

Abstract Submitted
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Making the tacit explicit: An interdisciplinary kinematics active learning tool BANJO ORIADE, Dept. of Physics and Astronomy Dupont Interdisciplinary Science Learning Laboratories — We present an interdisciplinary, science active learning and assessment tool. At this poster you will actively engage the tool and see some of the data from using tools like this in an introductory physical science course. One utility of this tool is helping secondary and college introductory physics students acquire a better sense of acceleration in relation to velocity, and to the trajectory of moving objects. We have low and high technology versions. Both versions comprise 1) a record of student predictions elucidated by a set of questions prepared with elements of surprise and in the spirit of guided inquiry, 2) followed by experimentation, 3) analysis of data from student experimentation, and 4) pausing in a conclusion and reflection part in which the learner comes up with a question of their own to repeat the steps on. ¹ Equipment needed for the experiment include a ball and a timepiece (or camera). The high technology version uses VideoPhysics. The central question in step 1) is "You throw a ball behind you from chest level in front of you. What are the odds that you catch this ball behind you, with the same hand that threw it without turning your body around?" Our tool aims at making tacit knowledge more explicit for learners.

¹Design from AJP 78, 1265 (2010)

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