

Logic Grid Puzzles

There are many different types of puzzles that can be solved by using logic, some of which are among the oldest of puzzles and riddles in the world. This POW will explore one specific type of logic puzzle: grid-based logic puzzles. These puzzles present multiple categories and several options in each category and then ask you to match up the options based on the clues provided. These puzzles are often solved using grids, hence their name, and can range from rather simple and straight-forward to very complex.

1. Complete the following puzzle by filling in the grid below.

**Playing Around**

Three teachers (Pete, Jeff, and Cheri) have been assigned to recess coverage. The areas to which they have been assigned are the Woods, Play Court, and Terrace. Using the following clues, please figure out which teacher has been assigned to each location.

- a) Pete is not on the Play Court
- b) Cheri is either on the Terrace or in the Woods.
- c) The teacher on the terrace is not Pete or Jeff.

		Teacher		
		Pete	Jeff	Cheri
Location	Woods			
	Play Court			
	Terrace			

2. How did you know how to fill out the grid? Which clue helped you the most?

3. The following puzzle has three variables in three categories. Complete the grid using the clues provided.

**The Arts Elective Issue**

Silvia, Dave, and Chris are going to be offering Arts Electives next year. Unfortunately none of them can teach during the same term, fall, winter, or spring. Knowing that the three courses being offered are Chess, Cooking, and Scrapbooking, can you use these clues to figure out which teacher is teaching each class and when?

- a) Silvia is not teaching scrapbooking.
- b) Scrapbooking will be in the fall.
- c) Chess is not in the winter.
- d) Dave will be teaching in the winter.
- e) Chris is either teaching scrapbooking or chess.
- f) Silvia is either teaching cooking or teaching in the spring.

		Class			Teacher		
		Chess	Cooking	Scrapbooking	Silvia	Dave	Chris
Term	Fall						
	Winter						
	Spring						
Teacher	Silvia						
	Dave						
	Chris						

4. Some clues can appear to be tricky. In problem 3, how did you use clue f) to complete the grid?
5. Complete the following grid using the clues provided. This time there are four variables in three categories.

**Making Lit. Fit**

In the next Literature Round, "Fantastic Lands," there will be four books offered: *The Hobbit*, *Alice in Wonderland*, *The Wizard of Oz*, and *Peter Pan*. These books will be taught by Sal, Karen, Bota, and Shu Shu in rooms 1 through 4. Using the following chart and clues, try to figure out who is teaching each book and in what room the class will meet.

- a) The Wizard of Oz is in a room number one higher than the room assigned to Shu Shu.
- b) Alice in Wonderland is being taught by Bota
- c) Alice in Wonderland is in a room number higher than Karen.
- d) Alice in Wonderland is in a room one lower than Shu Shu.
- e) The Hobbit is in Room 3.

		Literature Book				Teacher			
		The Hobbit	Alice in Wonderland	The Wizard of Oz	Peter Pan	Sal	Karen	Bota	Shu Shu
Room	Room 1								
	Room 2								
	Room 3								
	Room 4								
Teacher	Sal								
	Karen								
	Bota								
	Shu Shu								

6. As more categories and variables are added, the logic puzzles become more complex and challenging. Which, in your opinion, adds more challenge to a problem, an additional category or an additional variable? Why?
7. Making logic puzzles like those in this POW is a lot of fun and a bit of a challenge. Create your own logic puzzle and see if you can solve it using only the clues you devise. Share your problem with friends and see if they can solve it. A suggestion for a good way to get started is to first complete an answer grid and then work backwards to the clues. A completed grid puzzle will include a short premise, a series of clues, and a grid to help solve the puzzle. Please make sure that your puzzle can be solved using ONLY the clues given; one should never have to guess in order to solve a logic puzzle.
8. If you want to try even more logic puzzles, do some online research by visiting [www.logic-puzzles.org](http://www.logic-puzzles.org) which features thousands of logic puzzles of all sorts of varying difficulty. Be sure to check with a teacher or parent before heading online.
9. Have fun!