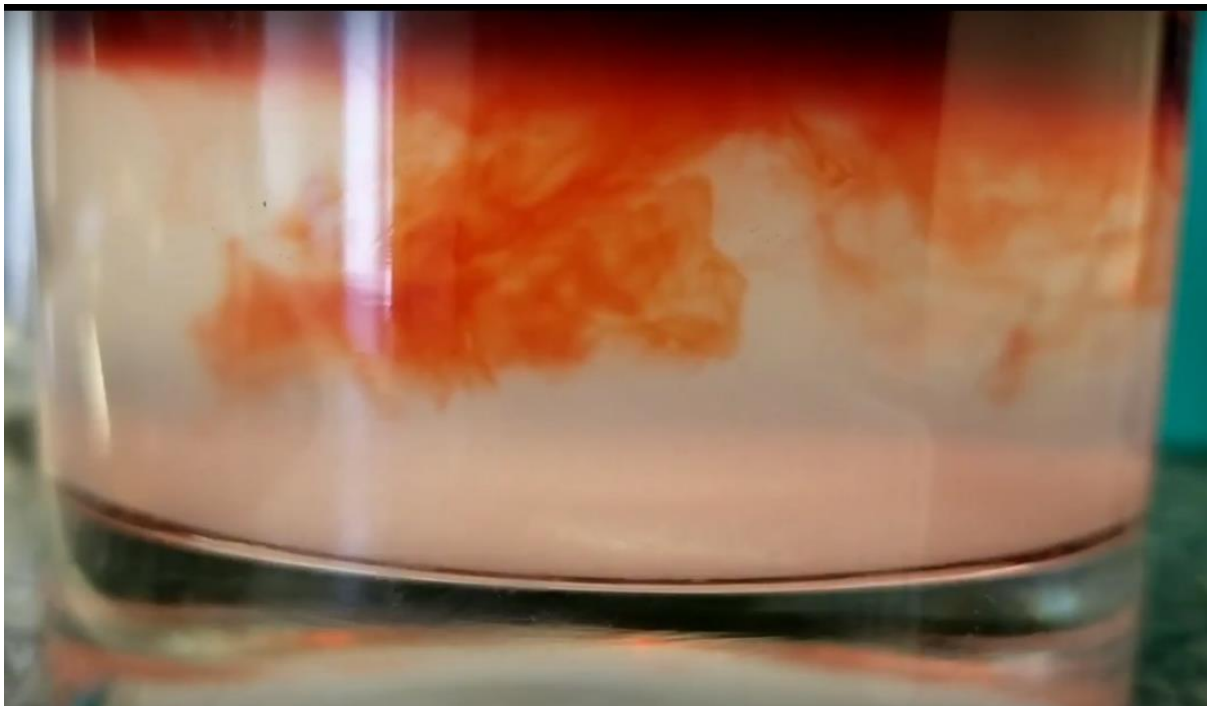


Figure 1. The image of the food coloring into salt water

Equipment and photographic technique

The Samsung Galaxy S8 was used to take the photo shown in Figure 1. The camera on the Samsung Galaxy S8 is Samsung SM-G950U with a resolution of 1920 by 1080 and having 60 frames per seconds.

Conclusion

The food coloring into the salted water was a great idea to show both physics and aesthetic vision of the flow visualization. The flow clearly visible since the density difference between the food coloring and salted water was huge.. The watercolors were perfect for the image, where the artistic intent of the experiment was fully achieved.

Citation

- The Lab. (2018). Liquid Layers - Salt Water Density Straw | Science Experiments | Steve Spangler Science. [online] Available at: <https://www.stevespanglerscience.com/lab/experiments/liquid-layers/> [Accessed 1 May 2018].