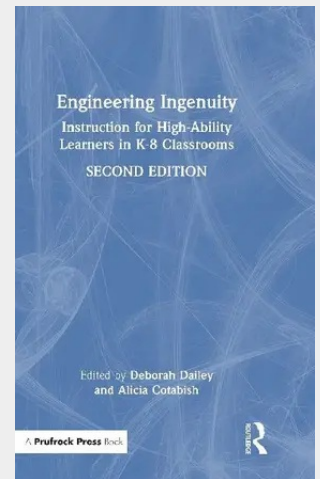


Engineering Ingenuity

Instruction for High-Ability Learners in K-8 Classrooms

Engineering Ingenuity: Designing Innovative Engineering Instruction for High Ability Learners in K-8 Classrooms, 2nd Edition offers a groundbreaking exploration of innovative strategies, interdisciplinary approaches, and cutting-edge technologies designed to empower gifted and talented students in STEM education. This updated edition dives deeper into the intersection of engineering, creativity, and advanced cognitive abilities, providing educators with actionable frameworks to inspire the next generation of problem solvers and innovators. Chapters explore interdisciplinary learning by integrating science, mathematics, reading, and engineering design to create dynamic, inquiry-based experiences that foster critical thinking and innovation. This new edition also highlights the transformative potential of artificial intelligence and machine learning in personalized learning, addresses equity and inclusion in STEM by providing strategies to overcome barriers faced by underrepresented Black and Hispanic students, and emphasizes the importance of guided play in developing early math and spatial skills. Additionally, it explores problem-based learning to deeply engage students with engineering concepts and enrichment opportunities that nurture their interests and talents. Packed with evidence-based strategies, practical examples, and visionary insights, this comprehensive resource equips educators, administrators, and parents with the tools they need to transform K–8 classrooms into hubs of creativity, collaboration, and innovation, ensuring high-ability learners thrive in engineering and STEM fields.

Engineering Ingenuity: Instruction for for High-Ability Learners in K-8 Classrooms offers a groundbreaking exploration of innovative strategies, interdisciplinary approaches, and cutting-edge technologies designed to empower gifted and talented students in STEM education.



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