The food tests: student's copy

Part 1: investigating simple tests for 3 common food substances.

It's easy to tell which foods and drinks contain **sugars** (.....) and **fats/oils** leave .... on your clothes, but how do you know which foods contain **starch** or **protein**?

1. Benedict's test

Method:

1. Label five test tubes as follows: 'Protein', 'Sucrose', 'Glucose', 'Starch', and 'Water'.
2. Squirt about 1mL of each solution into its labelled test tube**.**
3. Squirt about 1mL of **Benedict's** solution into each tube, and swirl to mix.
4. Half-fill a beaker with boiling water (from the kettle) and place the 5 tubes in the beaker.
5. **Leave** until one of the mixtures changes colour. You may need to add more boiling water if there is no colour change after a few minutes.
6. Record the **colours** of the 5 mixtures in the Results table below.

Results:

Protein	Sucrose	Glucose	Starch	Water

2. Iodine Test

Method:

1. Squirt 3 drops of each solution into its named square on plastic grid #1**.**
2. Squirt one drop of **iodine** solution into each square.
3. Record the **colours** of the 5 mixtures in the Results table below.

Results:

Protein	Sucrose	Glucose	Starch	Water

3. Biuret test

Method:

1. Squirt 3 drops of each solution into its named square on plastic grid #1**.**
2. Squirt two drops of **sodium hydroxide** solution into each square.
3. Squirt one drop of **copper sulfate** solution into each square.
4. **Leave** for a few minutes until one of the tubes changes colour.
5. Record the **colours** of the 5 mixtures in the Results table below.

Results:

Protein	Sucrose	Glucose	Starch	Water

Summary Conclusion:

Iodine results	**Biuret results**	**Benedict's results**	**Proves presence of**
			protein
			glucose
			starch

Part 2: using the 3 simple food tests on some common foodstuffs.

Method:

1. Divide each food sample into **3 portions**.
2. Place **two portions** of each food on **plastic grid #2**: carry out the **iodine test** on the first portion, and the **Biuret test** on the second portion.
3. Place the third portions in **separate test tubes**; and carry out the **Benedict's Test** on each.
4. Record your results by placing up to 3 ticks or 1 cross in each box in the table below.

Food substance tested	***Does the food go black with iodine?***	***Does the food go purple with Biuret?***	***Does the food go red with Benedict's?***
apple			
banana (ripe)			
banana (green)			
bread			

butter			
cheese			
eggwhite			
flour			
honey			
meat			
milk			
orange			
pasta			
potato (raw)			
potato (cooked)			
rice			

Summary/Conclusions:

Foods rich in starch	Foods rich in protein	Foods rich in glucose