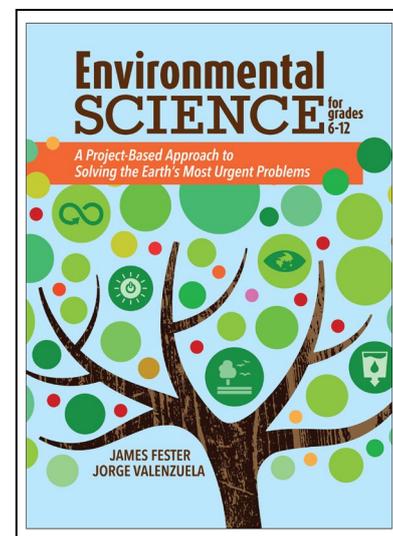


Environmental science for Grades 6–12

A project-based approach to solving the earth's most urgent problems

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Summary

Environmental science (ES) education is essential to preparing today's students for the future. We must create opportunities for hands-on investigations that explore complex environmental problems in order to find solutions and meet the challenges of our changing world. Educators looking to bring ES-focused experiences to their students can turn to technology and social-emotional learning (SEL) strategies to connect students with real-world situations and citizen science opportunities, while fostering empathy and a love for the natural world.

Project-based learning (PBL), with its emphasis on inquiry and authentic challenges, can be an effective approach to teaching ES. Those new to PBL may not feel they have adequate training. Likewise, teachers who haven't taught ES may question how to incorporate it into their curriculum. This book addresses both situations, providing practical guidance for teachers, along with examples of technology-rich, learner-centred student projects addressing timely topics such as sustainability, human impact and climate change.

This book:

- helps teachers design learning experiences that model authentic problems and processes practiced by scientists and engineers to prepare students for future careers in science
- addresses diversity, equity and inclusion in ES, and shares resources and strategies for addressing racial equity
- introduces facilitation techniques that support increased student agency, the development of critical-thinking skills and an expanded awareness of their place in the global community
- includes a chapter that focuses on applying the principles and strategies shared in the book in an online learning environment
- addresses Next Generation Science Standards (NGSS) topics in environmental science and is aligned to the ISTE Standards for Educators.

Other resources

- *Make the future! Hands-on sustainability lessons, set of 4* (HB6651)
- *Make the future! Hands-on sustainability lessons for Years 7 & 8* (HB5732)
- *The changing earth: STEM road map for middle school, Grade 8* (NST2120)
- *Uncovering student ideas in earth and environmental science: 32 new formative assessment probes* (NST7564)
- *Higher-level thinking questions: Life & earth sciences* (KAN3066)
- *Learning to read the earth and sky: Explorations supporting the NGSS, Grades 6–12* (NST1215)
- *Argument-driven inquiry in earth and space science: Lab investigations for Grades 6–10* (NST7033)