



Year 7 Knowledge Organiser -

Probability

Key Vocabulary

Probability - the chance that something will happen

Outcome - the result of an event that depends on probability

Event - the outcome of a probability

Chance - the likelihood of a particular outcome

Frequency tree - used to record and organise events

Enumerate - an ordered listing

Set - a collection of objects

Venn diagram - a diagram organising sets, enclosed within a universal set

Possibility space, sample space - a list of all possible outcomes of an experiment e.g. tossing a coin (heads, tails)

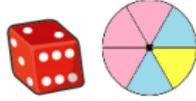
Equally likely outcomes - events that have the same theoretical probability (or likelihood) of occurring

Theoretical probability - determined on the basis of reasoning

Experimental probability - determined on the basis of the results of an experiment repeated many times

Bias - a built in error that makes all values wrong by a certain amount

Relative frequency - how often something happens divided by all outcomes



Objectives

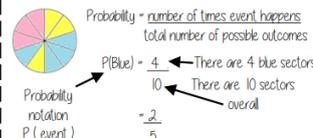
Apply ideas of randomness, fairness and equally likely events to calculate expected outcomes

Use vocab and 0-1 probability scale

Construct theoretical possibility spaces for single experiments with equally likely outcomes and use these to calculate theoretical probabilities

Enumerate sets and combinations of sets systematically, using tables, grids, Venn diagrams

Probability of a single event

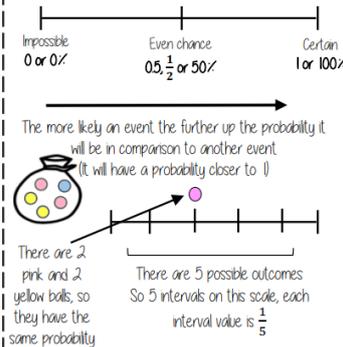


Probability can be a fraction, decimal or percentage value

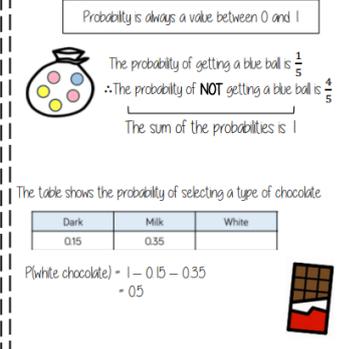
$$\frac{4}{10} = \frac{40}{100} = 0.40 = 40\%$$

Probability is always a value between 0 and 1

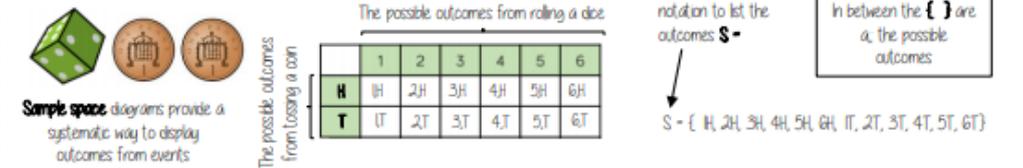
The probability scale



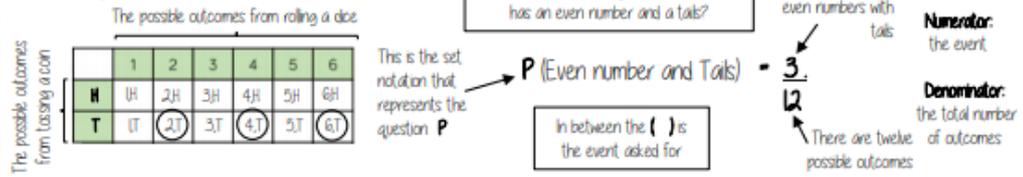
Sum of probabilities



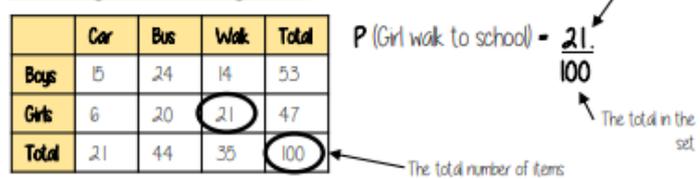
Construct sample space diagrams



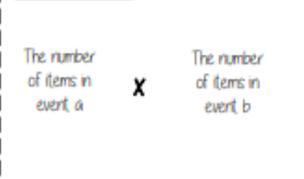
Probability from sample space



Probability from two-way tables



Product Rule



Probability from Venn diagrams

