

# The Effect of Small Changes On Your Health

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## RESEARCH QUESTION

Will small changes to daily lifestyles make a difference in blood sugar?

## HYPOTHESIS

Once patient begins to walk on weekdays her blood sugar will improve.

## MATERIALS

1. Blood Glucose Meter
2. Test strips
3. A place to walk

## CONTROL GROUP:

Patient's blood sugar when she continues with her daily lifestyle (not walking.)

## CONTROLLED VARIABLES:

Same diabetic person being tested, same researcher, same glucose meter being used, consistent walking times (15-30 minutes.)

## EXPERIMENTAL GROUPS:

Patient walking.

## INDEPENDENT VARIABLE:

Patient's walking habits.

## DEPENDENT VARIABLE:

Patient's blood sugar.

## PROCEDURE

The course of the experiment will only occur on weekdays. For 1 week I will take the blood sugar of a diabetic person with no changes in their lifestyle. For the next 5 weeks after that they will begin to walk everyday for 15-30 minutes. Throughout those 5 weeks I will also be taking their blood sugar to see if it improves with the small changes that were made.

## DATA COLLECTION & ANALYSIS

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Week 1: No changes made</b>	BS: 372	BS: 270	BS: 181	BS: 176	BS: 294
<b>Week 2: Walkin for 15 mins.</b>	BS: 264	BS: 168	BS: 184	BS:	BS:
<b>Week 3</b>	BS:	BS:	BS:	BS:	BS:
<b>Week 4</b>	BS:	BS:	BS:	BS:	BS:
<b>Week 5: Walking for 30 mins.</b>	BS:	BS:	BS:	BS:	BS:
<b>Week 6</b>	BS:	BS:	BS:	BS:	BS:

## CONCLUSION

## Biology Honors Rubric

**Task:** Student will display the impact of diabetes on the physical conditions of organs. In addition the student will collect data on how simple adjustments to daily lifestyles can change their health.

**Driving question:** How is diabetes a catalyst for organ failure? How can organ failure be prevented for diabetics?

Student will be:

- creating 3-D models of arteries.
- creating an infographic about diabetes and organs.
- collecting data throughout the course of the project with a diabetic person.

	Criteria	Comments	Points
Infographic 30%	Infographic is clear, neat and explains the impact of diabetes on organs. Information is research based. Explains what diabetes is, how common it is and the correlation between diabetes and organ failure. Explains the functions of the heart and how diabetes directly affects the heart.		
Meaningful Purpose 20%	Project is authentic and serves a purpose of teaching people about healthier lifestyles.		

<p>Data Collection 30%</p>	<p>Data is consistent, organized and visually represented in the scientific method experiment format. Keeps track of blood sugar of patient for 7 weeks every day.</p>		
<p>3D Models 20%</p>	<p>Student put effort into creating 3D arteries (one showing a healthy artery and the other showing a diabetic artery.) If there were any complications Will was made aware.</p>		