

Vocabulary: Probability Simulations



Vocabulary

- Experimental probability – probability that is derived from experimental outcomes.
 - If an outcome occurs x times in y trials, its experimental probability is $\frac{x}{y}$.
 - For example, if a coin is flipped 50 times and lands on heads 23 times, the experimental probability of heads is $\frac{23}{50}$.
- Fair game – a game or simulation in which the probability of a favorable outcome is equal to the probability of an unfavorable outcome.
 - An example of a fair game is spinning a spinner with six equal sections in which three sections are favorable and three sections are unfavorable.
- Outcome – a single result of an experiment.
- Probability – the likelihood of an event, expressed as a number between 0 and 1.
 - A probability of 0 (or 0%) means that the event is impossible.
 - A probability of 1 (or 100%) means that the event is certain.
 - A probability of $\frac{2}{5}$ (or 0.40, or 40%) means that an event will occur about 2 times out of every 5 trials, or 40% of the time.
- Sample space – the set of all possible outcomes of an experiment.
- Theoretical probability – probability that is derived from logic and calculation.
 - If all outcomes are equally likely, the theoretical probability of an outcome is equal to 1 divided by the number of possible outcomes.
 - For example, the theoretical probability of rolling a “4” on a 6-sided number cube is $\frac{1}{6}$, or about 0.167 (16.7%).