

## Making Binomial Probabilities Exciting

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In this application, students select the number of trials. A quincunx simulation, also known as a bean machine or Galton box, is then used to make a prediction of the number of balls (trials) falling into a given slot. The prediction makes use of mathematical expectation and the Binomial Theorem. Combinations, probability, and the difference between theoretical and empirical probability are discussed.



**Sid Kolpas** is finishing his 48th full-time year of teaching. His interests include teacher education, the use of technology in the classroom, mathematics history, mathematically-based magic tricks, and antiquarian books. He earned a BA and MS in mathematics from California State University, Northridge, and an EdD in mathematics curriculum and instruction from USC.