Name: _____ Group: _____ Date: _____

LAB 41
TECHNIQUE

DETECTING SIMPLE AND COMPLEX CARBOHYDRATES

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Goal

Apply a technique to determine if a food or a solution contains simple carbohydrates (glucose) or complex carbohydrates (lactose).

Materials

- 400-mL beaker
- hot plate
- wash bottle of distilled water
- marker
- 3 test tubes (15 mm × 125 mm)
- test-tube rack
- dropper bottle of distilled water
- dropper bottle of glucose solution
- dropper bottle of lactose solution
- dropper bottle of Fehling's reagent solution A
- dropper bottle of Fehling's reagent solution B
- test-tube clamp

Procedure

1. Boil 200 mL of distilled water in the beaker.
2. Number the test tubes from 1 to 3 with the marker.
3. Add 20 drops of distilled water to test tube 1.
4. Add 20 drops of glucose solution to test tube 2.
5. Add 20 drops of lactose solution to test tube 3.
6. Add 10 drops of Fehling's reagent solution A and 10 drops of Fehling's reagent solution B to each test tube.
7. Place the test tubes in boiling water for 5 minutes.
8. Observe the contents of the test tubes and record your observations.
9. Clean up and put away materials.

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Results

Record your observations in the table below. Give the table a title.

Title:

Test tube	Substances in test tube	Observations

Reflecting on the lab technique

1. What indicators are used to detect simple carbohydrates such as glucose and complex carbohydrates such as lactose?

_____

_____

2. How can the presence of glucose or lactose in a food or a solution be confirmed using these indicators?

_____

_____

3. Why is a test tube containing only distilled water and the indicators prepared?

_____

_____

4. Are the results you obtained conclusive? If not, what are the possible sources of error?

_____

_____