

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Roadrunner physics: using cartoons to challenge student preconceptions RACHAEL HUXFORD, MATHEW RIDGE, JAMES OVERDUIN, JIM SELWAY, Towson University — The cartoon universe is governed by laws that differ radically from those in the real world, but also mirror some of our preconceptions of how the world “should” work. We all know that Wile E. Coyote will never be able to catch the Roadrunner with a fan attached to a sailboard, or an outboard motor submerged in a pail of water—but *why*, exactly? Can we attach some numbers to this knowledge? We have designed some classroom demonstrations accompanied by personal-response-type questions that use classic cartoon clips to challenge student thinking in introductory courses, prompting them to rediscover the truths of physics for themselves. We extend this idea to intermediate-level modern physics, showing that some phenomena in the cartoon universe can be reconciled with standard physics if the values of fundamental constants such as c , G and h differ radically from those in the real world. Such an approach can both heighten student interest and deepen understanding in various physics topics.

Rachael Huxford
Towson University

Date submitted: 06 Feb 2016

Electronic form version 1.4