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Second differences: A mathematical bridge between two projects.

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Summary: Making connections is one of the most important foundations involved in learning mathematics. Two projects are presented in this article: one involving Newton's Second Law of Motion and the other involving the determination of star numbers, a type of figurate number. The two invoke seemingly different modalities for students at different levels of mathematical maturity, and yet they share a deep academic connection.

Classification: M55 F65 B50

Keywords: discovery learning; inquiry; contextual problem-based learning; patterning; sequences; second differences; star numbers; figurate numbers; Chinese checkers; Newton's second law of motion

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