Lab Template

Text: CORD Math (green book)
Volume: _____ Chapter: _____
Unit number: __11___ Title of unit: _Using Signed Numbers and Vectors
Developed by *(Include contact information)*: **Ellen Garr email: garrinc@plix.com**
Date: _____June 27, 2012_____

Attach the Following Documents:

1. **Lab Instructions**
2. **Student Handout(s)**
3. **Rubric and/or Assessment Tool**

Short Description (Be sure to include where in your unit this lab takes place):

This lab is done at the beginning of this unit as an introduction to signed numbers. It is a simple exercise in measuring pulse rate at different activity levels in order to compare their results between partners and the entire class. This will allow the students to develop the idea of negative and positive numbers used as a comparison tool.

Pulse Your Number

LAB PLAN

TEACHER: *Ellen Garr*

- **Lab Objective:** In this lab the students will learn to identify signed numbers and understand their meaning and purpose.

- **Vocabulary:** Pulse; positive; negative

- **State Standards addressed:** *(Highlight "Green" Standards, you may use your District's Power Standards if applicable)*
- **Math:**
  A1.1.A Select and justify functions and equations to model and solve problems.
  A.1.2.A Know the relationship between real numbers and the number line, and compare and order real numbers with and without the number line.
- **Leadership:**
  1.3 The student will demonstrate oral, interpersonal, written, and electronic communication and presentation skills and understands how to apply those skills.
  1.4 The student will be involved in activities that require applying theory, problem-solving, and using critical and creative thinking skills while understanding outcomes of related decisions.

- **Teacher Preparation:** *(What materials and set-up are required for this lesson?)*

- Materials: timers, student worksheet, calculator to determine averages
- Set-Up Required: Create class chart on board or overhead listing resting pulse; active pulse and recovery pulse

- **Lab Organizational Strategies:**
  - Grouping/Leadership/Presentation Opportunities: this activity will be done in pairs where one student can do the timing and the other gather the information. Then they will switch positions
  - Time-line: About 15 minutes
  - Directions to students:
    - Introduce taking own pulse using either radial artery or carotid artery. Demonstrate and make sure everyone can find his or her pulse.
    - Explain the students will each take their own pulse at three different activity levels – resting, active and recovery.
    - Recording needs to be done on their own paper and on the board or overhead.
    - Practice taking a pulse for 10 seconds. Discuss how to get their pulse for 60 seconds (one minute) as that is the one they will be using. (Multiply 10 second result by 6)

- **Post Lab Follow-Up/Conclusions** *(to be covered after student completes lab)*
  - Discuss real world application of learning from lab: Discuss how the comparison of individual results to the class results can be written so they make sense. Introducing signed numbers.

Name: _____

Pulse Your Number

You will be working with your partner to take your pulse at three different activity levels. But before we start, find your pulse.

Count your pulse for 10 seconds (teacher timed). Enter it in the box below.

Figure out what your pulse is for a minute (60 seconds)

10 second pulse
60 second pulse

(*You will need to change all your readings to 60 seconds*)

Begin Lab:

1. You and your partner will now take turns to determine your pulse at different activity levels. Your partner will use the timer and time the required amount for you and you will time for your partner. Take turns and complete both of your charts.

Resting Pulse	**Activity Pulse**	**Recovery Pulse**
Sit or lie down then breath deeply and totally relax for one minute. Take your pulse for 10 seconds and record:	Choose a high energy exercise – jumping jacks or running in place and do it for 1 minute. Take your pulse for 10 secs:	Sit down, breath deeply and relax for two minutes. Take your pulse for 10 seconds and record:
Find your 60 second pulse:	Find your 60 second pulse:	Find your 60 second pulse:

2. When both you and your partner have determined all your pulse rates at the 60-second level, add them to the class list on the board or overhead.
3. Compare your resting pulse to your activity pulse. Did your pulse increase or decrease? _____ _____ How about from your activity pulse to your recover pulse? _____ _____ Your recovery pulse to your resting pulse? _____
4. Record your partner's pulse results and determine if your pulse was higher or lower than your partners?

Resting Pulse	Activity Pulse	Recovery Pulse

5. Record the class average pulse results and determine if your pulse was higher or lower than the class average?

Resting Pulse	Activity Pulse	Recovery Pulse

6. How do you think we can write numbers we are comparing to show that they increase or decrease? That they are higher or lower? You may discuss this with your seat partner.