Why integrate Earth science?

In early 2022, PEER Physics recognized the growing need for physics courses to incorporate Earth science standards. As some districts and states continue transitioning to a three-course model—where students take biology, chemistry, and physics—educators face the important task of ensuring Earth science standards are meaningfully integrated across these courses. A robust set of standards that must be thoughtfully woven into chemistry, biology, and physics curricula.

PEER Physics is committed to supporting partners in meeting these evolving needs by offering a seamless option for integrating Earth science standards within our physics curricular materials. Our approach to this integration emphasizes high-quality, collaborative curriculum development to provide resources that align with state and national standards for Earth science.

Unlike many curricula and textbooks that are produced rapidly by a single developer, PEER Physics follows an iterative, collaborative process that brings together physicists, physics education researchers, and practicing teachers. To address the integration of Earth science standards, we expanded our development team and engaged Earth scientists and educators with expertise in Earth science. Teachers from Denver Public Schools, Seattle Public Schools, and Mesa County Valley School District 51 worked alongside us to develop and refine the PEER Physics Earth Science Explorations and Anchoring Phenomena.

Today, these efforts have resulted in Anchoring Phenomena options for the Magnetism Unit and the Waves Unit, grounded in the contexts of seafloor spreading and earthquakes, respectively. These materials are designed to help students apply physics and Earth science principles to make sense of complex phenomena. Rather than treating Earth science as an add-on, the units intentionally connect physics principles with Earth science ideas to provide a cohesive learning experience.