HU-GK 12 Program 10-25-07

Activity: The scholar will understand the basic concepts of interpreting and plotting data on a line graph

Title: "Is my heart beating?"

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DCPS Standards:

(ChaLC Goal)**., 8.1.3.**

*Scholars will learn how to chart information on a line graph with only the results of the experiment

*Analyze experiments and distinguish between independent and dependent variables

Goals:

1) The students will understand the basic concepts of interpreting line graphs and learn how to plot data to these graphs.

2) The students will view examples of line graphs in practical applications from a slide show presentation.

Objectives:

1) Given the concept of plotting a line graph the students will take heart-rates before and after doing 20 jumping jacks and use the information as a data set to plot a line graph

2) Given a slide show with various examples of line graphs the students will further understand the practical applications of line graphing.

Prerequisite Knowledge:

The students need to understand how to check heart-rates (beats of heart per minute).

The students will need to have basic knowledge of independent and dependent variables.

Materials:

1) Stopwatch
2) Graph paper
3) ruler

Procedure:

1) Organize into groups of 4 or 5
2) Two students will need to volunteer to be subjects of this experiment.
3) The other two students will be taking the heart rates of the students doing the exercising (heart-rate is taken in beats per minute).
4) The experiment will begin by taking the volunteering subject's resting heart-rate.
5) After the resting heart-rate is recorded the subject will do 20 jumping jacks and have their heart rate taken immediately after.
6) Record this heart rate.
7) Take heart rate every two minutes three more times, taking one minute intervals between each reading. Record this data
8) With five heart-rates recorded for two different individuals, plot the data on the graph paper, using two different colors (or symbols) for each individual.
9) Make sure to label the X and Y axis of the graph accordingly.

Note to teacher:

This lab can be modified accordingly. Some classrooms may not be able to handle this very involved lab so modify the directions to the level of your particular classroom setting. The concept of this lab is to give the students practical application of how line graphs are used. As long as the students learn how to make a graph and plot data on the graph, the lab will be a success.