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**Anna Varvak\***, Pauling Hall 428, 1 University Drive, Aliso Viejo, CA 92656. *Explore the world through Worldbank: using open data in Liberal Arts Math to explore the world's past and project future trends.*

Introduction to the philosophy and basic techniques mathematical modeling is quite accessible to college students who have little more than shaky high-school Algebra. Various reliable statistics about countries around the world are freely available for free through Worldbank and other reliable sources, to anyone with an internet connection and a spreadsheet software. For some of the statistics, it's important to discuss their definitions (e.g. "fertility rate"). Some statistics are clear outright (e.g., number of births and deaths) yet even then, it's important to consider how these statistics are collected and recorded, and how the recorded estimates may differ from reality. Many of these statistics have been reliably collected and recorded for decades. Graphing lets students make hypotheses about possible trends. The students extend the trends into the future: they clarify how they expect the country's statistic to change from year to year, and use the spreadsheet to compute the projected values. The students then examine the plausibility of their model, and compare different models. Models include discrete versions of linear, exponential and logistic models, and models predicting changes in first and second derivatives. (Received August 25, 2015)