

Max's Probability Puzzles: Mastering Chance

Learning objective: To understand and use the vocabulary of probability, calculate simple theoretical probabilities, and identify outcomes for single events.

Use these flashcards to test your knowledge of probability. Max the monkey has hidden the answers behind the vertical line. See if you can predict the likelihood of an event before checking the answer!

What does it mean if an event is described as 'Certain'?

The event will definitely happen, represented by a probability of 1 or 100%.

If a bag contains 3 red marbles and 3 blue marbles, what is the probability of picking a blue marble?

An even chance (or $1/2$).

Define an 'Impossible' event.

An event that cannot happen, represented by a probability of 0.

Explain the difference between 'Likely' and 'Certain'.

'Likely' means the event is probable but not guaranteed, whereas 'Certain' means it is guaranteed to happen.

A standard six-sided die is rolled. What is the probability of rolling a number greater than 6?

Impossible (0).

Max has 10 cards: 8 are green and 2 are yellow. Is it likely or unlikely that he picks a yellow card?

Unlikely, because there are fewer yellow cards than green cards.

Justify why the probability of an event can never be greater than 1.

Probability is a measure of how likely an event is relative to all possible outcomes; 1 represents the total sum of all possible outcomes.

If you toss a fair coin, what is the probability of it landing on heads?

$1/2$ or 0.5.

Compare and contrast the terms 'Impossible' and 'Unlikely'.

'Impossible' means the event has 0% chance, while 'Unlikely' means there is a small chance, but it is not zero.

What might happen if you increase the number of red marbles in a bag while keeping the total number of marbles the same?

The probability of selecting a red marble increases (it becomes more likely).

A spinner has four equal sections: red, blue, green, and yellow. What is the probability of landing on red?

$1/4$ or 25%.

Explain why probability is often written as a fraction.

A fraction represents the number of successful outcomes over the total number of possible outcomes.