

Sorting data with Carroll and Venn diagrams

WHAT THIS LESSON TEACHES

A Carroll diagram sorts items by two yes/no questions into four boxes, so each item lands in exactly one box. A Venn diagram uses overlapping circles, and items that answer yes to both questions go in the middle overlap.

→ 14 is even and more than 10, so it goes in the even and more-than-10 box.

→ 7 is not even and not more than 10, so it goes in the odd and not-more-than-10 box.

MODEL THIS ON THE BOARD

SORTING ON A CARROLL DIAGRAM

- 1 The columns sort even / odd; the rows sort single-digit / two-digit.
- 2 4 is even and single-digit, so it sits in the top-left box; 9 is odd and single-digit, so it sits in the top-right box.
- 3 22 is even and two-digit (bottom-left); 11 is odd and two-digit (bottom-right).

	even	odd
single-digit	4	
two-digit	9	

DISCUSSION STARTER

REFLECT Did the Carroll diagram or the Venn diagram make the groups clearer for you? Why?

ANSWER KEY

Scaffold: visual check on the page

Q1: even, more than 10

Q2:

11: not even, more than 10; 22: even, more than 10; 9: not even, not more than 10

a) Always — Each of the two yes/no questions has one answer, so there is only one box for it.

b) Always — The overlap holds items that answer yes to both questions.

c) Sometimes — Only the numbers in the even column are even; the odd column is not.

d) Never — 22 is even and two-digit while 9 is odd and single-digit, so they are in different boxes.

EXTENSION SHEET · STRETCH ANSWERS

S1: 115

S2: 100

S3: 108

S4: 38

S5: 41