1125-VW-472 **'Kale Oyedeji*** (`kale.oyedeji@morehouse.edu`), Department of Phyics, Morehouse College, Atlanta, GA 30314-3773, and **Ronald E. Mickens** (`rmickens@cua.edu`), Department of Physics, Clark Atlanta University, Atlanta, GA 30314. *Mickens Law of Cooling.*

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An object placed in an environment such that the two systems have different temperatures will either increase or decrease its temperature according to whether $T_0 < T_e$ or $T_0 > T_e$. The widely used Newton's law of cooling can be used to determine the temperature of the object at time t, i.e.,

$$\frac{dT(t)}{dt} = -\lambda \left[T(t) - T_e \right], \quad T(0) = T_0, \quad t > 0, \tag{1}$$

where λ is a positive parameter. A major unwanted feature of Eq. (1) is that its solution takes an unlimited amount of time to reach the equilibrium temperature in contrast to experimental evidence that T_e is achieved in a finite time. We discuss and generalized a resolution to this enigma proposed by Mickens (Georgia Journal of Science, Vol. 67 (2009), pp55). His formulation replaces Eq. (1) by the expression

$$\frac{d\Delta}{dt} = -\lambda \left[\text{sign}(\Delta) \right] |\Delta|^p, \quad \Delta(0) = \Delta_{0.}$$

where $\Delta(t) = T(t) - T_e$ and $0 < p < 1$. (Received September 03, 2016)