

1056-BC-1266      **Alan D Gould\*** ([agould@berkeley.edu](mailto:agould@berkeley.edu)), Univeresity of California, Lawrence Hall of Science,  
Berkeley, CA 94720-5200. *Mathematics Concepts Needed in the Global Systems Science Course.*

The Global Systems Science project (GSS; <http://lhs.berkeley.edu/gss>) created an integrated interdisciplinary course for high school that deals with societal issues that require science for full understanding, e.g. climate change, loss of biodiversity, population growth, ecosystem change and energy use. The mathematics principles that underlie the science are very important elements of the course. Math skills needed include probability, proportions and scale, percentage, exponential growth, logarithmic scales, algebra, geometry, and of course analysis of graphs. For this paper/presentation, we focus in particular on tools for graphing and analyzing CO<sub>2</sub> concentration data that is readily available through the Internet, as well as the mathematics required for understanding the concept of "payback time" – how long it takes to recoup up-front costs with energy-saving technologies such as efficient light bulbs and solar electric systems. (Received September 21, 2009)