

Math – Problem Solving Strategies
Hartley-Melvin-Sanborn CSD
Grade Level/Course Benchmarks

Benchmark 1 - Apply and adapt a variety of appropriate strategies to solve problems. Students will recognize and be skilled when various strategies are appropriate to use and then know how to use them. **(Standard 4)**

These strategies include (from MathCounts):

- Compute or Simplify (C)
- Use a Formula (F)
- Make a Model or Diagram (M)
- Make a Table, Chart or List (T)
- Guess, Check & Revise (G)
- Consider a Simpler Case (S)
- Eliminate (E)
- Look for Patterns (P)

Benchmark 2 - Build new mathematical knowledge through problem solving by using the following steps: (Standard 4)

- **FIND OUT** Look at the problem.
 - Have you seen a similar problem before?
 - If so, how is this problem similar? How is it different?
 - What facts do you have?
 - What do you know that is not stated in the problem?
- **CHOOSE A STRATEGY** How have you solved similar problems in the past?
 - What strategies do you know?
 - Try a strategy that seems as if it will work.
 - If it doesn't, it may lead you to one that will.
- **SOLVE IT** Use the strategy you selected and work the problem.
- **LOOK BACK** Reread the question.
 - Did you answer the question asked?
 - Is your answer in the correct units?
 - Does your answer seem reasonable?

Benchmark 3 - Solve problems that arise in mathematics and in other contexts

Students will make mathematical problems that apply directly to decisions that they are currently required to make. **(Standard 6)**

Benchmark 4 - Monitor and reflect on the process of mathematical problem solving

Students will use metacognition (thinking about thinking) to reflect on their own preferences regarding problem solving. **(Standard 6)**

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