Name: CHOOSE TO CHANGE Date: _____

How Does Your Breathing Rate Compare?

Problem: How does your breathing rate change based on the type of activity your body is performing?

Identify Variables:

Independent: activity

Dependent: breathing rate

Control(s): how we measure breathing, air, how fast we inhale, exhale

Hypothesis: IF I perform more vigorous activities, THEN my breathing rate will _____ stay the same

Procedure: You will be completing various aerobic activities and counting the number of breaths you take after each. You will then compare your breathing rate between the various activities in the form of a graph.

1. You will sit silently in your chair for 1 minute and breathe normally. At the end of the minute you will count the number of breaths you take in 30 seconds and then record the number of breaths taken in the 30 seconds.
2. Next you will march in place for 1 minute. After the minute is up, sit silently in your chair and count the number of breaths you take in 30 seconds. Record that number.
3. Repeat step two but this time march in place for 2 minutes. After 2 minutes sit silently in your chair and count the number of breaths you take in 30 seconds. Record your number.
4. Repeat everything from step 2 but this time march in place for 2 minutes and at the same time push press a text book over your head. When the 2 minutes is up, sit silently in chair and count your breaths for 30 seconds and record.
5. Your data should be recorded in a data table and should then be plotted on a graph.

Data:

Activity	Breathing Rate (30 seconds)	Breathing Rate (breaths per minute) Hint: multiply by 2
Normal		
March (1 minute)		
March (2 minutes)		
March (2 minutes w/book)		

Analysis: Create a bar graph on a separate sheet of paper that displays your data. Be sure to give your graph a title, label the axes with titles, and use a ruler (straight lines, even spacing, etc.)

Questions:

1. Which of the activities resulted in the most number of breaths?

2. Why do you think that activity resulted in the highest number?

3. What is the ultimate purpose of breathing? (Note: do NOT say to stay alive. Be specific, what happens when we breathe?)

Title: _____