“Scientists Are Thinkers”

Question/Problem: What do we want to find out?

Does temperature affect the growth of butterflies?

Hypothesis: What do we think we will find out? Make a prediction.

Temperature will affect the growth of butterflies.

Materials: List what you will need to test the hypothesis

1) painted lady butterfly larva
2) food medium
3) culture vessel/cover with hole/filter paper
4) Camera
5) Thermometer
6) Paper
7) Pencil
8) net
9) box for pupa stage of development

Procedures/Steps: State step by step what you are going to do……specifically

1) Collect painted butterfly larvae.
2) Give one or two larvae to each student.
3) Measure and record the length of the caterpillars and date of measurement.
4) Place caterpillars and food in culture vessel, label with each students name or number.
5) Place half of the culture vessels (Group A) in a high position in a room, like over a bookcase or high shelf or by a window or both. Record the temperature in this location.
6) Place the other half of caterpillars and food (Group B) in a cooler location in the room away from the windows and closer to the floor. Note the temperature in this location. The temperature should be at least 2 degrees lower.
7) Check both culture vessels with larvae daily and record any minor change you observe in the way the look and sizes of the caterpillars. To be sure, take pictures of your caterpillars’ everyday. If possible, measure larvae and record size, date, and temperature for both groups.
8) Try to collect data at approximately the same time each date.
9) Record the time and the date on which the caterpillars in each location become chrysalises.

Observe and Record Data: List, picture, chart, graph

Group A	Date	Temperature	Size (cm)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			

Group B	Date	Temperature	Size (cm)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			

Attach pictures to lab

Graph Data

Analysis/Results: What does the data tell us?

1. Graph and chart your data and compare your results from Group A and Group B.
2. Record whether the caterpillars in each location grew at the same rate, which group grew the fastest and write down the factors you think to be the reason.
3. Explain patterns in your data.

Conclusion: What did I learn? What does it make me want to learn next?

Write whether or not your data supported your hypothesis. If not, explain the reasons. Evaluate your project and make suggestions for improvements.