



Vocabulary: Lucky Duck



Vocabulary

- Expected value – the long-run average outcome of a random variable.
 - For example, the expected value of rolling a 6-sided die is 3.5 (the average of all possible outcomes: 1, 2, 3, 4, 5, and 6).
- Experimental probability – probability based on experimental outcomes.
 - For example, if a coin is flipped 50 times and lands on heads 23 times, the experimental probability of heads would be $\frac{23}{50}$.
- Fair game – a game in which the cost to play equals the expected value of winnings.
 - For example, suppose a coin-flipping game pays you \$1 for flipping heads and \$0 for tails. To make this a fair game, the cost to play should be \$0.50.
- Outcome – a single result of an experiment.
- Probability distribution – a graph or table displaying of the probabilities of each possible outcome of a random variable.
- Random variable – a number generated by a random process.
 - For example, the number you get when rolling a 6-sided die is a random variable.
- Theoretical probability – probability derived from logic and calculation.
 - For example, the theoretical probability of rolling a “4” on a 6-sided die is $\frac{1}{6}$.

