

## Olympic Gold

by – Bill Becker

### Activity overview

*This activity takes a deeper look into the use of linear regressions. It addresses some of the limitations and common mistakes encountered with regressions.*

### Concepts

- *The Least-Squares Regression Line*
  - *Lurking Variables & Their Effects*
  - *Extrapolation And Its Limitations*
  - *Outliers & Their Effects On Regressions*
  - *The Effects of Points With High Leverage And/Or Residual.*
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### Teacher preparation

*The teacher will need to transfer the Olympic Gold file to the Nspire handhelds.*

*The teacher will need to have taught the students how to use the various statistical functions and familiarity on the TI N-Spire (CAS) calculators. Or the teacher can lead the students through the steps as a whole class. The teacher will need to have taught the various regression concepts including correlation, variance and finding linear regressions.*

### Classroom management tips

*The teacher should monitor students during this activity and assist as needed.*

### TI-Nspire Applications

- *Olympic Gold*
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### Step-by-step directions

- Install the file *Olympic Gold* on the Nspires.
- Instruct the students to open *Olympic Gold* file on their Nspires.
- There is a worksheet provided but the same questions are imbedded in the calculator assignment so the students only need a piece of paper.

The lesson is self paced so expect students to finish at different times. A follow up assignment involving regressions is suggested.