Chance experiments

Find the probability then collect experimental data about two of the chance experiments listed below.

For each event:

- list the favourable outcomes
- list the total number of possible outcomes
- find the probability of the event occurring
- carry out the experiment and record the results in a frequency table
- calculate the relative frequency as a decimal and a fraction
- compare the results with the probability.

The relative frequency is calculated by dividing the number of times an event occurs by the number of trials. For example:

Toss a coin	Count	Relative frequency
Heads	86	86 ÷ 200 = 0.43
Tails	114	114 ÷ 200 = 0.57
Total	200	

Experiment 1: Cubes in a bag

Resources:
Opaque bag
Four white and two black cubes (or similar objects in two different colours)

Event:
Draw one black cube from the bag.
Conduct 50 trials. Return the cube to the bag each time and shake the bag to mix the colours.

Experiment 2: Letters in a hat

Resources:
12 cards (three marked with vowels and nine marked with consonants)

Event:
Draw a vowel from the hat.
Conduct 20 trials. Return the card to the hat and mix the letters around after each draw.

Experiment 3: Pick a card, any card

Resources:

Deck of cards

Event:

Draw a red card worth six or less from a full deck.

Conduct 50 trials. Return the drawn card and shuffle the cards after each draw.

Experiment 1

Queensland Government

Experiment 2

Experiment 3

How was your student able to complete the activity?

☐ No assistance required ☐ Some assistance ☐ A lot of assistance ☐ Not able to do this task

Comments: