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Making STEM connections.

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Summary: Integrated approaches to education in science, technology, engineering, and mathematics (STEM), especially those set in the context of real-world situations, can motivate and deepen students' learning of the STEM subjects. This article describes two integrated investigations used with mathematics and science teachers of grades 5–12 who participated in a three-year mathematics and science partnership called Engineering STEM Success. The coauthors, two science educators and one mathematics educator, describe how the investigations were used to deepen teachers' knowledge of mathematics and science and make connections among STEM content areas. The investigations incorporated the first three phases – Engagement, Exploration, and Explanation – of the 5E learning cycle model used for teaching science through inquiry. These three phases are synonymous with the Launch-Explore-Summarize teaching and learning model found in middle school mathematics curriculum materials. In this article, the authors describe what happened in these three phases of the investigations and also offer commentary on what they learned. This article includes suggestions for using the investigations with secondary school students. (ERIC)

Classification: M50 D40 D80

Keywords: interdisciplinary instruction; modeling; investigations

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