Probability Organizer (a.k.a. a "Mind Map")

Compound Events
(two or more events)

Independent Events
(often with replacement)

- Multiply probability of each event together
- P(A and B) = P(A) x P(B)

Dependent Events
(no replacement)

* Multiply probability of each event <u>taking into account the previous events that occurred</u> (think marble problems ...)

Conditional Probability

$$P(B|A) = \frac{P(A \text{ and } B)}{P(A)}$$

Tests for Independence

1. Does P(A and B) = P(A) x P(B) ?
2. Does P(B|A) = P(B) ?
3. Does P(A|B) = P(A) ?