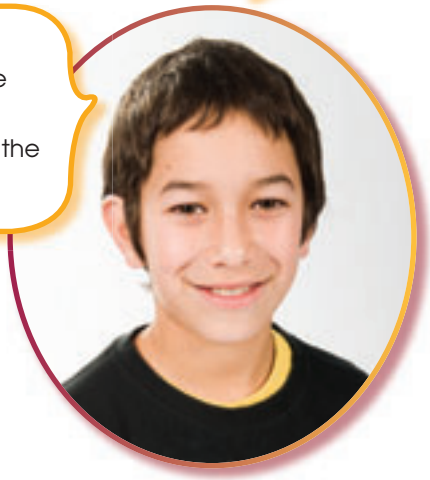
Dicey Differences

You need ★ 2 dice ★ classmates

Activity

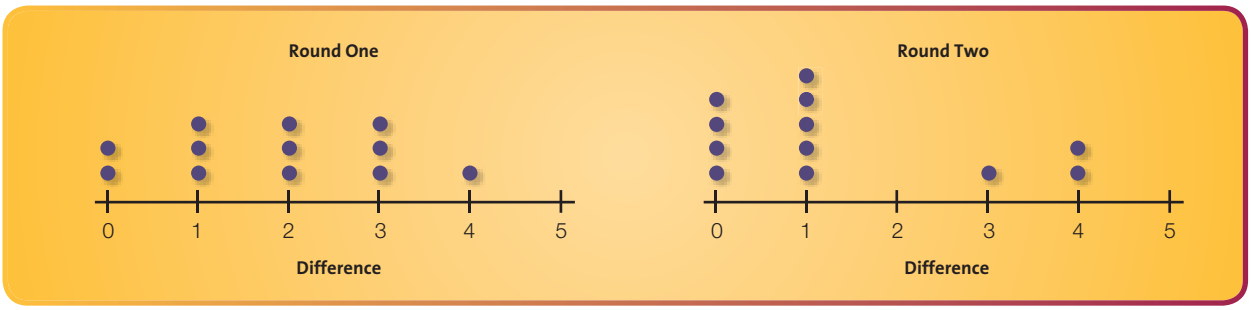
I've invented a new game! All you do is roll 2 dice and then take away the small number from the large number. It doesn't matter who rolls the dice.

If the difference is 0, 1, or 2, I get a point. If the difference is 3, 4, or 5, you get a point. The winner is the person with the most points after 12 throws.



That sounds fair. Twelve throws gives us both a chance to win.

Maaka and Whina play the Dicey Differences game.
Whina records the results of each throw on dot plots, like this:



1. After the first two rounds, Whina thinks that the game is not fair. Why might she think this?
2. a. With a classmate, play up to 10 rounds of Dicey Differences, recording the results on a dot plot or tally chart.
   b. Do the results of your game support Whina's view that the game favours one player?
3. a. If other students are playing the game, combine your results with theirs to form a bigger data set.
   b. What does this bigger data set show?
4. Using the biggest data set you have, look at the number of times each of the six differences comes up. Can you find any pattern? If so, see if you can find a reason for this pattern.

Focus Investigating probabilities in a game of chance