

W4L1 | Counter crossings

Monday | 09:30–10:10 | Introduce | Editable pupil sheet

Name: _____ Date: _____

Core first. Write, speak, point or dictate your own words. Keep the first attempt so you can improve it.

Optional support: Net movement = crossings one way minus crossings the other way. Start: “More particles move from ___ to ___ because...”

Work together

Draw two equal-volume regions: 12 particles left and 3 right. Predict the initial net direction.

Illustrative model/sample data; not measurements made by this class.

Model interval	Left → right	Right → left
Early	8	2
At balance	5	5

Your labelled sketch / arrows:

1. Use the early crossing counts to calculate net movement and direction.

2. At balance, how much net movement is there? What is still happening?

W4L1 | Continue and improve

Use after the core questions when directed

3. Explain one reason a higher temperature can increase diffusion rate.

Optional transfer

Why must the two starting regions have equal volumes if particle counts alone are used to compare concentration?

Depth: name an assumption or limit, then say what evidence would strengthen your answer.

Improve the same work

One correction I made, and why:

My request for next time: _____