**Benedict’s Test and Starch Testing: Biochem Lab 1**

**Backgound:**

Benedict’s test is a lab protocol to test for reducing sugars.   
Reducing sugars are those with a spare carbonyl group (double bonded oxygen off the chain).  
These sugars donate ions to other molecules, and can’t be broken down by hydrolysis.

Benedict’s reagent contains blue copper sulfate, which when mixed with reducing sugars and heated, precipitates orange to red copper oxide. The sugars donate electrons to the copper ions, which reduce and precipitate.

Benedict’s test is very simple. To complete it, add 5ml of test solution + 5 ml of Benedict’s solution in a large tube. Mix well and heat for 5-10 minutes and check color to determine a copper precipitate  
  
**Instructions**

**Starch Test:** Perform the simple starch test on each of the three mystery powders. Based on your results, conclude whether or not each powder is a starch.

**Benedict’s Test:** Perform Benedict’s test on water and your two Mystery Solutions. Based on your results, conclude whether or not each solution contains a reducing sugar, and rationalize what you believe the other solution might be.

**IN YOUR LAB NOTEBOOK:**  
Title  
Materials  
Procedure (write out in detail—ask if unsure!)  
Data table (x2—starch and Benedict’s)  
Conclusions—what’s a reducing sugar? What’s a starch? How do you know?