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DROP TOWER PHYSICS: A New Exciting Educational Tool

WILLIAM DITTRICH, Portland Community College — Drop Tower Physics is a new and exciting classroom tool which will challenge, educate and captivate your students. Using the Drop Tower at Portland State University, the author has investigated and videotaped the behavior of standard physics demonstrations such as a floating cork, stack of coins, pendulum (simple, compound and chaotic), mass spring oscillator, and gyroscope. When the Drop Box is released into micro gravity, these demonstrations transition from $g = 9.8 \text{ m/s}^2$ to effectively zero for 2.1 seconds. The question to pose to yourself and your students is: How do these demonstrations behave after the transition? This question goes to the foundation of scientific exploration: hypothesis, confirmation theoretically and finally experimental comparison. In the case of Drop Tower Physics, often the results are quite different than the theoretical predictions made – challenging the future exploration of theory and tantalizing your students. This process ultimately leads to greater understanding and attention to the topic. Join this session and experience Drop Tower Physics yourself!

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