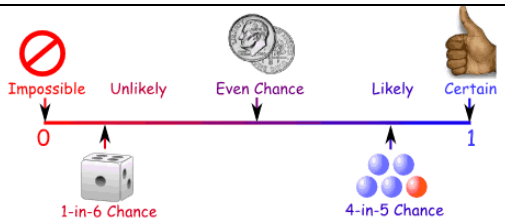
Language

Probability	The **likelihood/chance** of something happening. Is expressed as a number **between 0 (impossible) and 1 (certain)**. Can be expressed as a fraction, decimal, percentage or in words (likely, unlikely, even chance etc.)	
Probability Notation	**P(A)** refers to the **probability that event A will occur**.	P(Red Queen) refers to the probability of picking a Red Queen from a pack of cards.
Theoretical Probability	$\frac{\textbf{\textit{Number of Favourable Outcomes}}}{\textbf{\textit{Total Number of Possible Outcomes}}}$	Probability of rolling a 4 on a fair 6-sided die = $\frac{1}{6}$.
Relative Frequency	$\frac{\textbf{\textit{Number of Successful Trials}}}{\textbf{\textit{Total Number of Trials}}}$	A coin is flipped 50 times and lands on Tails 29 times. The relative frequency of getting Tails = $\frac{29}{50}$.
Expected Outcomes	To find the number of expected outcomes, **multiply** the **probability** by the **number of trials**.	The probability that a football team wins is 0.2 How many games would you expect them to win out of 40? $0.2 \times 40 = 8\ games$
Mutually Exclusive	Events are mutually exclusive if they **cannot happen at the same time**. The **probabilities** of an exhaustive set of **mutually exclusive** events **adds up to 1**.	Examples of mutually exclusive events: - Turning left and right - Heads and Tails on a coin Examples of non mutually exclusive events: - King and Hearts from a deck of cards, because you can pick the King of Hearts
Biased	Biased means that something is unfair. On a fair dice, the probability of getting each of the numbers is $\frac{1}{6}$.	On a biased dice, one number is more likely to come up than all of the rest. If P(3) = $\frac{4}{7}$ this would mean that it is a biased dice as you are more likely to land on a 3 than any other number.
Fair Dice	A fair dice is a normal 6 sided dice where each number has the same chance of being rolled	Possible outcomes: 1, 2, 3, 4, 5, 6
Pack of Cards	**52 cards in a deck.** **4 suits:** Diamonds (red), Hearts (red), Spades (black) and Clubs (black) **13 cards per suit:** 1 (ace), 2, 3, 4, 5, 6, 7, 8, 9, 10, Jack, Queen, King **Number Cards:** 1 – 10 **Picture/Face Cards:** Jacks, Queens and Kings	
Sample	A **sample** is a small selection of items from a population. A sample is **biased** if individuals or groups from the population are not represented in the sample.	A sample could be selecting 10 students from a year group at school.
Sample Size	The larger a sample size, the closer those probabilities will be to the true probability.	A sample size of 100 gives a more reliable result than a sample size of 10.