Mathematics Through the Eyes of Physics

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This unit is designed for students at the 10th or 11th grade level. It integrates math and physics in something as simple as motion. The vigorous promotion of mathematics and science education has been seen in the recent years at the state and district level. Teachers are encouraged to teach across the curriculum. Some of the goals set are to empower students by enabling them to do science and mathematics and increasing their confidence in their ability to do so. The intent of this unit is for students to recognize the relevance of mathematics in understanding fundamental physics concepts. In addition, students will apply their knowledge of science and mathematics in meaningful activities.

Mathematics is a subject that evinces the least interest in most of the students I teach. It becomes more difficult when studied in isolation since the concepts are abstract. I have therefore, integrated some simple physics laws we use in everyday life with the math. Since mathematics is intrinsic to physics the equations and concepts in mathematics come alive in the light of physics. Students will learn the mathematical concepts involved in the equations of motion and the laws that govern motion. To make it interesting and engage students in meaningful activities, I have included two physics experiments in this unit. The unit utilizes Pennsylvania state standards for 10th and 11th graders in mathematics and science.