

 Activity 16.7 DROP IT!

1. *Cup toss.* Provide a small plastic cup to each pair of students. Ask them to list the possible ways that the cup could land if they tossed it in the air and let it fall on the floor. Which of the possibilities (upside down, right side up, or on the side) do they think is most likely and which least likely? Why? Have students toss the cup 20 times, each time recording how it lands. Students should agree on a uniform method of tossing the cups to ensure unbiased data (e.g., dropping the cups from the same height). Record each pair's data in a class chart. Discuss the differences, and generate reasons for them. Have students predict what will happen if they pool their data. Pool the data and compute three ratios: one for each type of landing (upside down, right side up, or on the side) to the total number of tosses. The relative frequency of the combined data should approximate the actual probability.
2. *Toy animal drop.* Bring in small plastic toys that can land in different ways. Repeat the first activity. (See Nelson and Williams, 2009, for an exploration with toy pigs.)
3. *Falling kisses.* Using Hershey Kisses, conduct an experiment to see how often they land directly on the base (Gallego, Saldamando, Tapia-Beltran, Williams, & Hoopingartner, 2009). Alternative foods include Hershey's Rolo Caramels, or for more healthy options, consider fish crackers (direction in which they face).

From Van de Walle et. al. (2014). *Teaching Student-Centered Mathematics Grades: Developmentally Appropriate Instruction for Grades 6 – 8* (2nd Ed.). Toronto: Pearson Education, Inc. (p. 362).