

## Science 9-Biology

### Activity 9C—Changing the Beat



\_\_\_\_\_

10

Name \_\_\_\_\_

Due Date \_\_\_\_\_

Show Me  Hand In

*Correct and Hand In Again By* \_\_\_\_\_

- You are to complete this activity in **pairs**.
- **One person** will do the running on the spot and **the other** will read and record the heart rates.
- After one partner is done roles will be **switched**.
- The teacher will organize and assist students in **calculating the averages**.

#### Procedure:

1. Complete Procedures 1-5 on page 184 of Science Probe 9 text.  
**Record your results in the following table:**

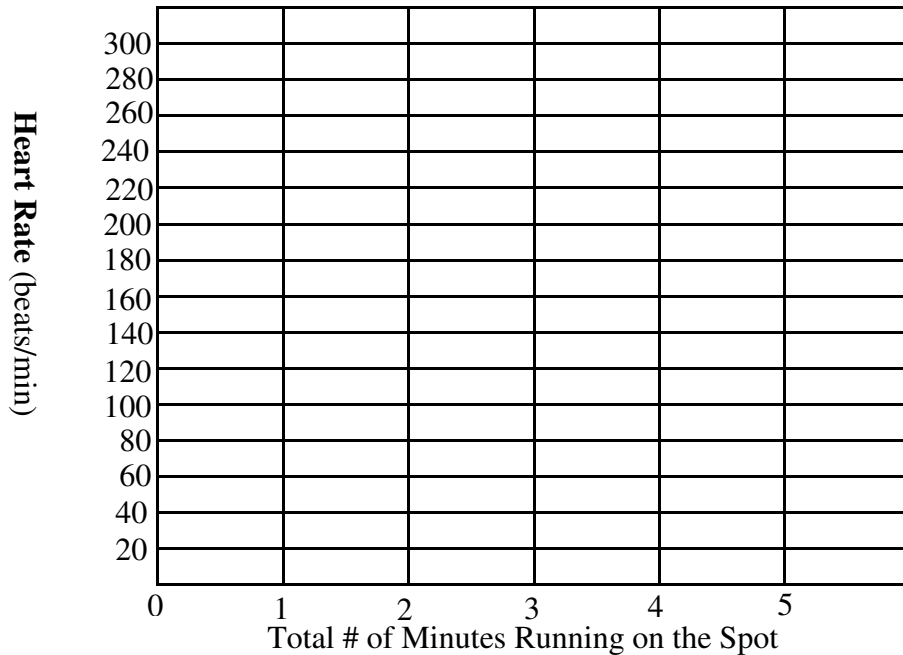
Amount of Time Running (minutes)	My Heart Rate (Beats per 15 seconds)	My Heart Rate (Beats per minute)
<b>Resting</b>		x 4 →
<b>1</b>		x 4 →
<b>2</b>		x 4 →
<b>3</b>		x 4 →
<b>4</b>		x 4 →
<b>5</b>		x 4 →

- The teacher will have a big table to fill in on the board. Decide which fitness group you are in (low, medium or high fitness) and record your results for resting and each time period of running.

As a class, we will determine the averages for each group. Use these averages to fill in the following table:

Amount of Time Running (minutes)	Average Heart Rates (Beats per Minute)		
	Low Fitness	Medium Fitness	High Fitness
Resting			
1			
2			
3			
4			
5			

- Plot the results of Average Heart Rate (beats/min) vs Total of Minutes Running on the Spot (min) on the following graph. Plot a Graph for your own results and for each Fitness Level. Use different colours for your results and for each fitness group. Make a **Legend!**



**Questions:**

1. Try to think of **TWO** reasons why your heart rate needs to **speed up** when you do strenuous exercise.

1. \_\_\_\_\_

2. \_\_\_\_\_

2. Look carefully at the lines on your graph. Can you see any **differences** between the lines for the three different fitness groups? \_\_\_\_\_ If so, describe these differences in your own words. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. If possible, suggest some reasons to **explain these differences**, if any. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. How does the line for **your results** compare with the other lines on the graph. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Suggest what this might mean. \_\_\_\_\_

5. Would it possible to **change your average heart rate** in an activity like this if you did it again in a few months.? \_\_\_\_\_ If so, **how** might you do it? \_\_\_\_\_

\_\_\_\_\_