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Titolo	Novel engineering, K-8 : an integrated approach to engineering and literacy / / Elissa Milto [and four others]
Pubbl/distr/stampa	Arlington, Virginia : , : NSTA Press, National Science Teaching Association, , [2020] 2020
ISBN	1-68140-643-8
Descrizione fisica	1 online resource (xvii, 252 pages) : illustrations
Collana	Gale eBooks
Disciplina	620.00712
Soggetti	Engineering - Study and teaching (Elementary) Engineering - Study and teaching (Secondary)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	section I. What is novel engineering? -- section II. Case studies from the classroom -- section III. Enacting novel engineering.
Sommario/riassunto	"Picture your students designing a hearing aid for the main character in El Deafo-and then disguising it as a fashion accessory. Or imagine them helping the shipwrecked Swiss Family Robinson build a structure to keep them cool under the hot sun. Novel Engineering shows how your students can use anything from a picture book to a novel to a historical text as the basis for an engineering design challenge. This innovative resource will have your students pulling information from literature to identify a problem. Then, using details from the story, they'll apply the engineering design process to develop functional solutions for their "clients"-the book's characters. Novel Engineering provides you with plenty of practical guidance for integrating engineering and English language arts (ELA), including a thorough introduction to the concept and detailed implementation advice. But the book comes to life through five in-depth case studies featuring the use of novels, a biography, and a nonfiction historical text. In addition to demonstrating Novel Engineering projects in the classroom, the case studies let you practice thinking about what your own students' work could look like and how you would respond. You'll see that this approach doesn't require books outside your existing ELA or social

studies curriculum or a specific building-materials kit. You'll also see that Novel Engineering can help you engage students in a powerful new way. As the authors write, "We have been encouraged by the excitement that students and teachers have shown for their work during Novel Engineering units. ... Students have taken ownership of their learning and are able to navigate the steps of the engineering design process, creating functional solutions to problems they have identified in texts."

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