

Evaluation of Investigating the Height of a Stack of Cookies

CHM 101

Fall 2006

n = 19

1. How would you characterize the use of the "just add data" interactive Excel spreadsheet for this activity? Circle your choice. 3.5 89% no difficulty

very easy	easy	so, so	difficult	very difficult
2	8	7	1	1

2. Did you happen to notice that the rulers did not have the zero centimeter mark at the end? 53% noticed error

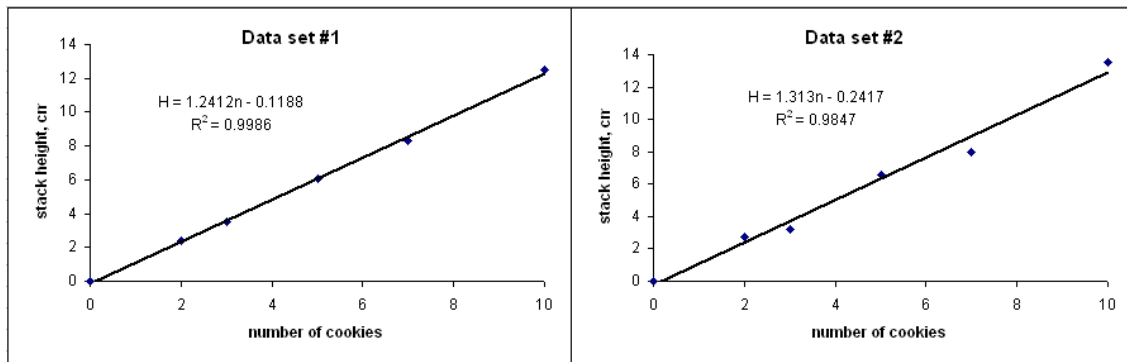
Yes	No
10	9

3. If you did (circled yes in question 2), did you correct for it? Be honest! 37% corrected error

Yes	No	no answer
7	10	2

4. What is the stack height of zero cookies? 0 cm 100%
They know this but can't translate it to $y = mx + b$ that $b = 0$.

5. Here are two graphs of different data sets.



Which data set shows more variation in the thickness of the cookies?

Data set #1	Data set #2	Don't know
0	19	0

Explain your choice.

Only 12 of 19 (63%) could explain it correctly

They see the scatter but can't address it correctly in an explanation. Nobody commented on r^2 .

Correct explanation:

- There is more vertical space (error) between the data/line.
- The data set 2 points are more scattered.
- The dots are not exactly on the line.
- Because the points are above and below the line.
- Because the points in data 2 are more scattered than that in data 1.
- The data points are scattered on the graph.
- The dots are off the line more.
- For set 2, points from outside of regression line randomly on both sides.

Data set 1 all points are aligned on graph.

- Data set 2 is scattered signifying a variation of the thickness of individual cookies evident in the height of stacks.
- Because the plot on data set 2 is scattered as compared to data set 1.
- Because data set 2 has randomly placed or scattered points and no plot [point] lies on the regression line, a characteristic I observed with the variation in thickness of cookies graph.
- #1 is a steady increase, while #2 shows the stacks are varied.

Incorrect explanation including two blank responses:

- Because the height of the cookies in set 2 are graphed higher.
- Different choices
- Because the data are not accurate.
- The dots are at varying heights. (yes - on both graphs!)
- The y-intercept is not as close to zero as the first data table. The further it is from zero the greater the variation of thickness.

Any overall comments about the activity:

- It was very effective and I was able to learn something new.
- It was not easy to do.
- It was fun.
- These activities require too much brain energy. However, I appreciate the challenge.
- It was okay.
- Activity was good.
- It was an interesting activity.
- Good activity