Scientific Method
Biology
Ms. Ramirez

Name: _____ Period: _____ Date:_____

Application of Scientific Method

I. Background information:
   1. What is the scientific method?
   2. What are the steps to the scientific method?
   3. What importance does the scientific method have to humanity?
   4. Give an example of when you have used the scientific method before?

II. Student Answers:

1._____
_____
2._____
_____
3._____
_____
4. _____
_____

Today's objective is to determine the impact exercise has on heart rate. Predict what will happen to heart rate with an increase in number of exercise. Will there be a difference between boys and girls?

Purpose:

_____

_____

Hypothesis:

_____

_____

I. Activity:
   1. Take your heart pulse for one minute; write the number of heart rate per minute in your lab notebook.
   2. Do 20 jumping jacks and take your pulse for one minute; write the number of heart rate per minute. Repeat 3x.
   3. Do 40 jumping jacks and take your pulse for one minute; write the number of heart rate per minute. Repeat 3X.

4. Find an article that describes the difference in heart rate in boys vs girls during exercise. (Why is this step important?)
5. Discuss article with your partner. Is this a reliable resource? Why or why

# Jumping jacks	# Of heart rate per minute (bpm)				Girls average pulse	Boys average pulse
	1st	2nd	3rd	Average		
0						
20						
40						

II. Graphing Results:

Compare boys and girls heart rate pulse. Create graph that allows you to show these results. Write title of graph and identify independent and dependent variable.

III. Analyze the results:

What does the data collected describe?

Discuss your findings?

IV. Conclusion:

1. How do your results compare with the hypothesis you made?
2. What measurement did you use as a control in this investigation?
3. Why did you have to do three sets of each jumping jacks?
4. What are some possible sources of error in this experiment?
5. What modifications can be done to better this activity?
6. How can you connect the response our body had during jumping jack activity to homeostasis? Explain each reaction and link