

The Introduction and the gap

Everything you need is on this sheet. You do not need your own paper, your Week 4 outline, or your matrix.

ACTIVITY 1 • 25 MINUTES • ALONE, THEN IN PAIRS

Label the moves

Below is the Introduction of a paper. **It was written for this exercise. It is not a real paper, the numbers in it are invented, and it must not be cited or searched for.**

Read it once. Then, in the table on the next page, write what each paragraph does — ten words or fewer, starting with a verb.

P1	Carbon dioxide emissions from industrial point sources exceeded fourteen gigatonnes in 2024, and cement, steel and refining together account for roughly a quarter of that total. These are concentrated sources, and concentrated sources are where capture technology has the best prospect of contributing at scale in the near term.
P2	Among the available routes, post-combustion capture by aqueous amine scrubbing remains the only technology deployed at commercial scale. It can be retrofitted to an existing plant without redesigning the combustion process, which is why it dominates the installed base despite well-known drawbacks.
P3	The dominant drawback is energy. Regenerating the solvent consumes between 3.5 and 4.2 gigajoules per tonne of carbon dioxide captured for conventional monoethanolamine, and this single term accounts for the majority of the operating cost of a capture plant. Reducing it is the central problem of the field.
P4	A range of alternatives has been examined. Blended amines trade capacity against regeneration temperature; sterically hindered amines improve cyclic capacity but degrade faster; phase-change solvents reduce the volume requiring regeneration but introduce handling difficulties. Reported regeneration duties for these systems span 2.4 to 3.6 gigajoules per tonne.
P5	Post-combustion amine scrubbing is thus the practical route for existing industrial sources, and improving its solvent is the practical way to reduce the cost of capture from those sources.
P6	However, comparatively little work has been done on the degradation behaviour of blended amine systems under realistic flue-gas conditions. The aim of this study is to better understand the degradation mechanisms of amine blends.

Your labels

One line per paragraph. Ten words or fewer, verb first. Then answer the three questions below.

#	What the paragraph does	Which of the five moves?
P1		
P2		
P3		
P4		
P5		
P6		

The five moves, for reference

1	Establishes a context the reader already accepts
2	Narrows, once or twice, each time tighter
3	Reports what is known, then what is not
4	States the gap — as a cost, not as an absence
5	States an aim the Results can answer

Three questions

a. Two paragraphs perform the same move. Which two, and which would you cut?

b. P6 says little work has been done. Is that a gap? If not, what would make it one?

c. Could any result settle the aim as written? If not, rewrite it so one could.

Your gap, in three sentences

No reading required. Write about the area you already work in. Three sentences, in this order, and no more than three.

1. **What is known.** *"It is established that ____."*
2. **What is not known.** *"What has not been ____ is ____."*
3. **What that costs us.** *"Because of this, we cannot ____."*

Write your three sentences here

Then swap sheets. Test your partner's three sentences with these two questions:

1 Does sentence three name a cost, or only an absence?

"Nobody has studied it" is an absence. "We cannot predict X" is a cost. If it is an absence, say so and hand it back.

2 Could you disagree with sentence one?

If sentence one is already contentious, the reader has nowhere to stand. It should be something your partner accepts before the argument begins.

Rewrite after your partner has tested it

One aim sentence

Turn your gap into a single aim, written so that a result could settle it. The test: name the measurement that would decide whether you achieved it. If you cannot name one, it is not yet an aim.

Fails <i>to understand the mechanism of ___</i> <i>to investigate the behaviour of ___</i> <i>to explore the potential of ___</i>	Passes <i>to determine which of four ___ sustains ___ at ___</i> <i>to measure ___ under ___ and compare it with ___</i> <i>to establish whether ___ changes when ___</i>
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Your aim

Keep this sheet. Week 7 builds a manuscript blueprint, and it starts from these three sentences and this aim.