

Sorting into groups: where data begins

CURRICULUM ALIGNMENT

DAT.DAT.2

pose questions of interest, record and use data as evidence to answer those questions and communicate the findings.

INTERACTIVES Drag Sort · challenge, display, explore

WHAT THIS LESSON TEACHES

We sort things into groups by a rule that says what is the same about them, such as the same colour or the same number of corners. A group holds everything that follows the rule, and how many in the group is the count of things that landed there.

- All the red pencils go in one group; all the blue pencils go in another.
- The triangle group holds every shape with three corners.

MODEL THIS ON THE BOARD

SORTING SHAPES BY CORNERS

- 1 Look at each mixed-up shape and count its corners.
- 2 Put every shape with **3** corners into the 3-corners hoop.
- 3 Put every shape with **4** corners into the 4-corners hoop.
- 4 Count aloud how many shapes landed in each hoop.

LESSON ARC

Open with a mixed tray of coloured pencils and take quick hands-up sorting rules. On the interactive, walk three sorts — pencils by colour, shapes by corners, minibests by legs — pausing for a class prediction before each drop and counting every group aloud. One pupil then sorts shapes into 3-corner and 4-corner groups while the class counts after each drag. Copybook: two sorting hoops with 3 red and 2 blue pencils plus the counts. Class Challenge runs three brisk board sorts with whole-class checks.

TEACHING MOVES

1. **Getting Started.** Show the mixed-pencils picture and ask ‘how could we tidy these into groups?’ Take three hands-up rules only — colour usually comes first, then length or sharpness. Keep the hook to about two minutes.
2. **Watch and Notice.** Reveal one sort card at a time and freeze for a class prediction before each drop. After each sort, count every group aloud together. Before the minibests sort, ground the facts with call-and-response: ants, bees and ladybirds have 6 legs; spiders have 8.
3. **Try It Together.** State the rule clearly before the first drag: number of corners. Invite several pupils up to drag shapes into the 3-corner or 4-corner group. After every shape lands, the class agrees or corrects out loud, then counts both groups together.
4. **Draw two sorting hoops.** Pupils draw two big side-by-side circles (or use the Sorting hoops printable). One hoop gets 3 red pencils, the other 2 blue; they write how many in each. Walk the room glancing at hoop layout and counts — whole-class practice, not marking.

5. **Class Challenge.** Keep board turns brisk: four objects by colour, six shapes by corners, then the same mixed set sorted again by colour. Name the new rule clearly before the third sort so pupils see one set can be sorted two ways. After each sort, pause for the class count of every group.
6. **What Did We Notice?.** Ask why we sort before we count. Listen for ‘mixed piles are hard to keep track of’ or ‘each group is easy to count’. Re-voice: we sort first so how many in each group is clear.

COMMON MISCONCEPTIONS

⚠ A pupil starts sorting by colour, then mid-way drops a shape into a corners group — two rules in one sort.

Stop and point at the board label. ‘One rule for this sort. Colour only — corners is a different sort.’ Reset the cards and restart with the single rule said aloud before the first drag.

⚠ After sorting, the pupil counts every object on the board as one big total instead of counting each group.

Cover one group with your hand. ‘How many in this group only?’ Uncover and count the other group the same way. Write a separate count under each hoop.

⚠ Pupils say the cards can only be sorted one way, so they freeze when the Class Challenge asks for a second sort of the same set.

Hold up one card and ask two quick questions: ‘What colour is it? How many corners?’ Both answers are true — so both rules work. Name the new rule, then drag.

DIFFERENTIATION

EMERGING

- Stay on colour-only sorts at the board; pre-name each group label (red / blue) so the pupil only drags and counts.
- On the copybook hoops, have them draw 2 red and 2 blue only, and write the two counts from a number line already on the page.

DEVELOPING

- After the copybook hoops, ask: could these five pencils be sorted a different way? Sketch a second pair of hoops for length or sharpness.
- On the third Class Challenge sort, ask before the count: ‘which group will be bigger this time — and why?’

PROFICIENT

- After Class Challenge, pose: sort the same six shapes so every group has the same count — is it possible? Prove it on the board.
- Send early finishers into the Student Activity Book page while you lead remaining board turns.

✂ **Cross-curricular:** Link to SESE minibeasts — sort classroom toy insects by 6 legs or 8 legs, then count each group.

ANSWER KEY

Q1: 4

Q2: 5

Q3: 7

Q4: 8 and 5

Q5: 9

Q6: 12

a) **Always** : The sorting rule puts every matching colour together.

b) **Sometimes** : If nothing matches the rule the group stays empty; usually something goes in.

c) **Never** : Triangles have 3 corners and squares have 4, so they go in different groups.

d) **Always** : How many in the group is exactly the count of items that landed there.

EXTENSION SHEET · STRETCH ANSWERS

S1: 4

S2: 3

S3: 3

S4: green