

Catalase formal lab report



**ASSIGN
BUSTER**

You were to analyze a variety of tests including analyzing a glucose solution for the presence of simple reducing sugars, analyzing a sample of vegetable oil for the presence of lipids, analyzing a sample of gelatin for the presence of protein, and analyzing an unknown sample to determine the presence of starch, simple reducing sugars, lipids, and proteins through chemical tests.

(Packet, Grafton 2014) Background: Molecules are two or more atoms bonded together to make one system. Most of the common molecules in living organisms fit in four classes of carbon-containing molecules, which are carbohydrates, lipids, proteins, and nucleic acids.

Carbohydrates occur in foods and living tissues, and contain hydrogen and oxygen with the same ratio as water. The ratio is 1:2:1. Lipids are basically fats. They are unable to be dissolved in water or any liquid but can dissolve in organic solvents. The configuration of cells are composed of a variety of chemical molecules. Cell metabolism involves the construction and obliteration of numerous diverse sorts of molecules. (Packet, Grafton 2014)

Proteins are highly varied organic molecules establishing a large percentage of the mass of every organism.

Proteins are an essential nutrient in the diet of animals and other non-photosynthesis organisms. Lastly, nucleic acids are long macromolecules, can be DNA or various types of RNA. DNA stands for deoxyribonucleic acid and they transfer genetic information. RNA stands for ribonucleic acid, and it is complementary to the DNA strand. RNA is almost identical to DNA except for the replacement of the sugar ribose for deoxyribose. (Unknown Author, Dictionary. Com 2014) Hypothesis: Hypothesis A: If you add iodine to the

soluble starch, then it will turn a different color than the rest because a starch is present.

Hypothesis B: If you boil the soluble starch with Benedict's solution in it, then it will turn a different color because the simple reducing sugars are present.

Hypothesis C: If you drop water and corn oil on brown litmus paper, then the water will be semi-transparent and the corn oil will not because the corn oil is a thicker substance. Hypothesis D: If you have ethanol in one test tube and water in another, and you add oil to each, then the oil will be solvent in the ethanol but not in the water.

Hypothesis E: If you have three test tubes with gelatin in one, glucose solution in another, and water in the third, and you add Benedict's reagent into each, then the gelatin will change color. Hypothesis F1: If you add Benedict's solution to the urine sample and boil it, then it will change color, indicating that glucose is present. Hypothesis F2: If you add iodine to the urine you add Benedict's solution to the patient's urine sample, then it will change color, meaning a protein, or child, is present.

Hypothesis F3: If you put a drop of the urine sample on a small piece of brown sample and another drop of water to compare, then both will be semi-transparent because no kidney stones will be present. Procedures: For the first test, start by getting three test tubes and label 1, 2, and 3. Add twenty drops of soluble starch to test tube one, twenty drops of glucose solution to tube two, and twenty drops of distilled water to tube three. After this, record the colors in Table one. Next, add iodine solution to each test tube and record the color from the end result, and add the iodine solution in Table 1.

Rinse the remains of the test tubes down the sink, and use the test tube brush, soap, and water to clean them. Dry them and put them into the test tube bin. The next test is started by heating the water bath to boiling and getting three test tubes labeled 1, 2, and 3. Add twenty drops of soluble starch to test tube one, twenty drops of glucose solution to test tube two, and add twenty drops of distilled water to test tube three. Now, record the initial color of the contents of each tube in Table one. Add forty drops of Benedict's solution to each test tube, and record the color after adding it in Table two.

Place all three test tubes in a boiling water bath for three minutes. Remove the test tubes from the water bath using a test tube holder and place the test tubes in the test tube rack to cool, and record the color of each tube's contents in Table two. Rinse the contents down the sink, and proceed to clean with soap and the test tube brush. Dry and place the tubes into the bin. For the next test get two test tubes and label them one and two, then add forty drops of ethanol to test tube one and forty drops of distilled water to test tube two.

Next, add ten drops of oil and a dropper to each test tube and stir well. Let the contents settle and record the results in Table four. Proceed to clean the tube normally. As another test label three test tubes as one, two, and three. Add sixty drops of gelatin to test tube one, sixty drops of glucose solution to test tube two, and sixty drops of distilled water to test tube three. Record the initial color of the contents in each tube in Table five. Now add twenty drops of Beirut reagent into each test tube and record the new color.

Wash and dry the test tubes normally and place them into the bin. Starting a new test, place three millimeters of the urine sample in a test tube. In a new test tube, place three millimeters of water. Add forty drops of Benedict's solution to each tube and place both into a boiling water bath for five minutes. Record those results in Table six. As a new test, place three millimeters of the urine sample in a test tube and three millimeter of water into another test tube, as a control. Add forty drops of Logo's iodine to each tube and record data in Table six.

With another test, add three millimeters of the urine sample in a test tube and three millimeters of water into another test tube. To each tube add forty drops of Beirut's solution and record the results in Table six. In the last testing procedure place a drop of the urine sample on a small piece of brown paper and drop of water on the other side of the paper. After allowing the paper to dry for a few minutes, hold the paper up to the light to observe if the spots re semi-transparent or not. Finish by recording the last results in Table six.