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*Naturally Spotless*

In this experiment, I explored how different environmentally friendly stain removing agents treat different stains. I thought that the effectiveness of the stain remover would depend on the chemical composition of both the stain and the stain remover. I chose to investigate six common stains and five easily accessible stain removers, as well as one commercial detergent for comparison. The six stains are wine, cranberry juice, chocolate milk, coffee, red sauce, and ink, all applied to 100% white cotton. The six stain removers I chose are water, hydrogen peroxide, vinegar, borax, baking soda, and Tide. All of the pairs of stains and stain removers were tested three times. Each time, I let the stain sit in the staining solution for two hours. To evaluate the effectiveness of each stain remover, I created a numerical color chart. With the chart, I was able to get both qualitative and quantitative results. The results were graphed and tabulated, and a ranking of stain removers was determined. The chemistry behind the findings was also explored. In general, I found that borax is the most effective of all of my stain removers, including Tide. This is because, first, it is an alkaline solution, so it neutralizes the acidic components of my stains. It also works as a bleach, so overall, borax has proved to be very effective on the stains I tested.