

## Posing a question and tallying the data

### CURRICULUM ALIGNMENT

**DAT.DAT.4a**

pose questions, collect, compare, summarise and represent data selectively to answer those questions.

### INTERACTIVES

Tally Chart · display, explore

Pictogram Builder · display

### WHAT THIS LESSON TEACHES

A good survey question is **clear, specific**, and easy to **answer** with the same kind of word or number every time. Avoid vague words ('often', 'sometimes') unless you give them a number.

→ **Vague:** 'Do you eat fruit a lot?' **Clear:** 'How many pieces of fruit do you eat in a typical day? (0, 1, 2, 3 or more)'.

→ **Vague:** 'How do you get to school?' **Clear:** 'How did you travel to school today? (walk / cycle / bus / car / other)'.

### LESSON ARC

Open with a finished tally on the clipboard interactive — three gates plus two strokes — and have the class count it (17). Sort three sample questions, parking the rain one as a prediction. Build the Walk/Cycle/Bus/Car tally on the board, chanting five, ten, fifteen as each gate closes, then read it across into a frequency table. Pupils draft their own question and tally in their maths copy, then the class runs a two-minute at-the-window count to consolidate.

### TEACHING MOVES

- Getting Started.** Take three hands-up for the tally count (it's 17 — three gates plus two strokes). Then hold the rain question against the get-to-school one: 'which one can we settle by counting, and which one is just a guess about the future?' Keep it under three minutes.
- Watch and Notice.** Draw four strokes, then say 'one, two, three, four, GATE' as the diagonal fifth closes the gate — leave that drawn pattern on the board as a prompt card. Then time the class counting six loose strokes against reading one gate; the speed gap is the whole point of the rule.
- Try It Together.** Pin the category set to three-to-five named games before anyone tallies — too many rows and it never reads cleanly. As pupils take board turns, watch for the fifth mark going down as a straight stroke instead of a crossing, and catch it the moment it happens. Re-voice a good turn: 'so each gate is worth exactly five.'
- Build Your Question and Tally in Your Copy.** Board paused, every pupil writing at once. Walk the room glancing at two things only: that the fifth mark crosses the four, and that the frequency number on the right matches the marks. No marking, no board turns.
- Class Challenge.** Give two minutes for a seated window count onto three or four agreed categories, then call it and enter counts on the board. Deliberately enter one count one-too-high, ask the class to check the board against their own tally, and fix it together — brisk consolidation, not a re-teach.

## COMMON MISCONCEPTIONS

⚠ Pupils put down a fifth straight stroke and start a new group, so a gate of five reads as six loose marks.

Catch it on the board the instant it happens. Point to the prompt-card gate and say the rhythm with them — 'four strokes, then the fifth one closes the gate by crossing.' Have them rub out the stray stroke and lay the diagonal across the four.

⚠ A pupil offers 'What is your favourite colour?' or 'Will it rain tomorrow?' as their own data question — an opinion with endless answers, or a prediction we can't count.

Ask: 'can we sort every answer into a small set of clear boxes and count them?' The rain question has no count yet; the colour question needs categories agreed first. Steer them to fix the question by naming three or four categories before tallying.

## DIFFERENTIATION

### EMERGING

- Pre-rule the tally frame on their worksheet with category labels already filled, so they only place marks and count, not invent the structure.
- Keep their copybook question to three categories and have them say the 'four strokes, then GATE' rhythm aloud as they draw each gate.

### DEVELOPING

- After their copy tally, ask them to add up the frequencies and write the total number of votes at the foot of the column — does it match the people counted?
- Give a tally with a half-gate ending (e.g. two gates plus three) and ask them to write the frequency without recounting stroke by stroke.

### PROFICIENT

- Hand them a frequency table only (no tally) and ask them to draw the tally that would produce it — working the gates backwards. Then have them narrate to the class how they knew where each gate fell.

◦ **Cross-curricular:** Tie to Geography — pupils tally the modes of transport passing the school gate and discuss what the busiest category says about their local area.

## ANSWER KEY

a) Pupil-driven — varies per class.

Q3: 41

Q1: 2 gate(s) and 2 singles

Q4: 48

Q2: 6 gate(s) and 0 singles

## EXTENSION SHEET · STRETCH ANSWERS

S1: 5 gate(s) and 1 singles

S2: 2 gate(s) and 2 singles