

problems cannot be solved by simply choosing an operation such as addition, subtraction, multiplication, or division. The following list indicates the strategies which are suggested for solving problems in this book. Students may develop different terminology for various strategies. That's fine.

Restate the problem In Your Own Words.

What information is given in the problem?

What are the conditions?

What are you asked to find?

Trial and Error

Use All Given and Implied Information

Solve Part of the Problem

Draw a Diagram

Make a List or Make a Chart

Search for a Pattern

Solve a Simpler Problem

Work Backwards

As many as four strategy-directed hints accompany the main problem in each set. The first looking back question in each set includes a strategy-directed hint. Most other looking back questions do not; instead, they provide opportunities for students to think of strategies themselves.

Set The Tone

Many factors affect the success of a problem-solving program. Some can be controlled more than others. The classroom atmosphere is one of the most important aspects affecting success and it depends largely on the actions and the attitude of the teacher.

During the first eight to ten weeks of the program, the teacher's emphasis should be on classroom atmosphere. Paying careful attention to the development of a supportive atmosphere early can accelerate progress for the remainder of the year. Give special emphasis to the value of taking risks. Compliment children for playing hunches, and encourage others to be supportive. Your consistent enthusiasm and praise can make an enormous difference.

Take actions to assure that students have plenty of successes during the early part of the year. As children experience success resulting from their persistent efforts, both their willingness to attempt problems and their perseverance in finding solutions will increase.

Encourage groups of students to work together and assist each other to reduce pressure on individuals. Allow students plenty of time to solve problems and respond to questions. Persistence is more important than how quickly someone solves a problem.

Concentrate attention on the process of solving problems. Emphasize using and choosing problem-solving strategies and give far less attention to the answer. When reviewing solutions ask not, "What is your answer?", ask, "How did you solve it?"

Using The Program

Assign the problems in sequence:

Problemoids Level 4 was designed with the idea that students work the sets of problems in order and work the main problem in each set first. After reviewing the solution to the main problem, students work the looking back questions in order. A student's understanding of a problem set may be enhanced by experiences with problems earlier in the sequence. In several instances problem sets in the book are related to each other.

The solution method of the first looking back problem is very similar to that of the main problem or