



# CONNECTING STATISTICS TO THE ALGEBRA CLASSROOM

*Doug Tyson*



# UPCOMING SESSIONS OF INTEREST

- 463.4 Promoting Success on the AP Exam with The Practice of Statistics, by Daren Starnes, Josh Tabor, Luke Wilcox
  - Friday, 1:30-2:30, 33 C
- 486 Connecting Statistics to the Algebra Classroom, by Doug Tyson
  - Friday 1:30-2:30, Sapphire AB Hilton Bayfront
- 515.4 Two Great Options for On-Level Statistics, by Daren Starnes and Josh Tabor
  - Friday, 3:00-4:00, 33 C
- 635.4 AP Statistics Panel Discussion, with Daren Starnes, Josh Tabor, Chris Olsen, and Stephanie Ogden from the College Board
  - Saturday, 9:30-10:30, 33 C

# LEARNING TARGETS

**LT 1:** I can decide which linear model is best using the least-squares criterion.

**LT 2:** I can interpret the slope and intercept of a linear model.

**LT 3:** I can use logarithms to transform data.



# WHY TEACH PROBABILITY AND STATISTICS?

*“Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write.”*

*-H.G. Wells*

*“That day is upon us.”*

*-Doug Tyson*



# MY PEDAGOGICAL APPROACH

When you look around a classroom, the people who are talking the most, thinking the most, and the writing the most are the ones who are learning the most.



CREDIT WHERE IT IS DUE

Paul Myers



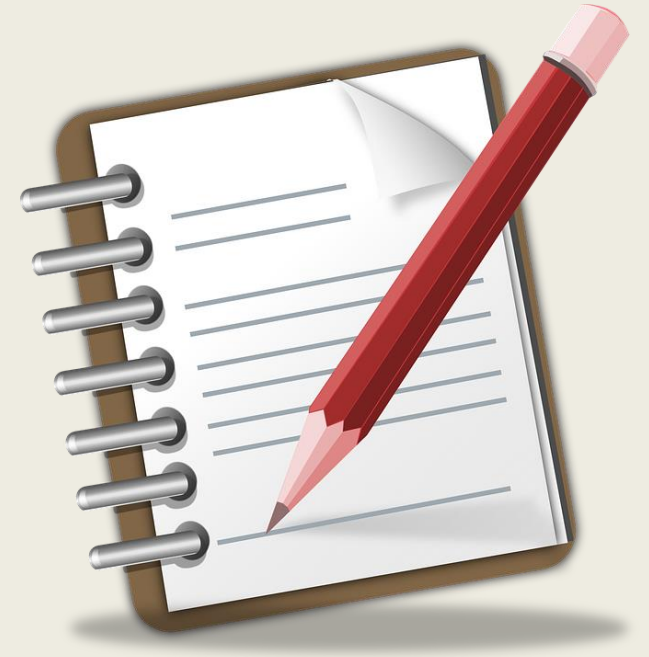


# ACTIVITY 1 – MODELING WITH STARBURSTS



# Notes

- Be prepared to have students doing something else while collecting data...
- Emphasize the difference between the model (predicted  $y$ ) and the data (actual/observed  $y$ ).
- <http://rossmanchance.com/applets>  
Least Squares Regression



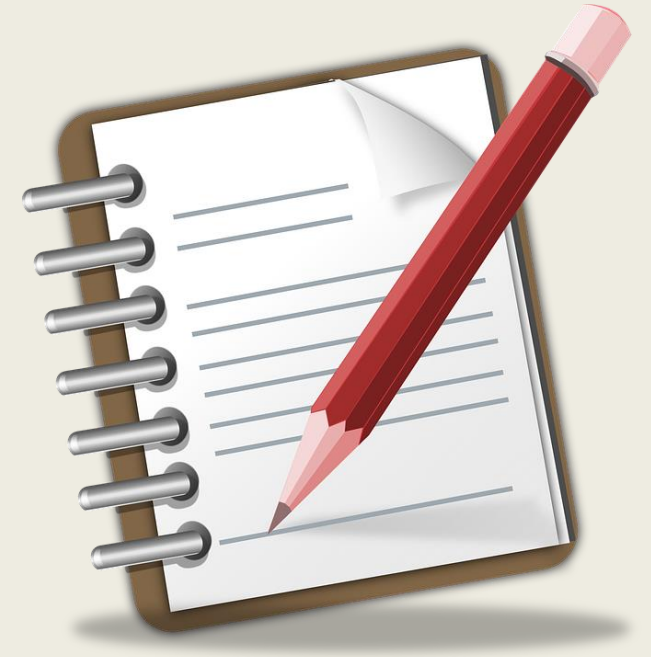


# ACTIVITY 2 – WHEN ARE WE EVER GOING TO USE LOGARITHMS?



# Notes

- For the posts-per-day-average example, use common log (not natural log) because it has a common sense interpretation
- Transforming data provides a way to re-express unfamiliar data
- [stapplet.com](http://stapplet.com)  
One Quantitative Variable, Multiple Groups  
Two Quantitative Variables



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# Statistical literacy

“Even if you believe that every student can’t learn statistics, I believe school policy should operate as if they can.”

- Zalman Usiskin, ICOTS9



# Contact me

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