Vocabulary Reference

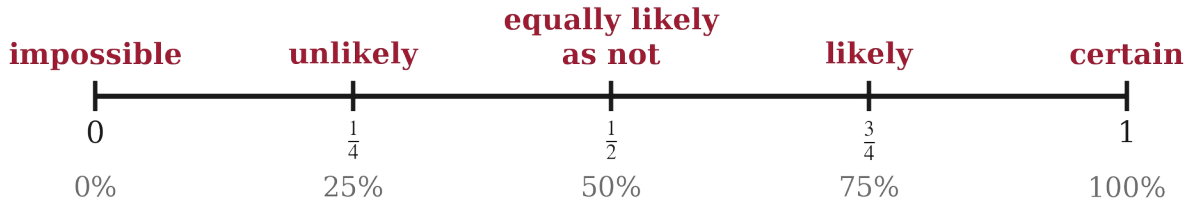
Every term taught in Lessons 1 through 9

Term	What it means	Lesson
certain	The event must happen. Its probability is 1, or 100%.	6
ellipsis	The three dots (…) that mean a decimal's pattern keeps going forever.	3
equally likely as not	The event is just as likely to happen as not to happen. Its probability is 0.5, or 50%.	6
event	The outcome, or group of outcomes, you are counting. Written P(event).	1, 2, 5
experimental probability	What did happen. Found by running trials and counting results.	7, 8, 9
fair	Every player has the same chance of winning.	1
impossible	The event cannot happen. Its probability is 0, or 0%.	6
likelihood	How probable an event is, described in words rather than numbers.	6
likely	The event will probably happen. Its probability is greater than 50%.	6
outcome	One possible result of an experiment.	1, 5
percentage	A ratio with a denominator of 100.	4
probability	A measure of how likely an event is, written as a number from 0 to 1.	2, 5
random variation	The ordinary difference between what should happen and what does happen.	8
rational number	A number that can be written as a fraction with integers on top and bottom.	3
repeating decimal	A decimal that never ends but repeats the same pattern forever.	3, 4
sample space	The list of every possible outcome of an experiment.	1, 2, 5
simple experiment	An action with a definite set of outcomes that cannot be predicted with certainty.	2
simulation	A stand-in experiment with the same probability as the real situation.	7, 8, 9
terminating decimal	A decimal that ends.	3, 4
theoretical probability	What should happen. Found from the sample space, without running the experiment.	7, 9
trial	One repetition of an experiment or a simulation.	7, 8, 9
unlikely	The event will probably not happen. Its probability is less than 50%.	6

Terms are listed alphabetically. The lesson column shows where each one is taught.

The Likelihood Scale

Every probability lands somewhere on this line. The word, the fraction, the decimal and the percent all say the same thing.



In words	Fraction	Decimal	Percent
impossible	0	0	0%
unlikely	$\frac{1}{5}$	0.2	20%
equally likely as not	$\frac{1}{2}$	0.5	50%
likely	$\frac{4}{5}$	0.8	80%
certain	1	1	100%

Any probability below 50% is unlikely, and any probability above 50% is likely. The values in the table are examples, not the only ones.

Notation

P(A)	The probability of event A. P(red) is read “the probability of red.”
$0.\overline{45}$	A bar over digits means those digits repeat forever. 0.4545… is written this way.
…	An ellipsis. The pattern before it keeps going.

The Two Kinds of Probability

Theoretical probability	Experimental probability
What **should** happen.	What **did** happen.
$\frac{\textit{outcomes you want}}{\textit{outcomes in the sample space}}$	$\frac{\textit{times the event happened}}{\textit{number of trials}}$
Counted, not run. It never changes.	Run, not counted. More trials bring it closer.

They will not be equal, and that is not a mistake. The more trials you run, the closer the experimental probability gets to the theoretical one.