

Problem Solving Ideas

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Involve students as much as possible.

Challenge students always.

Amaze students just a little.

Frustrate students just enough.

Tell students as little as possible.

Encourage students for every step forward, no matter how small.

Accept ideas—even crazy ones.

Have fun—enjoy the problems yourself.

Involve students. Present problems to which the students can relate. Use familiar ideas and situations. Get every student to try the problem. Problems that can be solved by trying lots of examples are useful; every student can be working on a different example. Problems that use manipulative materials also invite all to take part.

Challenge students. Problems that are too easy can become boring. Students should have a sense of accomplishment when the problem is solved. This does not happen if there is no challenge. However, what challenges one student may not challenge another. Some students may be challenged by a list-making problem, others by geometrically oriented ones and others by complicated calculations. The teacher must choose problems appropriate for each student.

Amaze students. Using a “trick” to solve a question can be amazing to students. The problem then

becomes to figure out what the trick is or how it works.

Frustrate students. This is probably the easiest thing for a teacher to do. The difficult part is to frustrate just enough to make the student take one step beyond the familiar. Small frustrations can stretch the mind; large ones can destroy it.

Tell students. Again, this is an area where teachers excel. Teachers by nature like to tell someone else how to do it. It is difficult to keep the mouth shut and let the student do most of the talking and thinking. Problems that are obvious to teachers are not so obvious to students. Keep quiet and let them think and work.

Encourage students. Students need to feel good about themselves. Teachers can create these good feelings by encouraging even the smallest progress. A student does not have to solve the problem to learn much about problem solving. Remember, the thinking skills developed are more important than the answer to the problem.

Accept ideas. Brainstorming is a viable technique to use in problem solving. Sometimes the wildest ideas can lead to solutions, and they do show creativity.

Have fun. If the teacher does not enjoy working on problems, there is little chance the students will. Let them know that the fun is in the process of the solution, not the solution itself.