



Name _____

Period _____

Date _____

Jumping Jacks/Heart Rate Lab

Define the problem. What is the purpose of the experiment?

Does heart rate increase when more jumping jacks are done?

State the hypothesis: (If...then)

If more jumping jacks are done, then heart rate will increase.

Control:

Resting heart rate

Independent Variable:

Number of jumping jacks

Dependent Variable:

Heart rate after doing jumping jacks

Constants:

Method of doing jumping jacks, person, resting time (1 minute), count heart beats for 15 seconds, multiply by 4 each time to get heart rate, use same location of pulse, perform jumping jacks in the same location

Materials List:

clock or stopwatch



Procedure:

1. Measure pulse for 15 seconds and multiply by 4 to get beats per minute for 0 jumping jacks. Record data
2. Perform 10 jumping jacks and immediately take pulse for 15 seconds, multiply by 4, and record data
3. Rest for 1 minute
4. Repeat steps 2 and 3 for trials 2 and 3
5. Repeat steps 2 and 3 for both 25 and 40 jumping jacks
6. When done with all jumping jacks, calculate the mean for each number of jumping jacks (add up the beats per minute for the three trials and divide by 3 for each number of jumping jacks. Round to the nearest hundredth).

Results/Data Table:

Heart Rate (beats per 15 seconds / beats per minute)

# of jumping jacks	Trial One	Trial Two	Trial Three	Mean
0	21 / 84	21 / 84	20 / 80	82.67
10				
25				
40				

Conclusion:

- Summarize Experiment
- Summarize Hypothesis
- Does the experiment support your hypothesis?
- Analyze data: mean/patterns
- Analyze variables: factors that can affect results

The researchers were trying to determine what happens to heart rate after doing a certain number of jumping jacks. Researchers thought that the heart rate would increase when the number of jumping jacks increased. The experiment supports the hypothesis because the mean heart rate increased each time the number of jumping jacks increased. The mean for 0 jumping jacks was _____ beats per minute (bpm). The mean for 10 jumping jacks was _____ bpm. For 25 jumping jacks, the mean was _____ bpm, while for 40 it was _____ bpm.

One factor that could have affected the results was ...

The reason why it could have affected the results was because...

Another factor was...

It could have affected the results because...