Name: _____ Group: _____ Date: _____

LAB 55
EXPERIMENT

THE EFFECT OF PHYSICAL EFFORT ON RESPIRATORY RHYTHM

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Goal

Determine the effect of physical effort on respiratory rhythm.

1. What is the independent variable in this lab?

_____

_____

2. What is the dependent variable in this lab?

_____

_____

Hypothesis

I think that _____

because _____.

Materials

- stopwatch *or* watch indicating seconds

Procedure

1. Count the number of breaths taken at rest in 30 seconds. Record the result.
2. Run in place for 15 seconds.
3. Count the number of breaths taken in 30 seconds. Record the result.
4. Run in place for 1 minute.
5. Count the number of breaths taken in 30 seconds. Record the result.
6. Run in place for 2 minutes.
7. Count the number of breaths taken in 30 seconds. Record the result.

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Results

Record your results in the table below. Give the table a title.

Title:

Duration of physical effort (sec)	Number of breaths per 30 seconds

Analysis of the results

1. Did your respiratory rhythm vary according to physical effort? If yes, in what way?

_____

_____

2. What is the reaction occurring in the cells of your body that gives you the energy to run?

_____

_____

3. What gas that is toxic for the body forms during physical effort?

_____

_____

4. What are the possible sources of error in this lab?

_____

_____

5. How could you improve the protocol for this lab?

_____

_____

Name: _____ Group: _____ Date: _____

Conclusion

1. Complete the following sentence:

During physical effort, respiratory rhythm _____ to allow the body to consume _____ and expel _____.

2. Was your hypothesis confirmed or not? Explain your answer.

_____

_____

Application

During marathons, runners sometimes must run a distance of 42 kilometres. It takes more than two hours to cover this distance. Does respiratory rhythm increase constantly during a marathon?

_____

_____

_____