STAFF ROOM POSTER

The PBL Cycle, Six Phases

Problem-based learning is a structure, not a free-for-all. Six phases, each with a teacher job that does not disappear.

LAUNCH

1. Meet the problem

A messy, authentic problem lands before the content does. Your job: make it vivid and bound its scope.

In class: The school field floods every winter. The site manager wants options by Friday.

FRAME

2. Define what we know and need

Groups sort knowledge from gaps on a visible board. Your job: police the difference between facts and guesses.

In class: Two columns on flipchart: KNOW / NEED TO KNOW. Nothing moves left without a source.

STUDY

3. Learn what is missing

Targeted teaching and research fills the named gaps. Your job: teach explicitly here, this is where the knowledge enters.

In class: Fifteen-minute direct teach on drainage and gradients, exactly when groups need it.

MAKE

4. Build the solution

Groups apply the new knowledge to the problem. Your job: circulate with the support ladder, not the answers.

In class: Each group drafts a costed option against the site manager's constraints.

SHARE

5. Present and defend

Solutions meet an audience and questions. Your job: arrange a real-ish audience and demand justification.

In class: The site manager (or a convincing stand-in) hears all three options and asks one hard question each.

REFLECT

6. Debrief the learning

Name what was learned, where it generalises, and how the group worked. Your job: consolidate or it evaporates.

In class: Exit note: the two concepts you would reuse on a different flooding problem.

DESIGN CHECKLIST

Is This Problem Good Enough?

PBL succeeds or fails at problem selection. Run every candidate problem through this before it meets a class.

The problem itself

- [ ] Genuinely messy: more than one defensible solution exists.
- [ ] Authentic enough that learners can picture someone owning it.
- [ ] Scoped to the time available: a fortnight problem is not a lesson problem.
- [ ] Anchored in curriculum content you must teach anyway.

The knowledge inside it

- [ ] You can list the concepts learners must acquire to solve it well.
- [ ] Those concepts have a planned explicit-teaching moment in phase 3.
- [ ] Prerequisites are secure or scheduled before launch.

The support around it

- [ ] Milestones are fixed: what every group shows at each checkpoint.
- [ ] Group roles are assigned with individual accountability.
- [ ] A model of a strong solution to a DIFFERENT problem exists to show.

Roles With Real Jobs

Groups work when every member has a job the group cannot skip. Rotate roles between problems, not within them.

Chair

Runs the talk: everyone contributes, one voice at a time, decisions get made.

Say: "We have heard two options. Sam, you have not spoken: what is your view?"

Scribe

Owns the KNOW / NEED TO KNOW board and the decision log.

Say: "I am writing that as a guess, not a fact, until someone brings a source."

Researcher

Chases the named knowledge gaps and reports back in plain language.

Say: "Here is what the two sources agree on, and the one thing they do not."

Checker

Tests the solution against the constraints before anything is presented.

Say: "The brief says under budget and by Friday. Ours fails the second test. Fix or argue?"

ASSESSMENT TEMPLATE

Assessing PBL Without Guesswork

Assess the knowledge and the process separately; a glossy poster can hide empty learning. Three rubric strands, equal weight.

Knowledge applied

Do the named concepts appear, correctly, in the solution? Test individually too: a short quiz after the project catches passengers.

In class: Drainage gradient used correctly in the costing? Individual five-question check the lesson after.

Reasoning shown

Is the solution justified against alternatives, with trade-offs named?

In class: Why option B over A: two reasons that reference the constraints, not preference.

Process evidenced

Decision log, role contributions, response to setbacks: the scribe's record is the evidence.

In class: The log shows the group abandoned option C when the costs came in: that pivot is marks, not failure.

CPD BRIEFING: STAFF ROOM COPY

Problem-Based Learning: A 5-Minute Evidence Briefing

The guidance debate, applied honestly to PBL. Both camps are right about something.

Structured PBL works

Guided inquiry beats exposition across 72 studies when support is designed in. The six-phase structure, milestones and role system ARE the guidance.

The critics are right about the failure mode

Unguided discovery reliably fails novices: working memory cannot self-teach from open exploration. PBL without phase-3 explicit teaching becomes exactly what the critics describe.

The rebuttal is right about the remedy

PBL's defenders showed its guidance is adjustable: heavy scaffolds for novices, faded for veterans. The dial exists; the teacher sets it.

The honest caveat

PBL evidence is strongest in medical and higher education; school-age trials are fewer and effects vary with implementation quality. Start with one well-designed problem per term, assess knowledge individually, and judge by your own results.

Evidence base

Lazonder, A.W. and Harmsen, R. (2016). Meta-analysis of inquiry-based learning: effects of guidance. Review of Educational Research.
Kirschner, P.A., Sweller, J. and Clark, R.E. (2006). Why minimal guidance during instruction does not work. Educational Psychologist.
Schmidt, H.G. et al. (2007). Problem-based learning is compatible with human cognitive architecture. Educational Psychologist.