Working out the probability: rolling a dice

Example: what is the probability of getting a 3 when you roll a dice?

There are six possible outcomes:

Only one outcome is successful, the **3**. We make a fraction to work it out:

$$\text{Probability of getting a 3} = \frac{\text{Number of successful outcomes}}{\text{Total possible outcomes}}$$

$$= \frac{\text{1 successful outcome}}{\text{6 possible outcomes}} = \frac{1}{6}$$

The probability of getting a 3 is $\frac{1}{6}$

The probability of any of the numbers on a dice is $\frac{1}{6}$. They are **all** equally likely.

Example: what is the probability of getting an even number when you roll a dice?
There are 6 numbers on a dice. There are 3 even numbers (2, 4 and 6).

$$\frac{\text{Number of successful outcomes}}{\text{Total possible outcomes}} = \frac{3}{6} = \frac{1}{2}$$

Example: if you roll a dice what is more likely, an even number or a 3? We have already worked out the probabilities so all we need to do is compare them.

Probability of an even number = $\frac{1}{2}$ and the probability of getting a 3 = $\frac{1}{6}$.

$\frac{1}{2}$ is bigger than $\frac{1}{6}$ so an even number is more likely.