Designing Craters: Creating a Deep Impact	Looking for Patterns and Making Predictions

STUDENT HANDOUT PART 1

DIRECTIONS

1. Exchange data charts and graphs with other groups within the class, so that you have new data and graphs for at least two different factors. Study the data and graphs carefully to find patterns.

2. Using the patterns you find in classmates' data charts and graphs, make predictions for two of the factors that your group would like to test next. This means that you should pick several values of the factor being tested that were NOT done by the original group and see if you can guess from the data what the size (diameter and depth) of the new crater will be. Fill in the first three columns of Tables 1 and 2.

Table # 1: Factor being tested_____

Value of Factor	Crater Diameter Predict.	Crater Depth Predict.	Crater Diameter Results	Crater Depth Results

Table # 2: Factor being tested _____

Value of Factor	Crater Diameter Predict.	Crater Depth Predict.	Crater Diameter Results	Crater Depth Results

3. Referring to the procedures outlined on the original group's poster, test your predictions in Table #1 above by repeating the experiment using different values of the factor. Fill in the results in the last two columns of Table #1.

4. Now, turn your attention to Table #2 above. Access the experiment apparatus as well as the procedures indicated on the other group's poster. Conduct a second experiment to test the predictions you made in Table #2. Record the results in the last two columns of Table #2.

5. Analyze both Tables #1 and #2. As a group, discuss the following questions and write your reflections in the space below. Did you get the results you predicted? Are there changes you can make to the pattern you saw in the original data that could explain your new data? Are there other reasons for the discrepancy (something in the way you carried out the experiment might have been different from the original group, etc.)? How could you improve your predictions?