

Pólya's Urn

In an urn model, objects of real interest (such as atoms, people, cars, etc.) are represented as colored balls in an urn or other container. In the basic Pólya urn model, the urn contains x white and y black balls; one ball is drawn randomly from the urn and its color observed; it is then returned in the urn, and an additional c balls of the same color is added to the urn. Then the selection process is repeated.

For example: Assume that you have an urn with 5 white balls and 9 black balls with a $c = 2$. If you draw a white ball, you will put that ball back in and add 2 more white balls. Therefore, your urn now has 7 white balls and 9 black balls.

This model is named after [George Pólya](#) and is used in conditional probabilities as an idealized framework.

Taken from Wikipedia, https://en.wikipedia.org/wiki/Simple_random_sample