

Effects of reducing sugars, starch, lipids and proteins - lab report example

[Science](#), [Chemistry](#)



Effects of Reducing Sugars, Starch, Lipids and Proteins

The paper " Effects of Reducing Sugars, Starch, Lipids, and Proteins" is a great example of a lab report on chemistry. These series of experiments allowed us to see the effects of reducing sugars, starch, lipids, and proteins when they interact with different agents. When reducing sugars are mixed with Benedict's reagent, the color changes from clear blue to a red-orange, green or yellow, depending on the sugar. The glucose solution turned dark orange or red, and the onion solution turned light yellow or orange meaning there must be glucose present. Water, sucrose, starch and potato juice did not change color so it is clear that there are no reducing sugars present in these solutions. In the next experiment, we learned that Iodine reacts with starch to produce a dark purple color. The starch solution naturally turned purple when iodine was added while the water stayed a light yellow color. This means that there was no starch present in the water. The third experiment showed that certain kinds of paper absorb lipids quickly. We tested this with drops of vegetable oil and drops of water on separate pieces of brown paper bag. The vegetable oil contains lipids because it was absorbed much more thoroughly than the drops of water, and much faster. Lipids also absorb Sudan IV, a fat-soluble dye, and form a red coloring at the contact point between the two chemicals, which was the case with the sucrose, salad oil and distilled water. The Biuret test showed that when the Biuret agent was added to albumin solution, distilled water, and sucrose solution, the albumin turned purple while the others turned light blue; therefore, the albumin contains protein and amino acids. Water was used as a common chemical in each of the experiments and we can conclude that

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water is not a reducing sugar, starch or protein from the tests. Because the water turned light red in the Sudan IV test, there is something in the water that is a lipid to cause the Sudan IV agent to turn it red, most likely the oxygen and hydrogen. The only major issues with the experiments were that it was difficult to know exactly how much of the solution to put in each vile. Vague terms like “ a few drops” make it difficult to know whether the difference between two drops or five drops makes much of a difference. It is unlikely that this caused any major problems with the results of the experiments. Our group could not notice any other major weaknesses in the experiments. The results were all very clear and it would be difficult to change any portion of the results without affecting the overall outcome of the experiments. We were able to see exactly what we needed to in order to be able to make educated conclusions about the chemical reactions and behaviors of reducing sugars, starch, lipids, and proteins.