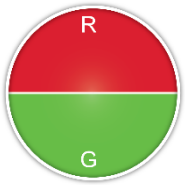
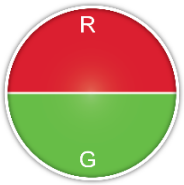
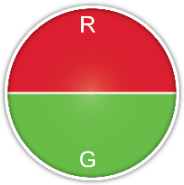
Data

Activity 8 Assessment

Probability of Multiple Independent Events

Probability of Multiple Independent Events

Calculates theoretical probability for 3 independent events	Calculates experimental probability for 3 independent events	Compares theoretical and experimental probabilities for 3 independent events	Understands how the experimental probability is affected by many trials
 A pointer is spun 3 times. Sample space: R, R, R G, G, G R, R, G G, G, R R, G, R G, R, G R, G, G G, R, R There are 8 possible outcomes. For 2 reds and 1 green, in any order, there are 3 favourable outcomes so the theoretical probability of 2 reds and 1 green is: $\frac{3}{8} = 0.375$ For red, red, green, in that order, there is 1 favourable outcome so the theoretical probability of red, red, green is: $\frac{1}{8} = 0.125$	 A pointer is spun 3 times. The results for 10 trials: G, R, G G, G, R R, R, G R, R, R G, R, G R, R, R G, R, G R, G, R R, G, G G, R, R For 2 reds and 1 green, in any order, the outcome occurred 3 times so the experimental probability of 2 reds and 1 green is: $\frac{3}{10} = 0.3$ For red, red, green, in that order, the outcome occurred 1 time, so the experimental probability of red, red, green is: $\frac{1}{10} = 0.1$	 Theoretical probability of 2 reds and 1 green is: $\frac{3}{8} = 0.375$ Experimental probability of 2 reds and 1 green is: $\frac{3}{10} = 0.3$ The theoretical probability of red, red, green is: $\frac{1}{8} = 0.125$ The experimental probability of red, red, green is: $\frac{1}{10} = 0.1$ For each multiple event, the theoretical probability is greater than the experimental probability, but the probabilities are close in value.	For 100s of trials of an experiment, the experimental probability of an outcome may approach its theoretical probability.

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Observations/Documentation			