

Language

Probability	<p>The <b>likelihood/chance</b> of something happening.</p> <p>Is expressed as a number <b>between 0 (impossible) and 1 (certain)</b>.</p> <p>Can be expressed as a fraction, decimal, percentage or in words (likely, unlikely, even chance etc.)</p>	
Probability Notation	<b>P(A)</b> refers to the <b>probability that event A will occur</b> .	P(Red Queen) refers to the probability of picking a Red Queen from a pack of cards.
Theoretical Probability	$\frac{\text{Number of Favourable Outcomes}}{\text{Total Number of Possible Outcomes}}$	Probability of rolling a 4 on a fair 6-sided die = $\frac{1}{6}$ .
Relative Frequency	$\frac{\text{Number of Successful Trials}}{\text{Total Number of Trials}}$	<p>A coin is flipped 50 times and lands on Tails 29 times.</p> <p>The relative frequency of getting Tails = <math>\frac{29}{50}</math>.</p>
Expected Outcomes	To find the number of expected outcomes, <b>multiply</b> the <b>probability</b> by the <b>number of trials</b> .	<p>The probability that a football team wins is 0.2 How many games would you expect them to win out of 40?</p> <p><math>0.2 \times 40 = 8 \text{ games}</math></p>
Mutually Exclusive	<p>Events are mutually exclusive if they <b>cannot happen at the same time</b>.</p> <p>The <b>probabilities</b> of an exhaustive set of <b>mutually exclusive</b> events <b>adds up to 1</b>.</p>	<p>Examples of mutually exclusive events:</p> <ul style="list-style-type: none"> <li>- Turning left and right</li> <li>- Heads and Tails on a coin</li> </ul> <p>Examples of non mutually exclusive events:</p> <ul style="list-style-type: none"> <li>- King and Hearts from a deck of cards, because you can pick the King of Hearts</li> </ul>
Biased	<p>Biased means that something is unfair.</p> <p>On a fair dice, the probability of getting each of the numbers is <math>\frac{1}{6}</math>.</p>	<p>On a biased dice, one number is more likely to come up than all of the rest.</p> <p>If <math>P(3) = \frac{4}{7}</math> this would mean that it is a biased dice as you are more likely to land on a 3 than any other number.</p>
Fair Dice	A fair dice is a normal 6 sided dice where each number has the same chance of being rolled	<p>Possible outcomes:</p> <p>1, 2, 3, 4, 5, 6</p>
Pack of Cards	<p><b>52 cards in a deck.</b></p> <p><b>4 suits:</b> Diamonds (red), Hearts (red), Spades (black) and Clubs (black)</p> <p><b>13 cards per suit:</b> 1 (ace), 2, 3, 4, 5, 6, 7, 8, 9, 10, Jack, Queen, King</p> <p><b>Number Cards:</b> 1 – 10</p> <p><b>Picture/Face Cards:</b> Jacks, Queens and Kings</p>	

