SIMPLE PROBABILITY

Keywords:	Trial, Event, Outcome, Random, Experimental probability, Relative frequency, Theoretical probability, Estimate, Independent			
Definition / Description:	Trial: a test or experiment Event: an occurrence or outcome Outcome: possible results of an experiment Random: Something that happens without bias Biased: having a tendency towards something away from the normal Mutually Exclusive: events that cannot happen at the same time Estimate: give an approximation of the actual value Independent: events that do not depend on each other			
Knowledge points –	**Experimental probability** (Relative frequency): a probability that is determined on the basis of a series of experiments	**Theoretical probability**: what is expected to happen based on the possible outcomes, assuming equalling likely events	**The OR rule**: In mutually exclusive events, to find the probability of one event OR another event happening we ADD the probabilities	**The AND rule**: In Independent events, to find the probability of one event AND another happening, we MUTLIPLY the probabilities
Knowledge point examples:	Experimental Probability is found by repeating an experiment and observing the outcomes. $P(\text{event}) = \frac{\text{number of times event occurs}}{\text{total number of trials}}$ Example: A coin is tossed 10 times: A head is recorded 7 times and a tail 3 times. $P(\text{head}) = \frac{7}{10}$ $P(\text{tail}) = \frac{3}{10}$	Theoretical Probability is what is expected to happen based on mathematics $P(\text{event}) = \frac{\text{number of favorable outcomes}}{\text{total number of possible outcomes}}$ Example: A coin is tossed. $P(\text{head}) = \frac{1}{2}$ $P(\text{tail}) = \frac{1}{2}$	P (A OR B) = P(A) + P(B) When two dice are rolled, the probability of getting a 3 OR a 4 = P (3 and 4) = P(3) + P(4) $= \frac{1}{6} + \frac{1}{6}$ $= \frac{2}{6}$ $= \frac{1}{3}$	P (A and B) = P(A) x P(B) When two dice are rolled, the probability of getting a 3 AND a 4 = P (3 and 4) = P(3) x P(4) $= \frac{1}{6} \times \frac{1}{6}$ $= \frac{1}{36}$
Linked Knowledge Maps:	Further Probability Fractions Ratio			