“50% Caffeine” Solution

## **Week #1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tray with a plant** | **Amount of radish plants in a tray** | **Amount of large leaves** | **Amount of medium leaves** | **Amount of small leaves** |
| #1 | 1  1 | 2  2 | 2  2 | No  No |
| #2 | 1  1 | 3  2 | 1  1 | No  1 |
| #3 | 1  1 | 4  no | No  4 | 1  no |
| #4 | 1  1  1  1 | no  2  3  no | no  2  1  no | 4  1 newborn  no  4 |
| #5 | 1  1  1 | 2  2  no | 2  2  no | no  no  4 |
| #6 | 1  1 | 3  2 | 1  1 | no  1 |
| #7 | 1  1  1  1 | 1  1  no  2 | no  1  3  2 | 1 newborn  1 newborn  no  no |
| #8 | 1  1 | 4  no | no  1 | 1 newborn  3 |
| #9 | 1  1 | 2  2 | 2  2 | No  no |
| #10 | 1  1  1 | 2  3  4 | 2  1  no | no  1 newborn  no |

The table above shows **how** the data is being collected. Further on the tables will be showing only the averages of the data collected from the plants. So it will be easier to see the difference in the results of plant growth during the different weeks.

Totaling all the information above we can see that there is:

|  |  |
| --- | --- |
| **Size of the leaves** | **Amount of the leaves in the 50 % caffeine samples** |
| Large | 48 |
| Medium | 33 |
| Small | 18 |
| Newborn | 5 |

The leaves have green color and the stems have pale green color. The table below shows the average width and length of the leaves:

|  |  |  |
| --- | --- | --- |
| **Size of the Leaves** | **Average Length** | **Average Width** |
| Large Leaves | 2.26 cm | 2.4 cm |
| Medium Leaves | 1.6 cm | 1.85 cm |
| Small Leaves | 1.05 cm | 1.16 cm |
| Newborn Leaves | .52 cm | .43 |

**The average height of plants is 3.83 cm.**

The acquired data is similar to the data from non – caffeine and 25% solution plants. The leaves reached the medium size and newborns appeared, now they grew up to small size, and a very few newborns can be observed.

### **Week #2**

The results are shown below in the table:

|  |  |
| --- | --- |
| **Size of the leaves** | **Amount of the leaves in the 50 % caffeine samples** |
| Large | 41 |
| Medium | 50 |
| Small | 10 |
| Newborn | 5 |

My explanation for the data above would be that the small plants grew up to the medium size and the newborns appeared, but that they are still in process of appearing, because there is not that many small leaves. And I am going to think that during the next several days the amount of newborns will increase to continue the increase in the amount of the new pairs of leaves that appeared after the first set of small ones reached medium size.

Below you will see the table with average length and width of the leaves:

|  |  |  |
| --- | --- | --- |
| **Sizes of the Leaves** | **Average Length** | **Average Width** |
| Large Leaves | 2.96 cm | 2 cm |
| Medium Leaves | 1.43 cm | 1.8 cm |
| Small Leaves | 1.77 cm | 2.1 cm |
| Newborn Leaves | .86 cm | .6 cm |

**The average height of plants is 6.45 cm.**

**Week #3**

|  |  |
| --- | --- |
| **Size of the leaves** | **Amount of the leaves in the 50 % caffeine samples** |
| Large | 36 |
| Medium | 57 |
| Small | 41 |
| Newborn | 23 |

|  |  |  |
| --- | --- | --- |
| **Sizes of the Leaves** | **Average Length** | **Average Width** |
| Large Leaves | 4.73 cm | 3.53 cm |
| Medium Leaves | 3.5 cm | 2.55 cm |
| Small Leaves | 2.4 cm | 1.83 cm |
| Newborn Leaves | .76 cm | .5 cm |

**The average height of plants is 8.56 cm.**

**Week #4**

|  |  |
| --- | --- |
| **Size of the leaves** | **Amount of the leaves in the 50 % caffeine samples** |
| Large | 38 |
| Medium | 49 |
| Small | 29 |
| Newborn | 25 |

|  |  |  |
| --- | --- | --- |
| **Sizes of the Leaves** | **Average Length** | **Average Width** |
| Large Leaves | 5.08 cm | 3.70 cm |
| Medium Leaves | 3.83 cm | 2.63 cm |
| Small Leaves | 2.63 cm | 1.55 cm |
| Newborn Leaves | 1.30 cm | 1.15 cm |

**The average height of plants is 8.73cm.**

**Week #5**

|  |  |
| --- | --- |
| **Size of the leaves** | **Amount of the leaves in the 50 % caffeine samples** |
| Large | 37 |
| Medium | 46 |
| Small | 27 |
| Newborn | 22 |

|  |  |  |
| --- | --- | --- |
| **Sizes of the Leaves** | **Average Length** | **Average Width** |
| Large Leaves | 4.95 cm | 3.83 cm |
| Medium Leaves | 3.48 cm | 3.00 cm |
| Small Leaves | 2.33 cm | 1.95 cm |
| Newborn Leaves | 1.23 cm | .90 cm |

**The average height of plants is 8.98 cm.**

The temperature and humidity are measured at the beginning of each week:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Weeks of watering with caffeine:** | **Minimum temperature of the week** | **Maximum temperature of the week** | **Humidity when the temperature was minimum** | **Humidity when the temperature was maximum** |
| #1 | 1ْC | 51ْC | 53% | 55% |
| #2 | 1ْC | 51ْC | 43% | 43% |
| #3 | 1ْC | 51ْC | 54 % | 56% |
| #4 | 1ْC | 51ْC | 44% | 44% |
| #5 | 1ْC | 51ْC | 73% | 74% |