

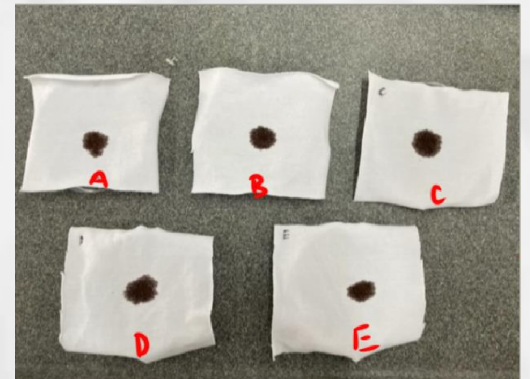
BIOLOGICAL MOLECULES

(EFFECTIVENESS OF DETERGENTS REMOVING FOOD STAIN PROJECT)

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PROCEDURE

1. Stain each cloth with 0.1ml of soy sauce using the syringe provided and leave to dry for 2 mins



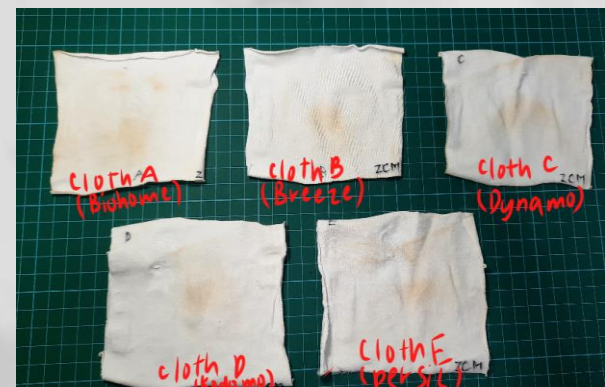
2. Add 2ml of each type of diluted detergent, using a syringe to each cloth labeled A, B, C, D and E and let it soak for 2 mins



3. After 2 mins, scrub the 5 cloths with a toothbrush for 35 seconds and then rinse it under water for 5 secs



End result



4. Observe and record the results of the stain intensity left on each of the 5 cloths on the correct column (using photos and table, rating the stain from numbers 1-5 where 5 is the darkest and 1 is the lightest)

INTRODUCTION AND AIM:

Laundry detergent is used daily in our households to wash clothes. How do detergents remove food stains? Do different types of detergent differ in effectiveness in removing food stains? If so, what are the possible reasons? Are there certain conditions that are optimal for these detergents to work in and why? These questions could be explained using biological knowledge involving enzyme actions.

The aim of this experiment is to investigate the effectiveness of 5 different detergent in removing soy sauce stain

RESULTS:

Colour intensity of stain data	Biohome (cloth A)	Breeze (cloth B)	Dynamo (cloth C)	Kodomo (cloth D)	Persil (cloth E)
	2	3	3	3	4

5 -stain is the lightest, 4 -stain is very light, 3-stain faded slightly, 2-stain is slightly dark, 1-stain is the darkest

CONCLUSION:

Persil is the most effective detergent as it removed most of the soy sauce stain

DISCUSSION

The reason why Persil detergent has the best results is because it is a bio detergent and the type of enzymes present in the detergent used. Enzymes such as proteases, amylases, and cellulases are present in Persil formulas. Proteases remove dirt based on proteins. Amylases remove sugar and starch-based stains. Cellulases smoothen the textile and provide color care, whiteness, and anti-pilling. These enzymes work to lift the stains out of fabrics, making them excellent stain removers. Persil also contains Sodium Laureth Sulfate, which helps clean or remove dirt and oil, creating foam when used with water. Another factor is the temperature of water. The other cloth/(brands) did not work as good as Persil detergent because the enzymes that are present in Persil detergent are less or absent in the other four detergents.

AREAS THAT COULD BE IMPROVED

-We could have improved by adding more than 2 ml of diluted detergent to the cloth as, 2 ml might not be enough.

-We could have also used only 1 person to scrub the stain as different people have different strengths, which might affect the intensity of the stain being scrubbed.