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Lab Report 3

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Purpose: The purpose of conducting the experiment involving the pancreatin, distilled water, and bile salts to a tube filled with cream was to investigate the output and effects of these components on the digestion and emulsification of lipids present in the cream. This experiment was meant to simulate the idea of human bodies and their digestive systems.

Procedure: My partner and I have set four different test tubes each filled with 3 ml of cream. Two test tubes would be a combination of the cream and pancreatin and one of those test tubes would also have bile salts in it. The other two would contain distilled water and one of the two would also have bile salts in it. We gently shook each tube and put all of them in a bath of water with the temperature of 37 degrees celsius for 30 minutes. We checked on them every 15 minutes to see if the color had changed. After the tubes had finished their time in the water bath, we inspected them by color, smell, pH level, and the amount of time it took to change color.

Results:

4. Summarize the results in the following table:

Tube	Color	pH	Odor	Time to change color
#1	Blue/purple	8	old creepy trash	0 didn't change
#2	violet	8	Slight funk	0 didn't change
#3	pinky purple	7	dog paw	20 min
#4	foggy grey pink/purple	6	dog shit	20 min

Discussion: At first my partner and I had misunderstood the instructions and thought that we had to remove the tubes from the water every 15 minutes so doing so would have messed up the results a bit since they were out of the water bath for a couple minutes when we initially made our mistake. The digestion simulation, the tubes being in the water bath, affects the ph making it more acidic or more basic. The tubes without the bile salts were more basic because the bile salts increased the rate of fat digestion, lowering the Ph of the cream mixture.

Conclusion: Our experiment where we took four tubes containing a mix of cream, distilled water, pancreatin, and bile salts showed us the digestion process and emulsifying process of the fat from the cream. The bile salts are important for fat emulsification in the digestion process so that it is more accessible to lipase enzymes. Digestion and emulsification are two distinct processes that play crucial roles in the breakdown and absorption of fats in the human digestive system. We learned that Bile salts have both hydrophilic and hydrophobic parts, allowing them to interact with and surround fat droplets, breaking them into smaller units and creating a more basic pH level for fat.