

Abstract Submitted  
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**A tale of two slinkies: learning about scientific models in a student-driven classroom** PUNIT GANDHI, University of California, Berkeley, CALVIN BERGGREN, Texas Lutheran University, JESSE LIVEZEY, RYAN OLF, University of California, Berkeley — We describe a set of conceptual activities and hands-on experiments based around understanding the dynamics of a slinky that is hung vertically and released from rest. The motion, or lack thereof, of the bottom of the slinky after the top is dropped sparks students' curiosity by challenging their expectations and provides context for learning about scientific model building. This curriculum helps students learn about the model building process by giving them an opportunity to enlist their collective intellectual and creative resources to develop and explore two different physical models of the falling slinky system. By engaging with two complementary models, students not only have the opportunity to understand an intriguing phenomenon from multiple perspectives, but also learn deeper lessons about the nature of scientific understanding, the role of physical models, and the experience of doing science. The activities we present were part of a curriculum developed for a week-long summer program for incoming freshmen as a part of the Compass Project at UC Berkeley, but could easily be implemented in a wide range of classrooms at the high school or introductory college level.

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