

7-Step PLC Cycle Planning Chart for Problem Solving

From Student Work to Instructional Action | Student thinking at the center

1. PLAN

PURPOSE Intentionally design a shared problem-solving experience that reveals student thinking and aligns with mathematical goals, the problem-solving process, and Vision of a Learner competencies.

PLC QUESTIONS

- What do we want students to understand?
- What task will reveal that understanding?
- What strategies or misconceptions might we see?
- What evidence will we collect?

EVIDENCE / ARTIFACTS Rich task; learning intention and success criteria; anticipated strategies; competency connections; evidence-collection plan.

TEAM NOTES / INSTRUCTIONAL DECISIONS

2. ENGAGE

PURPOSE Facilitate the task and gather authentic evidence of how students approach, solve, communicate, revise, and persevere.

PLC QUESTIONS

- What are students doing as they solve?
- Which strategies are they choosing?
- Where are they getting stuck?
- What do we hear and observe beyond the finished paper?

EVIDENCE / ARTIFACTS Student work; observations; photos or vertical-board work; strategy notes; student comments and reflections.

TEAM NOTES / INSTRUCTIONAL DECISIONS

7-Step PLC Cycle Planning Chart for Problem Solving

From Student Work to Instructional Action | Student thinking at the center

3. EXAMINE

PURPOSE Collaboratively study student work for patterns in understanding, strategies, misconceptions, and problem-solving behaviors—not just right or wrong answers.

PLC QUESTIONS

- What do we notice?
- What do students understand?
- What patterns do we see?
- How can we categorize work by thinking rather than scores?

EVIDENCE / ARTIFACTS LASW notes; categorized work; patterns and misconceptions; strategy groups; PLC observations and wonderings.

TEAM NOTES / INSTRUCTIONAL DECISIONS

4. INVESTIGATE

PURPOSE Go beyond the paper through student interviews and conferences to uncover the thinking behind the work.

PLC QUESTIONS

- What can't we tell from the paper?
- Which students should we conference with?
- What questions will uncover their thinking?
- Is the challenge conceptual, strategic, or procedural?

EVIDENCE / ARTIFACTS Conference notes; student explanations; anecdotal data; clarified misconceptions; additional evidence.

TEAM NOTES / INSTRUCTIONAL DECISIONS

7-Step PLC Cycle Planning Chart for Problem Solving

From Student Work to Instructional Action | Student thinking at the center

5. RESPOND

PURPOSE Turn analysis into intentional instruction, keeping student thinking and problem solving at the center.

PLC QUESTIONS

- What should happen next?
- Which students share similar needs?
- What small-group instruction will move thinking forward?
- Who needs support, another representation, or greater challenge?

EVIDENCE / ARTIFACTS Flexible groups; targeted instructional plan; next task or routine; questioning plan; intervention or enrichment.

TEAM NOTES / INSTRUCTIONAL DECISIONS

6. REVISIT

PURPOSE Provide another opportunity to apply learning and determine whether instruction changed student thinking.

PLC QUESTIONS

- What changed?
- Are students using new or more efficient strategies?
- Can they transfer learning to a new problem?
- Who is becoming more independent?

EVIDENCE / ARTIFACTS Follow-up work; progress-monitoring evidence; before/after samples; updated groups; evidence of strategy growth.

TEAM NOTES / INSTRUCTIONAL DECISIONS

7-Step PLC Cycle Planning Chart for Problem Solving

From Student Work to Instructional Action | Student thinking at the center

7. REFLECT & CELEBRATE

PURPOSE Make growth visible to students and teachers, then use the evidence to launch the next cycle.

PLC QUESTIONS

- What growth do we see?
- What did students learn about themselves as problem solvers?
- Where is Vision of a Learner evident?
- What will we plan next?

EVIDENCE / ARTIFACTS Student reflections; Vision of a Learner evidence; PLC reflections; celebrations; next instructional question.

TEAM NOTES / INSTRUCTIONAL DECISIONS

NEXT PLC: Our Collective Commitment

Instructional action / next rich task:

Who will do what, and by when:

Student evidence to bring back:

What we will celebrate:
