

BI7 6:30 p.m. Student Concepts of Gravity in Astronomical Contexts

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Teaching the concept of gravity and the universal nature of gravitation in any physics or astronomy classroom can be difficult. While students may be able to generate numerical answers from algebraic equations, they do not necessarily have a good conceptual understanding of how gravity works in astronomical contexts. Do pens float on the moon? Does the Earth pull on astronauts in a space shuttle? According to diagnostic instruments we have developed, the answers indicate conceptual difficulty with gravity, especially when the question looks like a “common sense” question rather than a “physics” question. These diagnostics have now been administered to over 1700 students in introductory physics and astronomy classes at the community college and university levels. Results from this diagnostic and information from follow-up interviews will be presented.