Problem-Solving Strategies

1. **Make a List:** Making a list is a systematic method of organizing information in rows and/or columns. By putting given information in an organized list, you can clearly analyze this information and then solve the problem by completing the list.

2. **Guess and Check:** Guess and check is a strategy of solving a problem by first guessing an answer and then seeing how close one can come to the answer of the problem. By continuing this strategy, you can narrow the possibilities of answers until finally the student is able to find the answer that solves the problem.

3. **Find a Pattern:** Finding a pattern is a strategy whereby you can observe given information, be it pictures, numbers, letters, words, colors, or sounds. By observing each given element, one at a time in consecutive sequence, you can solve the problem by deciding what the next element and elements will be in the pattern.

4. **Make a Drawing:** Making a drawing is an excellent strategy by which you can visualize the problem you are asked to solve by making a drawing of the given information. This strategy is especially helpful if you are unable to visualize the problem in your mind.

5. **Make a Chart or Table:** Making a chart or table is a very good strategy whereby information is organized in a clear, readable format. By analyzing information in a clear, concise chart, you can interpret information and see what the problem is and how it can be solved. Oftentimes, after placing given information in a chart or table, a pattern can be detected which makes the problem easy to solve.

6. **Logical Reasoning:** Using logical reasoning to solve a problem involves many facets. Working backwards, making a reasonable estimate, eliminating possibilities, and acting out the problem are all examples of using logical reasoning. When you have the answer to a problem, but do not know exactly how to work the problem, you can put the answer into the problem and work the problem backwards to see how the problem was done. By using logical reasoning, you can make a reasonable estimate, thereby eliminating many incorrect possibilities. You use deductive thinking when you solve a problem by eliminating possibilities. By eliminating possibilities to solve a problem, you are eventually left with the answer to a problem. A problem that asks for the sequence is often solved by acting out the problem by moving things or people. This is a quick and fun way to solve not only sequential problems, but problems that are difficult to visualize or to chart on paper.