

A. We are going to play the block game, keep record of the number of times the color is chosen.

Red	Yellow	Blue

Can you predict what color will be chosen next? Red



1. What is the **experimental probability**?

$$\text{Experimental probability} = \frac{\text{number of times pulled}}{\text{the total number of pulls}}$$

a. Red blocks = $\frac{10}{17}$
58.8%

b. Blue blocks = $\frac{2}{17}$
11.8%

c. Yellow blocks = $\frac{5}{17}$
29.4%

B. Each of you will get a bucket of blocks. Count the number of red blocks, blue blocks and yellow blocks in the bucket.

a. Number of Red blocks = 9

b. Number of Blue blocks = 3

c. Number of Yellow blocks = 6

1. Using the above numbers above calculate the **theoretical probabilities** for each color.

$$\text{Theoretical probability} = \frac{\text{number of ways an event can occur}}{\text{number of outcomes}}$$

a. Red blocks = $\frac{9}{18}$
50%

b. Blue blocks = $\frac{3}{18}$
16.7%

c. Yellow blocks = $\frac{6}{18}$
33.3%

2. How do the theoretical probability compare to the experimental probability in Question A?

They are very similar! The class chose red about half the time and blue was chosen the least.

3. What is the sum of the theoretical probabilities?

$$\frac{9}{18} + \frac{3}{18} + \frac{6}{18} = \frac{18}{18} = 1$$

$$50\% + 16.7\% + 33.3\% = 100\%$$