

Online Problem Solving  
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<http://www.cut-the-knot.org/water.shtml>

- Three Glass Puzzle: Goal = 4 ounces
  - o I started by drawing a sketch of the glasses and used arrows to show which way the water was being poured but got lost in the messy drawing. I decided to set up a table instead:

3-ounce	5-ounce	8-ounce
0	0	8
0	5	3
3	2	3
0	2	6
2	0	6
2	5	1
3	<b>4</b>	1

- 2 Pails Puzzle: Goal = 8 gallons

Pail A 6-gallon	Pail B 11-gallon	pond
1 <sup>st</sup> Try		
0	11 from pond	
6 from B	5	
6	0	5 from B
0	6 from A	
6 from pond	6	
1	11 (5 from A)	
Spinning my wheels, try something different - 2 <sup>nd</sup> Try		
6 from pond	0	
0	6 from A	
6 from pond	6	
1	11 (5 from A)	
1	0 (11 to	

	pond)	
1	11 from pond	
6 (5 from B)	6	
3 <sup>rd</sup> Try		
6 from pond	0	
0	6 from A	

<https://www.theproblemsite.com/games/entrapment>

I tried the first puzzle and could never get more than two of the red balls entrapped. I needed a fourth gray ball! I tried a different problem then looked back at the example problem and realized I needed to put the gray balls in the shape of a triangle (procedural knowledge). I finally solved one! I had the necessary declarative knowledge, but not the procedural knowledge (triangle shape AND one gray ball has to be on the same plane as two red balls).

[http://www.theproblemsite.com/games/trio\\_match.asp](http://www.theproblemsite.com/games/trio_match.asp)

I do not play Tetris, never have, and the instructions were confusing. I did try this game eventually, but the rules and points to be earned were too much for me to keep in my head at one time without significant practice time (lack of declarative knowledge) and it took me a bit of practice to get the hang of how the pieces were going to behave when I clicked on them (procedural).

<http://www.plastelina.net/game1.html>

Wolf, Sheep, Cabbage - I've done puzzles like this before, so I have the procedural knowledge (items will need to be returned to the right side of the river after being moved to the left) as well as the declarative knowledge (wolf and sheep can't be left alone together; sheep and cabbage can't be left alone together).

<https://www.mathsisfun.com/games/towerofhanoi.html>

Tower of Hanoi with 4 discs - Minimum Moves: 15

I had to restart three or four times until I realized that my first goal should be to get the largest disc on the rightmost tower. I also kept trying to move stacks of discs instead of single discs. My procedural knowledge was lacking.