

1145-97-95 **Kimberly Spayd*** (kspayd@gettysburg.edu). *Using Real Data to Study the Heat Equation.*

The heat (diffusion) equation is one of the fundamental topics discussed in any introductory Partial Differential Equations course. As a basis for student motivation, understanding and application of the mathematical model, student groups experimented with the physical phenomenon: heating a long, thin, metal rod with prescribed boundary conditions. The experiments occurred during the second class meeting of the semester, before any rigorous mathematical development. Temperature data collected from the experiments were used later in the semester for a project which included both analytical and numerical components. The experimental set-up and execution will be discussed, along with the perceived impact on student learning. (Received July 28, 2018)