

Testing predictions with dice and spinners

WHAT THIS LESSON TEACHES

A prediction is a fair guess about what a chance event might do, made before you roll or spin. On a fair die each of the six faces is equally likely, and on an even spinner each colour is equally likely, so over many turns every result should turn up a similar number of times.

→ Before rolling a die 20 times, predict each number comes up about 3 or 4 times.

→ On a spinner with 4 equal colours, predict each colour over 20 spins about 5 times.

MODEL THIS ON THE BOARD

PREDICTING FAIR-DIE ROLLS

- 1 A fair die has 6 equal faces, so each number has the same chance.
- 2 Share 30 rolls evenly: $30 \div 6 = 5$. Predict about 5 of each number.
- 3 Count the tally marks: the scores are close to 5 each, so the prediction holds.

1		
2		
3		
4		
5		
6		

DISCUSSION STARTER

REFLECT Did more rolls or spins bring your results closer to your prediction?

ANSWER KEY

a) 10 heads, 10 tails

b) Heads 12, Tails 8

Q1: 3

Q2: 25

a) Always — A fair die has six equal faces, so no face is favoured.

b) Sometimes — A short run can look lopsided even though the die is fair.

c) Sometimes — It can happen by chance, but usually does not.

d) Always — The counts even out as the number of rolls grows large.

EXTENSION SHEET · STRETCH ANSWERS

S1: unlikely

S2: unlikely

S3: unlikely

S4: unlikely

S5: even

Investigation: Put a prediction to the test — open-ended; scan pupils' working for valid solution paths rather than a single answer.