**Title: Carnation Color Scientific Investigation**

**Hypothesis**

Read through the procedural information for this scientific investigation. Based on your understanding of the procedure, develop your own hypotheses which describe your expected results. You should consider the following questions: how will the food coloring affect the color of the white carnations? Will one of the colors create a deeper colored flower or do the colors all absorb to the same degree? Record these hypotheses below:

**Data**

Use the tables provided belowto record your data from this scientific investigation.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Observations During the Experiment** | | | | |
| **Time** | **Cup 1 Red Food Coloring** | **Cup 2   Blue Food Coloring** | **Cup 3  Green Food Coloring** | **Cup 4 Control** |
| **4 hours** |  |  |  |  |
| **8 hours** |  |  |  |  |
| **12 hours** |  |  |  |  |
| **16 hours** |  |  |  |  |
| **20 hours** |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Observations After the Experiment** | | | | |
| **Time** | **Cup 1 Red Food Coloring** | **Cup 2   Blue Food Coloring** | **Cup 3  Green Food Coloring** | **Cup 4 Control** |
| **24 hours** |  |  |  |  |

**Data Analysis**

Provide responses to the following questions.

1. Using your knowledge of vascular tissues, why did the carnations change colors?
2. Which carnations changed color the quickest? Why did this happen?
3. How can this experiment help you better understand how water quality and pollution can affect our plants?

**Conclusion**

Compose three-to-four sentences describing an overall conclusion based on your data. Explain why the carnations changed colors when added to water containing different food coloring. Use the data and notes that you collected from your investigation to form your conclusion. Be sure you include information that you gained from data analysis to support your conclusion.

**Experimental Sources of Error**

Provide responses to the following questions: **Are there any sources of error? If so, what are they, and what could be done to minimize error?**



Once you have completed the *Carnation Color Scientific Investigation Report*, please submit your work to the dropbox.