



## Prime building blocks in the mathematics classroom

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*Abstract.* This theoretical paper is devoted to the presentation of the manifold opportunities in using a little-known but powerful mathematical manipulative, the so-called prime building blocks, originally invented by two close followers of Tamás Varga, to support discovery of various concepts in arithmetic in middle school, including the Fundamental Theorem of Arithmetic or as it is widely taught, prime factorization. The study focuses on a teaching proposal to show how students can learn about greatest common divisor (GCD) and least common multiple (LCM) with understanding, and meanwhile addresses internal connections and levels of abstractness within elementary number theory. The mathematical and methodological background to understanding different aspects of the concept prime property are discussed and the benefits of using prime building blocks to scaffold students' discovery are highlighted. Although the proposal was designed to be suitable for Hungarian sixth graders, mathematical context and indications for the use of the manipulative in both primary and high school are given.

*Key words and phrases:* number theory, concept formation, manipulative, IBE, Varga method.

*MSC Subject Classification:* F60, C30, E40, U60.

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