Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Temperature, Pulse and Respiration

**Purpose**

The purpose of this exercise is to determine the normal ranges of temperature, respiration and pulse and analyze those factors which affect these ranges.[[1]](#endnote-1)

**Procedure**

 **Materials**

1. Animals of the same species (3-4 well socialized dogs or livestock)
2. Thermometers
3. Stethoscope

**Sequence of Steps**

1. ![C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmf]()Determine the proper method to measure temperature, pulse, and respiration for the species of animal. Review the procedures at the end of this lab for general recommendations.
2. Write the steps on the lab sheet provided
3. With the lab sheet provided, practice taking your own resting pulse and respiration.
4. ![C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmf]()With a lab partner, take the temperature, pulse and respiration of one of the animals.
5. Record the information in the table.
6. Trade information with other groups to complete the table.
7. ![C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmf]()Measure the pulse rates and respiration of the subjects after exercise. (Ask your teacher the proper length of time to exercise the animal.)
8. Record the information in the table
9. ![C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmf]()Trade information with other groups to finish the table.
10. Calculate the difference in respiration and pulse for one of the animals
11. Complete the Analysis questions

**![C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmf]()**

**Pre-Lab Questions**

1. List the steps to properly take the temperature of an animal.
2. Describe how to properly take the pulse of an animal. (small and larger)
3. Describe how to properly take the respiration of an animal.

**Observations**

1. Practice taking your own resting Pulse and Respiration.

Your Pulse: \_\_\_\_\_\_\_\_\_\_\_\_ Your Respiration: \_\_\_\_\_\_\_\_\_\_\_\_\_

1. Take the temperature, pulse, and respiration of the provided animals **BEFORE** exercising. Be sure to record units (degrees F, Beats/min., Breaths/min)

|  |  |  |  |
| --- | --- | --- | --- |
| Animal | Temperature (˚F) | Pulse (Beats/min) | Respiration (Breaths/min) |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

1. Measure the pulse and respiration rates of the subjects **AFTER** exercise.

|  |  |  |  |
| --- | --- | --- | --- |
| Animal | Minutes Exercised | Pulse (Beats/min) | Respiration (Breaths/min) |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

1. What is the difference in the pulse rate and respiration of the animals after they have been exercised? (use the resting/exercised information from the same animal)

Animal Name/ID # \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pulse Rate: Resting \_\_\_\_\_\_\_Bts/min

 Exercised \_\_\_\_\_\_\_Bts/min

 Difference \_\_\_\_\_\_\_Bts/min

Respiration Rate: Resting \_\_\_\_\_\_Breaths/min

 Exercised \_\_\_\_Breaths/min

 Difference \_\_\_\_\_Breaths/min

Analysis:

1. Did the animal’s pulse rate increase or decrease after exercising?
2. What requirements does that body have that causes the difference in respiration and pulse rates?
3. What factors affect body temperature? Why might animals of the same species and environment have varying temperatures?

**Recommended Procedures**

**Taking the Body Temperature of Animals[[2]](#endnote-2)**

* + Control the animal.
	+ Move the tail to the side.
	+ Put the thermometer gently into the anus, as far as possible.
	+ Hold the thermometer at an angle so that it touches the wall of the rectum. Keep a firm grip on the thermometer, if the animal defecates or coughs the thermometer could come out or go into the rectum.
	+ Hold the thermometer in place for half a minute. If you do not have a watch count slowly up to 30 (one, two, three, ............ thirty).
	+ Remove the thermometer and wipe it if necessary and read it. Do not touch the bulb as this could change the reading.

**Normal Body Temperatures of Animals**

|  |  |  |  |
| --- | --- | --- | --- |
| **Animal** | **Normal Temperature ˚C** | **Animal** | **Normal Temperature ˚C** |
| Cattle | 38.5 | Calf | 39.5 |
| Buffalo | 38.2 | Goat | 39.5 |
| Sheep | 39 | Camel | 34.5-41.0 |
| Llama, alpaca | 38 | Horse | 38 |
| Donkey | 38.2 | Pig | 39 |
| Chicken | 42 | Piglet | 39.8 |

**Calculating Pulse Rate**

Pulse rate can indicate whether an animal is in distress (rate higher than normal), or if the animal is not getting enough blood flow because an outside agent has caused the heart to beat too slowly. Every time the heart beats it sends a pulse along the arteries. You can feel it at certain points on the body. By feeling the pulse we can count the rate at which the heart beats. Use a stethoscope to listen to the pulse rate of the animal. Compare this to other animals of the same species.

**Calculating Respiration Rate**

Respiration (breathing) consists of inspiration (breathing in) and expiration (breathing out). When an animal takes a breath, air goes in and out of the lungs. The lungs allow oxygen to pass into the blood stream and carbon dioxide to flow out. Count the number of breaths an animal takes in a 60 second period. Compare this to other animals of the same species. Also indicate other observations, such as sound of breathing and whether extreme effort must be exerted by the animal to breathe.

1. Parson, Katy (2008). Temperature, Pulse and Respiration Lab. *Golden Valley High School, Bakersfield* [↑](#endnote-ref-1)
2. A Manual for Primary Animal Healthcare Workers. Retrieved July 31, 2009, from FAO Corporate Document Repository Web site: <http://www.fao.org/docrep/t0690e/t0690e04.htm> . [↑](#endnote-ref-2)