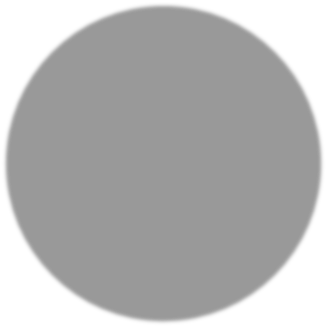
What is a **Probability Distribution?**

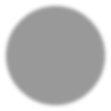
* It is a way to shape the sample data to make predictions and draw conclusions about an entire population.
* It refers to the **frequency** at which some events or experiments occur.

Can height

# Probability Distributions



POPULATION



Sample

# 

* **Probability runs on a scale of 0 to 1.**
* If something could never happen, then it has a probability of 0.
* For example, it is impossible you could breathe and be under water at the same time without using a tube or mask.
* If something is certain to happen, then it has a probability of 1.
* For example, it is certain that the sun will rise tomorrow.
* To draw conclusions from sample data, you should compare values obtained from the sample with the theoretical values obtained from the probability distribution.

**Note\* Many probabilities distribution can be defined by factors such as the mean and standard deviation of the data.**

**They are often classified into two categories:**

* Discrete.
* Continuous.

**Discrete probability distributions**

* **Binomial distribution**
* **Multinomial distribution**
* **Poisson distribution**
* **Hypergeometric distribution**

**Continuous probability distributions**

* **Normal distribution**
* **Standard normal distribution**
* **Gamma distribution**
* **Exponential distribution**
* **Chi square distribution**
* **Lognormal distribution**
* **Weibull distribution**