

Name: \_\_\_\_\_

Forensics Class Unit 2  
Testing for lipids, proteins and carbohydrates

**You need to wear safety goggles and lab aprons at all times!!**

**Protein station – Table 1**

**Testing for the presence of proteins - Biuret test**

Put a food item containing protein into a test tubes (i.e. milk, cooked beans, egg, or cheese). If it is not a liquid, add some water and mash it well. Also set up a control, a test tube containing water. Add about 2ml of Biuret reagent to each test tube. Be careful: Biuret reagent can stain your skin and fingernails!! (They contain proteins!) A positive reaction - purple or pink - indicates the presence of protein.

Describe your results: \_\_\_\_\_

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**Carbohydrate station – Table 3**

**Testing for monosaccharides: Benedict reagent**

Put 2-3 ml of corn syrup in a test tube. Add 1ml of the Benedict Reagent, the solution will look blue. Put the tube in a gently boiling water bath. Wait a few minutes. The glucose present in the solution reacts with the copper sulfate in the Benedict reagent and makes copper oxide that is an orange to red-brick precipitate. The intensity of the color depends on the concentration of glucose present in the sample.

Describe your results: \_\_\_\_\_

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**Testing for Starch (Polysaccharide): Iodine solution**

Put 2-3 ml of starch solution in a test tube. Add 3-4 drops of iodine. A bluish black color indicates a positive test for starch.

Describe your results: \_\_\_\_\_

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## Lipid station – Table 5

### Testing for the presence of lipids: Sudan red test

Add 2ml of any oil and 2ml of water to a test tube. Then add 2-5 drops of Sudan red to the mix. Shake. Then repeat with a test tube containing only water. You will see that Sudan red will stain the fat molecules. Be careful. Sudan red can stain clothes.

Describe your results: \_\_\_\_\_

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### Testing for the presence of lipids: Grease spot test

Draw four squares onto their brown paper bag, then use a cotton swab to put samples of three lipids and water as a control into the squares. Wipe off excess oil/fat and let sit for few minutes to dry. Once dry, the fats will leave a translucent spot behind. This can best be seen when you hold the paper up to a light source.

Describe your results: \_\_\_\_\_

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