

Abstract Submitted  
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**Identifying Amusement Park Physics Curriculum Enhancements for USU Physics Day at Lagoon**<sup>1</sup> JOHN DENNISON, ACHAL DUHOON, Utah State Univ, PHILLIP LUNDGREEN, Utah State Uni — To enhance the educational benefits for secondary students attending USU Physics Day at Lagoon, extensive web-based STEM curricula have been developed to support activities both during Physics Day and in the classroom before and after the annual one-day event. We report on our evaluations of 12 years of teacher surveys and educator recommendations to identify the most sought-after and effective enhancements to the Physics Day contests and curriculum including improvements for physics topics and content, effective and teacher-friendly lesson formats, ties with standard curriculum objectives, and incentives. USU Physics Day is one of the Intermountain West region's oldest and largest STEM outreach activities (<https://physicsday.usu.edu/>). Held annually at Lagoon Amusement Park for the last 32 years, it has in recent years had annual participation of ~10,000 students and ~600 teachers from over 130 high schools and middle schools. Amusement park physics accesses associative learning situations, and utilizes hands-on activities to apply basic concepts studied in physics and physical science classrooms; it also instills excitement about science by focusing on myriad real-world examples of physics principles so ideally demonstrated at an amusement park.

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