

PHYSTC19-2018-000012

Abstract for an Invited Paper  
for the PHYSTC19 Meeting of  
the American Physical Society

### **Sports on the Moon**

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One day humans will thrive on the Moon for extended periods of time. Similar to life on Earth people will engage in exercise and entertainment. Sports can satisfy both of these needs. This “sports on the Moon” challenge has been attempted by high school students, college students, teachers, scientists and engineers (including some NASA scientists). This presentation will also describe how this type of challenge can be used to improve science instruction. The challenge is one of nine chapters in *Active Physics*, a high school curriculum project, conceived and developed by AAPT, APS, and AIP with NSF support. The curriculum uses a 7E instructional model (engage, elicit, explore, explain, elaborate, extend, evaluate) at both the lesson level and the chapter level. At the lesson level, students are *engaged* through a cartoon. Teachers then *elicit* students’ prior understanding of the science content. The students then *explore* the science through an investigation. After completing the investigation, students *explain* their results and the teacher helps place their explanations into a larger theoretical structure. The students and teacher then *elaborate* this content and see how it applies to related situations. Finally, the students *extend* their understanding by transferring the science content to their chapter challenge – developing a sport that can be played on the Moon. Throughout the lesson, the teacher is *evaluating* student understanding.