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Squares on a checkerboard.
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Summary: In this article the author describes a problem posed to his class, "How many squares are there on a checkerboard?" The problem is deliberately vague so that the teacher can get the students to begin asking questions. The first goal is to come to an agreement about what the problem means (Identify the problem). The second goal is to get students to want to find a solution and then to give them a safe environment in which to wonder. In this environment is a need to overcome inertia. The teacher uses a variety of techniques to keep the thinking in motion, telling the children "just enough." When a pattern emerges, the focus is on expressing it. This expression can occur on many different levels. When the task is completed, students are "applauded" for a job well done, and they are offered the possibility of something else to discover, which may consist of taking the problem to a more sophisticated level (e.g., a checkerboard with even more squares than the traditional checkerboard), or it might involve a new problem that requires similar strategies (e.g., "Has this problem anything in common with the Checkerboard problem?") This kind of lesson has much to offer children. It promotes excitement, ownership, and understanding. This lesson has much to offer young teachers as well. In addition to obvious feelings of gratification, the teacher has been given an opportunity to hone important new skills. There is much for everyone to celebrate. (ERIC)

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