

Chance: the language of likelihood

CURRICULUM ALIGNMENT

DAT.CHN.3 describe and test predictability and (un)certainty in events.

INTERACTIVES **Probability Spinner** · display, explore

WHAT THIS LESSON TEACHES

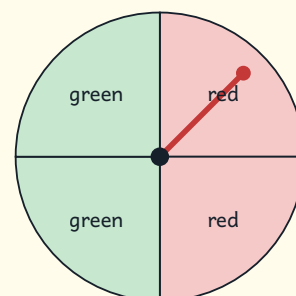
An event is certain when it is sure to happen, no matter what. Certain events fit the likelihood word at the very top of the scale.

- The sun will rise tomorrow morning is certain.
- A spinner with all parts coloured is certain to land on a colour.

MODEL THIS ON THE BOARD

CERTAIN AND IMPOSSIBLE

- 1 The spinner has 4 equal sections: 2 red and 2 green.
- 2 There is no blue section at all, so landing on blue is **impossible**.
- 3 Every section is a colour, so the arrow is **certain** to land on a colour.



LESSON ARC

Open with the four-section spinner on the IWB — two red, two green — and draw out that landing on a colour is certain while landing on blue is impossible. Walk four spinner pictures, matching each to a likelihood word by the share of green. Pupils then build spinners themselves so green fits each word in turn. Copybook lists the five words in order with two everyday events. Class Challenge sorts five real-life events at the board, then a short maths-talk on why most events sit in the middle.

TEACHING MOVES

1. **Getting Started.** Show the four-part spinner (two red, two green). Take three hands-up answers only — no open call-outs. Push for 'landing on a colour is certain' and 'landing on blue is impossible'. Do not name the five likelihood words yet.
2. **Watch and Notice.** Reveal the four spinners one at a time. For each, ask how likely green is and hold for the word before you confirm it. On the mostly-red spinner ask which colour they'd bet on; on the three-colour spinner ask 'which is most likely?' and let sizes do the reasoning. Keep your own talk to the cue — the picture teaches.
3. **Try It Together.** Call the five words in order: certain, likely, even chance, unlikely, impossible. Pupils take turns at the board adding or removing coloured parts so green matches the word. For even chance insist equal green and not-green. When someone adds extra parts to 'make it likelier', stop and revoice: it is the share of green that counts, not how many parts there are.

4. **List the Words in Your Copy.** Pupils write the five words in order from impossible to certain, then add one everyday event beside just two of them. Walk the room glancing for order and sensible matches — this is practice, not marking. If a pupil parks a coin-toss beside ‘likely’, ask them to say the difference aloud.
5. **Class Challenge.** Read each everyday event aloud so the whole class hears it, then keep board turns brisk. Use the die-8 and coin-heads pair as the discriminator: one impossible, one even chance. On ‘snow in Cork in July’, hold for very unlikely, not impossible, and ask a pupil to justify any close call before moving on.
6. **What Did We Notice?.** Ask which events are truly certain or truly impossible, and why most sit in the middle. Revoice a strong answer: certain and impossible are the two ends; nearly everything else lives between them. Head off any claim that unlikely means the same as impossible.

COMMON MISCONCEPTIONS

⚠ Pupils think more coloured parts always means more likely — they count slices instead of comparing the share of green.

On the spinner interactive, show six equal parts with three green beside two equal parts with one green. Same even chance. Ask: ‘same share or same count?’

⚠ Pupils say ‘snow in Cork in July is impossible’ — they collapse very unlikely into never.

Ask: ‘Has it ever snowed in Ireland in summer, even once?’ If yes, it can happen. Label it very unlikely, then point back to impossible as the die-8 case where the outcome cannot exist.

⚠ Pupils put a coin landing on heads beside ‘likely’ because ‘it happens a lot’.

Hold the half-red half-green spinner next to the coin. ‘As likely to happen as not — that is even chance, dead in the middle. Likely means more than half.’

DIFFERENTIATION

EMERGING

- On Try It Together, start only with certain and impossible (all green / no green) before introducing the three middle words.
- In the copybook, pre-write the five words jumbled; pupils reorder them and add just one everyday event beside certain or impossible.

DEVELOPING

- After the copybook list, ask them to invent one new everyday event for even chance and say why it sits in the middle.
- On Class Challenge, when they justify ‘birthday this month’, push: ‘what would make that more likely or less likely in a different class?’

PROFICIENT

- After sorting the five events, ask: ‘where would you place “I will get full marks on tomorrow’s spelling test” — and what evidence would move it?’ Keep it as a spoken justification at the board, not a new written task.

✓ **Cross-curricular:** Link to SESE Geography weather — July snow in Cork is rare but recorded, so very unlikely rather than impossible.

ANSWER KEY

a) all 8 sectors shaded

b) 0 sectors shaded

c) 4 red, 4 green

Q1: impossible

Q2: likely

a) **Always** : It is sure to happen no matter what, so it is certain.

b) **Always** : Every face of the die shows 1 to 6, so the outcome is sure.

c) **Never** : It could land on tails instead, so it is never certain.

d) **Sometimes** : True for rolling a number from 1 to 6 on a die; false for rolling a 6.

EXTENSION SHEET · STRETCH ANSWERS

S1: unlikely

S2: unlikely

S3: unlikely

S4: even

S5: unlikely

Investigation: A week of likelihood — open-ended; scan pupils' working for valid solution paths rather than a single answer.