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Making Waves Everyday: How Students Learn about Wave Phenomena through the Learning Cycle MARIANNE TORALES, ESC Region 19, MILIJANA SUSKAVCEVIC, University of Texas at El Paso, JESUS CARRILLO, El Paso Independent School District — This study describes development and implementation of a four-week, project-based unit on wave phenomena and its impact on high school students enrolled in the physics class. The 5E learning cycle served as the unit's educational model, requiring students to engage their prior knowledge on sound and light, explore and explain the wave concepts using activities developed and adopted by the physics education team, elaborate on the topic with the support of computer simulations, and evaluate the present and future applications of waves - specifically in the fields of industry and medicine. A number of qualitative and quantitative measures were used to determine the impact of the intervention on students' understanding of the topic. The preliminary findings show significant shifts from students' misconceptions to conceptual understanding of these important physics concepts.

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