

Experiment: Testing for glucose**Background**

Benedict's solution comprises a solution containing a blue copper(II) complex. When this solution is heated with a reducing agent it gets reduced to copper(I) oxide, a red insoluble compound.

Apparatus

- Clamp stand + clamp
- Test-tubes (3)
- 400 ml beaker with water
- Spirit burner
- Lighter
- Dropping pipette
- Scalpel
- White tile

Chemicals/substances

- Potato
- Bread
- Apple
- Benedict's solution

Instructions

- Collect a small piece of potato.
 - Place in a boiling tube.
 - Add about half a test-tube of water and fix at an angle using a clamp and stand.
 - Heat until boiling using a spirit burner.
 - Remove source of heat and add 5cm³ of Benedict's solution
 - Re-heat until gently boiling for about 5 minutes.
 - Add 5cm³ of hydrochloric acid - CARE!
 - Re-heat until gently boiling for about 5 minutes.
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- Repeat the process with (ii) apple and (iii) bread.

Data recording (qualitative data)

Experiment	potato	apple	bread
Appearance before addition of 5 cm ³ of Benedict's solution.			
Appearance after addition of 5 cm ³ of Benedict's solution.			
Appearance after boiling with 5 cm ³ of Benedict's solution.			
Appearance after boiling with 5 cm ³ of Hydrochloric acid			

Data analysis

What do your observations tell you?

Conclusions

Which types of food contain glucose?

Evaluation

You should think about all of the things that you did in the course of the experiment.

As your data is qualitative (purely observation) there are no inaccuracies.

Can you make suggestions that would improve or extend the experiment?