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This paper extends the theoretical framework for exploring student understanding of the concept of the derivative, which was developed by Zandieh. We expand upon the concept of a physical representation for the derivative by extending Zandieh's map of the territory to provide higher resolution in regions that are of interest to those operating in a physical context. We also introduce the idea of "thick" derivatives, which are ratios of *small* but not *infinitesimal* changes, which are practically equivalent to the true derivative. (Received September 13, 2014)