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Probability

What's the chance?

In this lesson we see how probability language is used in our daily lives. Then we define mathematical probability and use a probability experiment to understand the terminology used. We also look at a probability scale.



Lesson Outcomes

By the end of this lesson, you should be able to:

- explain what probability is
- define a possible outcome, a favourable outcome and a trial
- describe and use the probability scale



Curriculum Links

LO 4: Data Handling and Probability

This lesson consolidates previous knowledge needed to achieve the learning outcome.



Lesson Notes

Every day we estimate chances and make decisions based on those estimates. Most of the time, we don't work out the exact probability of something happening. We just take a rough guess. The language we use is vague and not very accurate. Here are some phrases which we often use that are related to probability:

No way; impossible; a 50-50 chance; probably; more likely; certain; not much chance.

The problem is that we can't measure how much terms like "**more likely**" mean.

In mathematics, the **probability** of something happening is a *measurement* of how likely it is that it will happen.

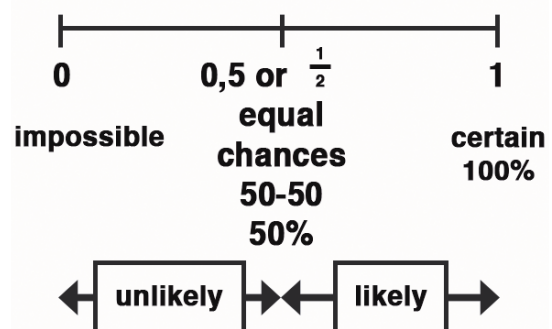
Suppose we investigate whether a drawing pin always lands point up when you drop it. When we do a probability experiment to see how many times a certain outcome will occur, we call each test in the experiment a **trial** (e.g. each time we drop a drawing pin to see how it will land).

All the possible things that could happen when we conduct a trial are called the **possible outcomes**. In our experiment, there are 2 **possible outcomes** of each trial: The drawing pin landing point up or the drawing pin landing point down. The result we want to find out about, the drawing pin landing point up, is called the **favourable outcome**.

If you try this investigation yourself, you could record your results in a frequency table like this:

Event	Tally	Frequency
Landing point up		
Landing point down		

Probability scale: a number line from 0 to 1 which represents all probability values.



Task

Listen to the things people say, look at print material like magazine articles, advertisements and other things that you read. Whenever you hear or read a phrase which you think is related to probability, make a note of it. It doesn't only have to be in class; in fact, it will be more interesting if you do this at home and at the shops, wherever. Draw a large probability scale, and place each statement on the scale.