

1046-Z1-2015

Thomas B Fox* (fox@uhcl.edu), 1 Camino Santa Maria #18, Casa Maria Community, San Antonio, TX 78228. *Developing Conceptual Underpinnings of the Derivative in courses before Calculus.*

An activity for developing the conceptual underpinnings of the derivative will be examined. Using the context of population change, average and instantaneous rates of change are studied. The activity also develops the following important characteristics of graphs: relative maxima/minima, concavity, inflections points, local linearity, and the increasing/decreasing behavior of a function's graph. The activity is suitable for students in either college algebra or a pre-calculus course; students need to be familiar with the concept of the slope of a straight line in order to successfully complete the activity. (Received September 16, 2008)