

Problem Solving

Problem Solving Plans

Posters like the ones below are posted in each classroom and referred to during problem solving lessons. Their purpose is to help students develop confidence in tackling word problems by giving them the skills necessary to be successful problem solvers.

- ▶ **Primary (K-2)**
- ▶ **Intermediate (3-5)**

The Strategies

Problem solving strategies described below will be used by Olympic View Elementary teachers to develop students' understanding of ways to solve math problems. Teaching students how to use the different strategies when they work in mathematics will provide them with a greater ability to understand and solve a variety of math problems.

- **Estimation**
In real life we use estimation to determine about how much something costs or how much we need of an item. In some math problems you only need an answer that is close to exact. In those situations, estimation is appropriate. In other cases, you need an exact answer. Students decide which method to use by what will be done with the answer.



- **Guess and Check**

The problem solver guesses the answers, tests to see if it is correct and makes another guess if the previous one was incorrect. The goal is to use each guess to get closer to the right answer.

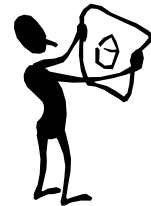
- **Look for a Pattern**

2, 4, 8, 16...

By identifying the pattern (a regular systematic repetition), the problem solver can predict what will come next or what will happen again and again.

- **Draw a Picture**

If you are explaining a play in soccer or football, you might draw a picture (diagram) to help you. In solving a math problem a picture can help the problem solver visualize the problem to find a solution to the problem.



- **Use Objects**

Using real materials to model the information may help students solve the problem. Blocks, beans, counters, rulers, protractors, compasses, dice and play money are some examples of materials that may be used to represent the information given in a problem.



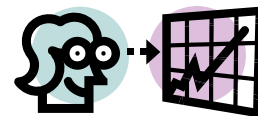
- **Make an Organized List**

Recording work in an organized list helps problem solvers organize their thinking, makes it easy to see the data and find the answer to the problem.



- **Make a Table, Chart or Graph**

A table is an orderly arrangement of data, such as numbers. Putting information in rows and columns makes it easier to keep track of



numbers in a math problem. Patterns become obvious when data is missing. It is often used with some of the other strategies.

- **Work Backward**

If you know the end and you know the steps in between, you find the beginning by going step by step in reverse (or backward) order.

- **Logical Reasoning**

Have you ever used your reasoning abilities to figure out a mystery? You may have said phrases such as

- If something is true, then...
- If something is not true, then...

Logical reasoning is used for all problem solving.

