1. Record Nr. UNINA9910785875303321

Autore	Molina Concepcion <1952->
Titolo	The problem with math is English [[electronic resource]] : a language-focused approach to helping all students develop a deeper understanding of mathematics / / Concepcion Molina
Pubbl/distr/stampa	San Francisco, : Jossey-Bass, 2012
ISBN	1-118-23702-1 1-283-60391-8 9786613916365 1-118-22362-4
Descrizione fisica	1 online resource (306 p.)
Collana	Jossey-Bass teacher The problem with math is English
Classificazione	EDU029010
Disciplina	372.7
Soggetti	Mathematics - Study and teaching English language - Study and teaching Language arts - Correlation with content subjects
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Machine generated contents note: About the AuthorAbout This BookIntroductionJulian's StoryRationale and PurposeWho Benefits from This Book?Chapter 1: The Problem with Math Is English (And a FewOther Things)Why Language and Symbolism?What We Are TeachingTurning the Tide: A Sampling of ApproachesMathematics Is About Relationships Connecting the Pieces and Looking Ahead Chapter 2: Why a Language Focus in Mathematics?The Convergence of Mathematics and English: More Than Just VocabularyProblems Based on the English LanguageA Number of Problems with NumberChapter 3: Language and Symbolism in Traditional InstructionShortcomings of Traditional InstructionMore Language and Symbolism Issues: Adding Fuel to the FireTell Me Again Why the Language Focus in Math?Chapter 4: So What Does Conceptual Understanding Look Like?It Starts with DefinitionsMaking Connections in Math: Beyond Connecting DotsThe Interpretation and Translation of MathConclusionChapter 5: The Order of Operations: A Convention or a Symptomof What Ails Us?The Roots of the RulesThe Natural Order: A Mathematical PerspectiveConclusion: A

Conceptual Understanding of the Order of OperationsChapter 6: Using Multiplication as a Critical Knowledge BaseUnderstanding Key Definitions and Connections&Interpreting MultiplicationUsing the Power of the Distributive PropertyFeeling Neglected: The Units in MultiplicationConclusion: Small Details, Huge ImpactChapter 7: Fractions: The "F Word" in MathematicsDefining Fractions: Like Herding CatsThe Fraction KingdomInterpreting FractionsConclusionChapter 8: Operations with FractionsAdding and Subtracting FractionsMultiplying FractionsDividing FractionsSummaryChapter 9: Unlocking the Power of Symbolism and VisualRepresentationSymbolismVisual RepresentationThe Power of Interpretation: Three Perspectives of TrapezoidsSummaryChapter 10: Language-Focused Conceptual InstructionLanguage Focus: Beyond the DefinitionsThe Secrets to Solving Word ProblemsSuggested Instructional StrategiesSummaryChapter 11: Mathematics: It's All About Relationships!Language and Symbolism: Vehicles for Relationship RecognitionRelationships and FractionsProportional ReasoningRelationships: Important ConsiderationsRelationships: Making Powerful ConnectionsSummaryChapter 12: The Perfect Non-Storm: Understanding the Problem and Changing the SystemA Systemic IssueMath MakeoverSummaryBibliography.

Sommario/riassunto

"Teaching K-12 math becomes an easier task when everyone understands the language, symbolism, and representation of math conceptsPublished in partnership with SEDL, The Problem with Math Is English illustrates how students often understand fundamental mathematical concepts at a superficial level. Written to inspire ?aha? moments, this book enables teachers to help students identify and comprehend the nuances and true meaning of math concepts by exploring them through the lenses of language and symbolism, delving into such essential topics as multiplication, division, fractions, place value, proportional reasoning, graphs, slope, order of operations, and the distributive property. Offers a new way to approach teaching math content in a way that will improve how all students, and especially English language learners, understand math Emphasizes major attributes of conceptual understanding in mathematics, including simple yet deep definitions of key terms, connections among key topics, and insightful interpretation This important new book fills a gap in math education by illustrating how a deeper knowledge of math concepts can be developed in all students through a focus on language and symbolism"--