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Descrizione fisica	1 online resource (VIII, 287 p. 63 illus., 54 illus. in color.)
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Soggetti	Child development Technical education Mathematics—Study and teaching Science education Early Childhood Education Engineering/Technology Education Mathematics Education Science Education
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Chapter 1 Early Engineering: An introduction to young children's potential -- Section 1 Engineering Thinking and Habits of Mind -- Chapter 2 Engineering in the early grades: Harnessing children's natural ways of thinking -- Chapter 3 Encouraging the development of engineering habits of mind in Prekindergarten -- Chapter 4 Habits of Mind and Early Engineering Education -- Chapter 5 Spatial skills framework for young engineers -- Chapter 6 Identifying Engineering in a PreK classroom: An observation protocol to support guided project-based instruction -- Chapter 7 Assessing early engineering thinking and design competencies in the classroom -- Section 2 Engineering Curriculum Design and Development -- Chapter 8 Engineering concepts, practices, and trajectories for Early Childhood Education -- Chapter 9 The integration of high-quality Literature, Engineering Design, and STEM content to promote meaningful student learning -- Chapter 10 Novel Engineering in Early Elementary classrooms -- Chapter 11 Books, Butterflies, and 'Bots: Integrating

	engineering and robotics into Early Childhood curricula -- Chapter 12 Seeds of STEM: The development of a problem-based STEM curriculum for Early Childhood classrooms -- Concluding Points -- Chapter 13 Engineering Education in Early Childhood: Reflections and future directions.
Sommario/riassunto	This book addresses engineering learning in early childhood, spanning ages 3 to 8 years. It explores why engineering experiences are important in young children's overall development and how engineering is a core component of early STEM learning, including how engineering education links and supports children's existing experiences in science, mathematics, and design and technology, both before school and in the early school years. Promoting STEM education across the school years is a key goal of many nations, with the realization that building STEM skills required by societies takes time and needs to begin as early as possible. Despite calls from national and international organisations, the inclusion of engineering-based learning within elementary and primary school programs remains limited in many countries. Engineering experiences for young children in the pre-school or early school years has received almost no attention, even though young children can be considered natural engineers. This book addresses this void by exposing what we know about engineering for young learners, including their capabilities for solving engineering-based problems and the (few) existing programs that are capitalising on their potential.