

ZMATH 2015e.00908

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Untangling geometric ideas.

Teach. Child. Math. 20, No. 8, 508-515 (2014).

Summary: Designed for a broad audience, including educators, camp directors, afterschool coordinators, and preservice teachers, this investigation aims to help individuals experience mathematics in unconventional and exciting ways by engaging them in the physical activity of building geometric shapes using ropes. Through this engagement, the author anticipated that individuals would develop conceptual understandings that moved beyond the memorization of algorithms. After engaging physically and mentally in this activity, participants in diverse settings were able to verbally express their conceptual understandings of topics related to geometric measurement that are often difficult to grasp, such as area, perimeter, and triangle classification. The author presents the main components of the Untangling Geometric Ideas activity and a description of how it took shape as it was used with different audiences of participants. This geometry lesson uses the work of abstract artist Wassily Kandinsky as a springboard and is intended to promote the conceptual understanding of mathematics through problem solving, group cooperation, mathematical negotiations, and dialogue. (ERIC)

Classification: M80 G40 D80

Keywords: geometry; geometric concepts; manipulative materials; concept formation; activities; mathematics and art; problem solving; cooperative learning; creative teaching; triangles

<http://www.nctm.org/publications/article.aspx?id=41634>