

If the Hunger Games were played 84 times, about how many times would you expect a tribute from District 11 would win? [Assume equal chances for all districts.]

To figure out about how many times without doing the experiment, you can just multiply. First, you must determine the probability District 11 will win. That would be $\frac{1}{12}$. Multiply the probability times the number of events.

$$\frac{1}{12} \cdot 84 = 7$$

Therefore, you would expect District 11 to win 7 times.

Suppose 24 tributes compete in a Hunger Games simulation.

1.	How many equally likely outcomes are there?	
2.	If there is one simulation, what is the probability of a tribute from District 12 winning?	
3.	If you run the simulation 96 times, about how many times would you expect the boy from District 1 to win?	
4.	If you run the simulation 120 times, about how many times would you expect a tribute from a prime district to win?	
5.	If you run the simulation 80 times, about how many times would you expect a girl tribute from district 4, 5, or 6 to win?	

In the Hunger Games simulation the final four tributes consist of two from District 12, one from District 2, and one from District 5.

6.	If there is one simulation, what is the probability that district 12 will win?	
7.	If you run the simulation 92 times, about how many times will district 2 win?	
8.	If you run the simulation 144 times, about how many times will district 5 not win?	
9.	If you run the simulation 80 times, about how many times will a person from a composite district win?	

Cinna puts the following color cards (in equal quantities) in a bag for Katniss to choose one for her next dress: green, yellow, orange, red, purple.

10.	If Katniss draws 65 times, about how many draws would be green?	
11.	If Katniss draws 180 times, about how many draws would not be orange or red?	
12.	If Katniss draws 640 times, about how many draws would be green, red, or purple?	
13.	If Katniss draws 36 green and yellow cards, about how many total cards are there?	

Make a prediction based on the probability.

1.	President Snow loves to bowl. He knocks down at least 6 pins 70 percent of the time. Out of 200 rolls, how many times can you predict President Snow will knock down at least 6 pins?													
2.	In the Hunger Games arena it rains about 16 percent of the time. On how many days out of 400 can the tributes predict they will get rain?													
3.	In The Capitol Effie notices that 55 percent of the people leaving the supermarket choose plastic bags instead of paper bags. Out of 600 people, how many can Effie predict will carry plastic bags?													
4.	Haymitch loves to play baseball. He reaches base 35 percent of the time. How many times can he expect to reach base in 850 at-bats?													
5.	Katniss loves to play basketball and she can make 65 percent of her shots from the free-throw line. If she shoots 75 times, how many shots can she expect to make?													
6.	<p>A professor in The Capitol predicted that at least 78 percent of residents prefer getting their news from a digital source rather than from a print source. He polled 3 different groups. The results are shown in the table below.</p> <table border="1" data-bbox="418 947 1053 1117"> <thead> <tr> <th></th> <th>Group 1</th> <th>Group 2</th> <th>Group 3</th> </tr> </thead> <tbody> <tr> <th>Digital</th> <td>20</td> <td>14</td> <td>30</td> </tr> <tr> <th>Print</th> <td>5</td> <td>10</td> <td>7</td> </tr> </tbody> </table> <p>In which group(s) did his prediction hold true? Explain.</p>		Group 1	Group 2	Group 3	Digital	20	14	30	Print	5	10	7	
	Group 1	Group 2	Group 3											
Digital	20	14	30											
Print	5	10	7											
7.	Cato flips the coin 64 times. How many times can Cato expect the coin to land on heads?													
8.	A spinner is divided into five equal sections labeled 1 to 5. What is the probability that the spinner will land on 3? If the spinner is spun 60 times, how many times can you expect the spinner to land on 3?													
9.	If Rue rolls the number cube 39 times, how many times can she expect to roll a 3 or 4?													
10.	A bag contains 6 red and 10 black marbles. If Foxface picks a marble, record its color, and return it to the bag 200 times, how many times can she expect to pick a black marble?													
11.	Glimmer rolls a number cube 78 times. How many times can she expect to roll an odd number greater than 1?													
12.	A shoebox holds different color disks: 5 red, 6 white, and 7 blue disks. You pick out a disk, record its color, and return it to the box. If you repeat this process 250 times, how many times can you expect to pick either a red or white disk?													
13.	Clove flips two pennies 105 times. How many times can she expect both coins to come up heads?													