

DIABETES LAB:
Why Diabetics Often have Frequent Thirst and Urination

Name: _____

Materials:

- 1 cm thick slices of zucchini, yellow squash, cucumber or beet
- 1 mL (tsp) of honey or syrup
- towels
- digital balance

Procedure:

1. What do you think will happen if you coat a slice of a vegetable with honey or a sugar syrup? Record your hypothesis below.
2. Obtain two slices of the same vegetable.
3. Gently blot (do not squeeze) the vegetable slices dry with a paper towel.
4. Mass each vegetable slice and record their masses below.
5. Create an “experimental sample” by drizzling ~ 1 tsp of honey or syrup onto the vegetable slices.
6. Create a “control sample” by not treating one of the vegetable slices.
7. Record your visual observations at 5 minute intervals for 20 minutes.
8. At the end of 20 minutes, use a paper towel to gently remove the honey or syrup and any visible liquid. Do not squeeze the vegetable slices!
9. Mass the vegetable slices again and determine the mass change by each.
10. Answer the analysis questions.
11. Clean your lab bench and return all materials.

Hypothesis: If _____
Then _____
Because _____

Qualitative Data:

0 minutes	5 min	10 min	15 min	20 min
Control				
Experimental				

Quantitative Data:

Vegetable:	Initial Mass	Final Mass	Difference in Mass	Rate of change per min
Control				
Experimental				

Analysis:

1. How did the honey or syrup affect the vegetable?
2. What caused the change in mass?
3. What process does this data illustrate?
4. How do you know if it was the honey or syrup that caused the change in mass?

5. What did the honey or syrup represent in this experiment?
6. How might excess sugar in a diabetic's bloodstream affect the water content of some of that person's tissues?

7. What do you think excess blood sugar in the blood stream might do to a diabetic?

8. Explain why diabetics often have frequent thirst and urination?

Draw a diagram of the process illustrated by the experimental setup