

Milk, food color, and dish soap lab essay sample

[Nutrition](#)



**ASSIGN
BUSTER**

Purpose/ Objective: The Purpose of this lab is to find out what happens when food coloring placed in different sorts of milks has dish soap (detergent) added to it. Our objective is to determine what the milk and colors will look like after adding the soap.

Hypothesis: After preforming the lab one time through, we are able to hypothesize about what could happen when we change different factors within the lab. I hypothesize that the lower content of fat in the milk, the less of a reaction we will see within the petri dish. The same goes for saying the less content of fat will cause less of a reaction within the milk.

Materials/ Equipment list:

- * Milk (Skim, Whole, Half and Half)
- * Food coloring (Blue, Yellow, Red)
- * Dish soap or detergent (any brand)
- * A Petri Dish
- * Beaker
- * Graduated cylinder
- * Stopwatch (optional).

Procedure:

1. Pour approximately twenty (20) milliliters of milk, using the beaker and graduated cylinder, into the petri dish a. Start by filling the beaker about halfway full with the milk b. Pour the milk from the beaker into the graduated cylinder, so that the markings on the cylinder show that there are twenty (20) milliliters in the cylinder, where the markings line up with the meniscus.
2. Using the food coloring dropper, place one drop of each color into the

milk, spaced out to form a triangle, with no two colors touching 3. Observe and record the information seen after two (2) minutes within the packet in the space provided 4. After recording what was seen in step three (3), proceed to place one (1) drop of detergent or dish soap in the center of the food coloring triangle 5. Record your observations from step four (4) inside the provided packet 6. Clean your materials used in the sink at your station

Results (continued): Discussion of what occurred-

* Skim- When putting the food coloring into the milk, the colors seemed to be relatively the same size. After placing a single drop of dish soap or detergent into the milk, the colors dispersed in a pattern as seen in the table above.

There was very little, if any, white space, and the colors continuously spread, changing the color that was most prominent quite frequently. Since this was the first test performed, it was not compared to the other tests; rather, the other tests were compared to this. * Whole- When putting the food coloring into the milk, the colors seemed larger than the skim, more spread out on the surface of the milk. After placing a single drop of dish soap or detergent into the milk, the colors dispersed more evenly than the skim milk, in a pattern similar to the one shown in the table above. The colors seemed evenly spread, and places of white or indiscernible colors can be found in between the primary and prominent colors. Since this was the second test performed, it was compared only to the skim milk.

Half and Half- When putting the food coloring in the half and half, the colors seemed to be different in sizes, the red and yellow were very small in comparison to the blue color, even though all three colors had exactly one drop. A single drop of dish soap or detergent was placed in the center of the
<https://assignbuster.com/milk-food-color-and-dish-soap-lab-essay-sample/>

petri dish. The pattern changed quite frequently, as the center of the detergent seemed to 'travel' around the dish, keeping the colors red and yellow near the center, and the blue around the edges. It is unknown if the orientation of the colors is intentional or not, as the red and yellow may be 'attracted' to the detergent and the blue was repelled, or something similar along those lines. The pattern was not very similar to the previous two tests, as the detergent center traveled in a spiral pattern before attaching to the side of the petri dish.

Conclusion: In conclusion, the amount of fat within the milks does impact the end visual result of the three (3) tests. Since whole milk had the highest amount of fat, the visual image seemed to show more white space left by the milk within the dish. The Half and Half showed less white milk parts than the previous, but still had some parts that had openings to the white. Finally, the Skim milk's visual showed very little, if any, white space, leaving room for a larger area for the colors. Those statements being said, the hypothesis was both valid and incorrect. The truth in the hypothesis was that, indeed, the amount of fat in the milk did impact the result of the visual. It was invalid through the statement of higher fat caused a higher reaction, as the highest fat, the whole milk, actually caused the least reaction, with many spaces of white area throughout its petri dish. To improve this lab, it would have helped to have three of each of the measuring tools and three dishes. By having multiple of each, one could have a more precise lab without having little leftover residue from previous tests in each of the materials.