Some Great Problem Solving Books
Note: There are many more in the more general area of mathematical problem solving. Please ask or email me if you would like further recommendations.
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Title	Author(s)	Subjects, comments
Guesstimation: Solving the World's Problems on the Back of a Cocktail Napkin	Adam, John	Great introduction to estimation, powers of ten, units and unit conversions, orders of magnitude and grasping the essentials of an applied problem. Problems are small enough that they can be covered in a typical class period or less. Source of the STI 2011 hair length and area filled by the world's population problems.
A Mathematical Nature Walk	Adam, John	More advanced, nature-oriented applied problems than in *Guesstimation*.
Consider a Spherical Cow	Harte, John	Environmentally oriented applied math problems
Consider a Cylindrical Cow	Harte, John	Environmentally oriented applied math problems
Ants, Bikes, and Clocks: Problem Solving for Undergraduates	Briggs, William	General mathematical problem solving
Modeling the Environment	Ford, Andrew	Modeling environmental problems, using systems dynamics models with STELLA or Vensim (free). Some agent-based modeling covered as well.
Towing Icebergs, Falling Dominoes, and Other Adventures in Applied Mathematics	Banks, Robert	More advanced applied mathematics problem solving
Slicing Pizzas, Racing Turtles, and Further Adventures in Applied Mathematics	Banks, Robert	More advanced applied mathematics problem solving
Mathematical Circles: Russian Experience	Fomin, et al	Great basic and not-so-basic mathematical problem solving
The Art and Craft of Problem Solving	Zeitz, Paul	More advanced mathematical problem solving
Introduction to Computational Science: Modeling and Simulation for the Sciences	Shiflet and Shiflet	Computational science text using most major tools (*Mathematica*, Maple, Vensim, STELLA, Excel, and others).
Introduction to Scientific Programming: Computational Problem Solving using MATHEMATICA and C	Zachary, Joe	Very accessible computational science text using two tools, *Mathematica* and C.