**What Students and Teachers Do During the Phases of a TTP Lesson**

Teaching Through Problem-solving flows through four phases as students:



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| Phase | What Students Do | What Teachers Do |
| 1. Grasp the problem
 | Understand the problem and develop interest in solving it.Consider what they know that might help them solve the problem.  | Shows several student journal reflections from the prior lesson.Poses a problem that students do not yet know how to solve.Interests students in the problem and in thinking about their own related knowledge.  |
| 1. Try to solve
 | Independently try to solve the problem.Students *are not* simply following the teacher’s solution example. Classmates may provide input after some independent think time. | Circulates, using seating chart to note each student’s solution approach.Identifies work to be presented and discussed at board.If some students finish quickly or don’t get started, asks individual questions to spark more thinking. |
| 1. Present and discuss
 | Selected students present and explain solution ideas at the board, are questioned by classmates and teacher.All students actively make sense of the presented work and draw out key mathematical points.  | Strategically selects and sequences student presentations of work at the board, to build the new mathematics. (Incorrect approaches may be included.)Monitors student discussion: Are all students are noticing the important mathematical ideas?Adds teacher moves (questions, turn-and-talk, votes) as needed to build important mathematics. |
| 1. Summarize and reflect
 | Consider what they learned and share their thoughts with class, to help formulate class summary of learning. Copy summary into journal.Write journal reflection on their own learning from the lesson. | Writes on the board a brief summary of what the class learned during the lesson, using student ideas and words where possible.Asks students to write in their journals about what they learned during the lesson.  |