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Disciplina	005.437
Soggetti	Science education Mathematics—Study and teaching Technical education Child development Educational technology Science Education Mathematics Education Engineering/Technology Education Early Childhood Education Technology and Digital Education
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- What is unique about Junior STEM? -- STEM and Affect in Adolescence: A Cultural-Historical Approach -- Supporting Students' Productive Collaboration and Mathematics Learning in Online Environments -- Representation Construction: A Guided Inquiry Approach for Science Education -- Making STEM Curriculum Useful, Relevant and Motivating for Students -- Innovations in Teacher Preparation for STEM: The value of the theory-practice nexus -- Successful Students-STEM Program: Teacher learning through a multi-faceted vision for STEM education -- The Importance of Diagrams, Graphics and Other Visual Representations in STEM Teaching -- Digital Technologies and Junior Secondary: Learning with and about Digital Technologies -- STEM Education in the Brazilian Context: An

Ethnomathematical Perspective -- Enlivening STEM education through school-community partnerships -- Inserting Critical Mathematics into STEM Education.

Sommario/riassunto

This book brings together a collection of internationally renowned authors in the STEM field to share innovations in the teaching of STEM. It focuses on the junior secondary years of education (students aged 11-15), since this is the age range in which students choose whether or not to formally opt out of STEM education. It is here that the book makes a significant contribution to the field by integrating the STEM area and focusing on the junior years of schooling. While developing this book, the editors drew on two main premises: Firstly, STEM is seen as the integrated study of science, technology, engineering and mathematics in a coherent learning paradigm that is based on real-world applications. Secondly, it is important to integrate digital technologies into STEM education beyond the superficial use of ICTs seen in many schools. The book also addresses the challenges within STEM education – many of which are long-standing. To this end, it includes chapters on marginalised and diverse communities, ensuring that a broad range of perspectives on STEM education is included.
