

The Fishing Derby



Materials

- 10-sided die
- 6-sided die
- red and blue counters
- paper bag

At the Annual Fishing Derby, competitors stand on a floating dock. A spot on the dock is assigned to each competitor. There are 16 spots assigned per floating dock: 10 red spots and 6 blue spots. In the picture shown, the red spots are shaded. The blue spots are unshaded.

1	4	5	6	7	2
3					8
2					9
1					10
6	5		4		3

You are going to simulate the results of the derby.

- Place two red counters and one blue counter in a paper bag. Shake up the bag and pull out a marker.
- If the marker is blue, roll the six-sided die. The number that comes up is the number of the contestant who just caught a fish. For example, if a 5 is rolled, the competitor on the blue spot labelled 5 catches a fish.
- If the marker is red, roll the 10-sided die and count one fish for the participant whose number is rolled.

1. Consider the simulation above. Is someone on a red spot or someone on a blue spot more likely to win? Justify your response mathematically.
2. Compare the theoretical and experimental probabilities of someone on a red spot winning to someone on a blue spot winning.