

BJ02 6:30 p.m. Student Concepts of Gravity in Introductory Astronomy and Physics Courses

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Teaching the concept of gravity and the universal nature of gravitation in any physics or astronomy classroom can be difficult. Students often become quite adept at generating numerical answers from algebraic equations, yet lack a good conceptual understanding of how gravity works. This can be seen in introductory courses in both physics and astronomy. Is there gravity in space? Do objects and/or astronauts float when on the Moon? We have developed diagnostic instruments to investigate these conceptual difficulties with gravity as well as instructional worksheets to help teach these concepts more effectively. The diagnostics have now been administered to nearly 2,000 students in introductory physics and astronomy classes on the community college and university levels. Results from the diagnostics and information from the worksheets and follow-up interviews will be presented.