



Homeschool Science Experiment

TESTING THE SUGAR CONTENT OF DIFFERENT FRUITS



QUESTION: Which fruits have more sugar?



BACKGROUND

Fruits contain natural sugars. In this experiment, we will test and compare the sugar content of different fruits using Benedict's solution. The more sugar a fruit has, the stronger the color change will be after heating.



MATERIALS

- 4–5 different fruits (e.g., apple, banana, orange, grapes, strawberry)
- Benedict's solution
- Test tubes (one for each fruit)
- Test tube rack
- Droppers or pipettes
- Measuring spoons
- Mortar and pestle or blender
- Filter or cheesecloth
- Hot water bath (a bowl or pot with hot water)
- Timer
- White paper or color chart (provided below)
- Safety goggles (optional but recommended)



SAFETY

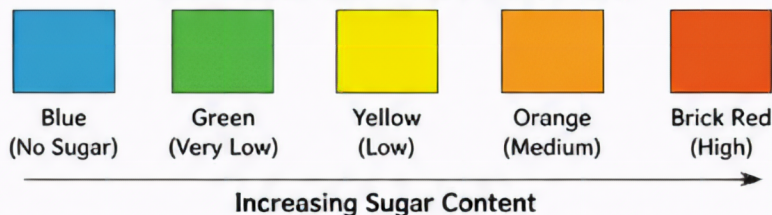
- Hot water and test tubes can be hot. Ask an adult for help.
- Do not drink any of the solutions.



PROCEDURE

1. **Prepare the fruits:** Wash the fruits. Cut a small piece of each fruit and mash or blend it.
2. **Extract the juice:** Place about 1 tablespoon of the mashed fruit in a filter or cheesecloth over a cup. Squeeze or press to collect the juice. You should have about 1–2 teaspoons of juice for each fruit.
3. **Add to test tubes:** Label each test tube with the name of the fruit. Add 2 mL (about 1/2 teaspoon) of fruit juice to each labeled test tube.
4. **Add Benedict's solution:** Add 2 mL (about 1/2 teaspoon) of Benedict's solution to each test tube.
5. **Mix gently:** Use a dropper or gently swirl the test tubes to mix.
6. **Heat the tubes:** Place the test tubes in a hot water bath. Make sure the water comes up the sides of the tubes but not over the top.
7. **Wait and observe:** Heat for 5 minutes. Remove the test tubes carefully and observe the color change.
8. **Record results:** Compare the color in each tube to the color chart below and record your results in the table.

SUGAR COLOR CHART (Benedict's Test)



RESULTS

Fruit	Color Observed	Sugar Level (Use Chart)	Notes



CONCLUSION

Which fruit had the most sugar? _____

Which fruit had the least sugar? _____

What did you learn from this experiment? _____