

Group students in pairs; give each pair two **dice**.

One player rolls both dice. If the sum rolled is 2, 3, 4, 10, 11, or 12, Player A gets one point, Player B gets zero. If the two dice total 5, 6, 7, 8, or 9, Player B gets one point, Player A gets zero. The first player to 10 points wins. Ask students to predict who is most likely to win (point out that one player has six numbers, the other only five).

After students have played one round, ask them the following questions:

- ? How many players with 5, 6, 7, 8, 9 won? *(It should be a majority of the class.)*
- ? Is the game fair? *(Number 5, 6, 7, 8, 9 have 24 ways to score a point, the other numbers have only 12 ways.)*
- ? Do the results (who won/who lost) support the answer to question 2?
(The answer should be yes.)
- ? Ask students how they might change the game to make it fair. *(Suggestions could include alternating who is A and who is B; players take turns picking the numbers that will give them points; one player takes odds, the other, evens.)*

Students should play a second round, after which ask them to explain why 5, 6, 7, 8, and 9 will almost always win.

MATERIALS:

-Dice

