Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_

Virtual Graphing Lab: Controlled Temperature Data

Part I: Data Collection Directions:

* Access the virtual lab link:

http://www.glencoe.com/sites/common\_assets/science/virtual\_labs/E16/E16.html

* Select the “Wool” tab
* Click and drag the black jackets into the first closet
* Click and drag the blue jackets in the second closet
* Click “Test”
* Record the temperature data in “Data Table 1”
* Repeat the above steps for the remaining colors: Green, Yellow, and White
* Calculate the average jacket temperature for each color
* Repeat the above steps for the remaining jacket material types: Nylon (Data Table 2) and Denim (Data Table 3)

# Data Table 1: WOOL Jacket Temperatures

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Black | Blue | Green | Yellow | White |
| Jacket 1 Temperature  (C) |  |  |  |  |  |
| Jacket 2 Temperature  (C) |  |  |  |  |  |
| Jacket 3 Temperature  (C) |  |  |  |  |  |
| Average  Temperature (C) |  |  |  |  |  |

# Data Table 2: NYLON Jacket Temperatures

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Black | Blue | Green | Yellow | White |
| Jacket 1 Temperature  (C) |  |  |  |  |  |
| Jacket 2 Temperature  (C) |  |  |  |  |  |
| Jacket 3 Temperature  (C) |  |  |  |  |  |
| Average  Temperature (C) |  |  |  |  |  |

# Data Table 3: DENIM Jacket Temperatures

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Black | Blue | Green | Yellow | White |
| Jacket 1 Temperature  (C) |  |  |  |  |  |
| Jacket 2 Temperature  (C) |  |  |  |  |  |
| Jacket 3 Temperature  (C) |  |  |  |  |  |
| Average  Temperature (C) |  |  |  |  |  |

Part II: Bar Graph

Directions: Create a bar graph following the guidance below.

* Graph Title
* X Axis: Jacket Color o Each jacket color will have 3 bars: Wool, Nylon, Denim o Represent material types by using a graph key
* Y Axis: Temperature (C)
* Graph Key: Labeling jacket type colors

Part III: Analysis Questions

Directions: Answer the questions below using the data you collected in your data table and data represented in your bar graph.

1. Which type of jacket (wool, nylon, denim) absorbed the most heat for all 5 colors?

1. Which jacket color absorbed the least amount of heat?

1. Which jacket color absorbed the most heat?

1. If you were to travel to the desert in Arizona and wanted to stay as cool as possible while keeping your arms covered to avoid sunburn, what type & color of jacket would you wear?

1. If you were to travel to Antarctica to see Penguins in their natural habitat, what type and color of jacket would keep you the warmest?