

A 15-minute coin experiment

Name / date: _____

Prediction: _____ heads out of 10 flips

Predict how many heads you expect in ten fair flips. Write the prediction before generating any results.

Open the ten-coin tool. Generate ten batches, recording the heads in each batch. Keep every batch, including surprising results.

Batch	Heads	Tails
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
Total		

Recorded heads: _____ / 100. Percentage: _____ %

Did every batch have five heads? Explain.

After three heads in a row, what is the chance of heads next?

A 15-minute coin experiment

Predict, test, discuss

1. Predict how many heads you expect in ten fair flips. Write the prediction before generating any results.
2. Open the ten-coin tool. Generate ten batches, recording the heads in each batch. Keep every batch, including surprising results.
3. Compare 100 flips with the expected 50 heads. Discuss why an expectation is not a guarantee, and why the next flip is still 50/50.

Why 50 heads is not guaranteed

For 100 independent fair flips, the expected count is 50 heads. The probability of exactly 50 is about 7.96%. Repeating the experiment shows variation around the expectation.

Expected answers

Five heads per batch is an expectation, not a requirement. The next flip has a 50% chance of heads, regardless of earlier flips.

Teacher demo: 60 seconds

0-15 s: ask for a prediction. 15-35 s: generate ten coins and count the heads. 35-50 s: record a second batch. 50-60 s: ask whether tails is now “due”. Each flip remains independent.

Free to print for classroom use. Keep the Randomify credit.

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