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Kinematics of a PASCO Motorized Cart LUKE TROWBRIDGE[1], RACHEL PETERS[2], ANNE FRANCHEK[3], KEN TAYLOR[4], Lake Highlands High School in Dallas — A PASCO motorized cart is used to study the kinematic behavior of the cart when driven by a variety of waveforms produced by a PASCO 750 Interface and Power Amplifier II. The various shapes presented by the waveforms determine the time behavior of the driving voltage applied to the cart motor. Since students are typically exposed only to constant acceleration and sinusoidal acceleration (for example, due to simple harmonic motion), these waveforms provide an opportunity for students to study the functional relationships between positions, velocities and accelerations for cases that lie beyond the normal curriculum.

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