

## Pictograms: one symbol means one

### CURRICULUM ALIGNMENT

DAT.DAT.3

pose questions of interest and collect, display and critically analyse data in a range of ways for a range of purposes and communicate the findings.

INTERACTIVES [Pictogram Builder · challenge, display, explore](#)

### WHAT THIS LESSON TEACHES

A pictogram shows data using pictures. When one symbol means one, each picture stands for exactly one pupil, so you count the pictures in a row to know how many chose it.

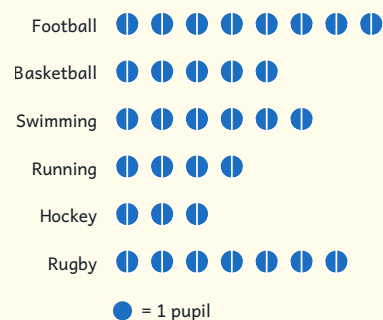
→ A row of 4 balls means 4 pupils chose that sport, because one ball = 1 pupil.

→ A row of 7 balls means 7 pupils, because you count one for each picture.

### MODEL THIS ON THE BOARD

#### READING THE FAVOURITE-SPORTS PICTOGRAM

- 1 The key says one ball = 1 pupil.
- 2 Count the balls in the Football row one by one: 1, 2, 3, 4, 5, 6, 7, 8.
- 3 There are 8 balls, so 8 pupils chose football.



### LESSON ARC

Open with a class tally and a single fruit icon on the IWB, asking how many pictures the top lunch needs if one picture means one pupil. Build pictograms row by row in the interactive — a row of 4, a row of 7, an empty-but-labelled row, then two rows starting level. Pupils build their own class data in 'Try It Together', then draw a symbol key and two rows in their copybooks. Class Challenge reads charts for totals and differences.

### TEACHING MOVES

1. **Getting Started.** Show the tally and one fruit icon as pupils settle, then ask how many pictures the most popular lunch needs. Take two or three hands-up answers only — no open call-outs — and keep it to a minute; this just plants 'one picture, one pupil'.
2. **Watch and Notice.** Build each row in the interactive one at a time, pointing and counting aloud — 'one, two, three, four'. Linger on the empty row: 'no pictures, but it still needs its label.' On the two side-by-side rows, run a finger across the start line and say 'both rows begin level here' — this is the make-or-break idea.
3. **Try It Together.** Use your class's real vote if it's ready; the default break-time dataset (Tag 5, Skipping 3, Football 7) is a complete fallback. Have a pupil place one category's symbols, then ask the class: 'does the count of pictures match the number that voted?' Rotate pupils and nudge each new row back to the start line.

4. **Draw the Key in Your Copy.** Pupils draw a symbol key — one picture '= 1 pupil' — then two rows of that same picture from the class data. Walk the room glancing for two things only: every symbol the same size, and both rows starting level. This is practice, not marking — don't collect or correct individually.
5. **Class Challenge.** Brisk turns at the board — a pupil reads each chart and answers, then press Check together and let the class confirm. On the 'how many more' question, drop in the callout 'did you check both rows start at the same line before comparing?' — that's where a longer-but-fewer row trips pupils up.
6. **What Did We Notice?.** Ask what would go wrong if one row's pictures were bigger or started further along. Listen for pupils naming the unfairness, then revoice a strong answer: 'so a longer row only means more if every picture is the same size and every row starts from the same line.'

### COMMON MISCONCEPTIONS

⚠ A pupil skips the empty row entirely — 'nobody chose it, so there's nothing to draw' — and the chart loses a category.

Point to the empty labelled row in the interactive: 'zero pictures, but the label stays so we still know which lunch it is.' Have the pupil add the label back before moving on.

⚠ Comparing two rows, a pupil says the longer-looking row has more even though its symbols are bigger or it starts further along.

Run a finger across both start lines on the IWB and check the symbols are the same size. Ask: 'is this a fair race if one row got a head start?' Re-count both rows symbol by symbol.

⚠ When drawing in copybooks, pupils squeeze some symbols closer together so a smaller total fills as much space as a bigger one.

Hold up two copybooks side by side as you circulate and ask the class what makes the comparison fair — same-size symbols, evenly spaced, rows level. Don't mark; surface it as a shared rule.

### DIFFERENTIATION

#### EMERGING

- Give pupils a copybook with the two rows' start line already ruled, so they only place symbols, not invent the level baseline.
- Stay with the smaller counts (Skipping 3, Tag 5) for their copybook rows; the row of 7 is teacher-supported at the board.

#### DEVELOPING

- After the copybook rows, ask: how many more chose the bigger category than the smaller? Have them write the difference under the chart.
- Pose a missing-row puzzle: 'if all three rows add to 15 and two rows show 5 and 7, how many in the third?'

#### PROFICIENT

- While the class works the Class Challenge bank, narrate a harder variant from the front: 'if I made each picture stand for two pupils instead of one, how would every total change?' — let them predict before next lesson teaches it.
- Ask them to explain to an imaginary younger pupil why an empty row still needs a label, in one sentence.

✂ **Cross-curricular:** Tie to Geography — pupils pictogram how their classmates travel to school (walk, cycle, bus, car), one symbol per pupil.

### ANSWER KEY

a) Hockey, 3

b) 2

c) 8

Q1: 7 pupils

Q2: 6 pupils

Q3: 15

Q4: 4

Q5: 9

### EXTENSION SHEET · STRETCH ANSWERS

S1: 38

S2: 10

S3: 41

S4: 7

S5: 15