



Connecting Arithmetic to Algebra: Strategies for Building Algebraic Thinking in the Elementary Grades

By Susan Jo Russell, Deborah Schifter, Virginia Bastable

Heinemann Educational Books, United States, 2011. Paperback. Book Condition: New. 234 x 185 mm. Language: English . Brand New Book. To truly engage in mathematics is to become curious and intrigued about regularities and patterns, then describe and explain them. A focus on the behavior of the operations allows students starting in the familiar territory of number and computation to progress to true engagement in the discipline of mathematics. -Susan Jo Russell, Deborah Schifter, and Virginia Bastable Algebra readiness: it s a topic of concern that seems to pervade every school district. How can we better prepare elementary students for algebra? More importantly, how can we help all children, not just those who excel in math, become ready for later instruction? The answer lies not in additional content, but in developing a way of thinking about the mathematics that underlies both arithmetic and algebra. Connecting Arithmetic to Algebra invites readers to learn about a crucial component of algebraic thinking: investigating the behavior of the operations. Nationally-known math educators Susan Jo Russell, Deborah Schifter, and Virginia Bastable and a group of collaborating teachers describe how elementary teachers can shape their instruction so that students learn to: *notice and describe consistencies across...



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Reviews

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Grade 1. Represent and solve problems involving addition and subtraction. CCSS.Math.Content.1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.1.Â CCSS.Math.Content.3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends. Introduction to the Teaching Strategies for Improving Algebra Knowledge in Middle and High School Students Practice Guide . . . 1 Recommendation 1. Use solved problems to engage students in analyzing. algebraic reasoning and strategiesÂ â€¢ Promoting process-oriented thinking. The guide emphasizes moving beyond a primary focus on the correct final answer to algebra problems to also promoting the understanding of the processes by which one arrives at an answer. Chapter 2: introduction to algebra algebraic expressions simplifying algebraic expressions solutions of algebraic equations addition principle multiplication principle using the principles together. Chapter 3: word problems problem solving strategies words for operations general word problems. Chapter 4: graphing and straight lines rectangular coordinates graphing functions straight lines.Â I offer it in the hope that it will help someone to understand the concepts of algebra. I make no guarantee that this work is free from errors, in fact it is quite likely that I have goofed up an example or two.