

**Why?****Essential Questions**

1. What are the rules of probability?
2. How can we use discrete random variables?
3. How can we apply the Normal model?

**Enduring Understanding**

Students will apply the rules of probability to various data distributions.

**MCPS Indicators and Standards****What?**

1. Recognize the basis of probability models.
2. Apply the rules of probability.
3. Identify discrete random variables and determine probability distributions for these variables.
4. Design and conduct simulations of probability distributions.
5. Compute the mean and standard deviation of a random variable.
6. Apply rules to compute the mean and standard deviation of sums and differences of independent random variables.
7. Use the normal distribution as a model for measurements.
8. Compute and apply sampling distributions of sample means and sample proportions.
9. Use a sample means control chart to examine the stability of a process.

