

## PATTERNS II

A great game for three or more players at your next party!

### To Begin

Each player begins with an empty 6x6 grid, either a copy of the grid below or simply hand drawn on paper.

One player assumes the role of "The Designer" (Nature, or the Deity if you will). The other players assume the role of "scientists" or "investigators".

Before play begins, The Designer secretly fills in her grid by placing one of four symbols in each of the 36 cells. This is called the Master Pattern. As you will see, it's in The Designer's favor to make a good pattern, one that is not too simple or too complicated.

### The Play

Players begin by making an "observation" or "conducting an experiment". The player places a small mark in the corner of each cell he wants to test, and then submits his grid to The Designer. The Designer provides symbols for tested cells and returns the sheet to the player.

Players can approach The Designer at any time to submit another query of any number of cells.

When a player believes he has determined the pattern, he fills in his guesses and turns his sheet over. A player may drop out at any time without making any guesses. Play continues until all players have completed their grid, or have dropped out.

### The Scoring

Obviously, a player could test all the cells and get the Master Pattern. That player would score zero. Another player might not test any cells and completely guess the pattern, scoring -1 for each incorrect guess, and +1 for a correct guess. A player who drops out gets a score of zero for the round.

The Designer's score for the round is the twice the difference of the best and worst scores. Therefore it's in The Designer's best interest to make a pattern that she thinks one or more players will do well on, while other players may not induce it. The Designer is penalized 5 points for the first player who drops out, 10 points each for additional dropout. A random pattern would be impossible to guess, and everyone including The Designer would get a poor score for the round.

Scores are tallied and a new Designer steps up. It's most fair to play the same number of rounds as there are players, so that each can play The Designer's role. Much can be discussed about strategy and the relationship of the game to science.

## The genesis of Patterns II

From *Gamut of Games*, by Sid Sackson:

"Bob Abbott, with his card game Eleusis, opened up a whole new world to be explored, the world of inductive games. Martin Kruskal, of Princeton University, progressed further along the same path with another card game, Delphi."

"Martin Gardner, in his *Second Book of Mathematical Puzzles and Diversions*, struck out into new territory by introducing the idea of a game based on the intuitive guessing (hunches, in other words) of concealed visual patterns. Taking this proposal as a starting point, I developed Patterns II."

"PATTERNS II allows, in fact requires, the player to formulate a hypothesis and then test its validity by experimentation. If it stands up, it is probably right. If not, it must be changed to fit the new facts. And the player must be willing, if the experimental data fails to justify it, to throw out a hypothesis completely and come up with a new one. This process is, of course, what we call the scientific method."

PATTERNS was an unrelated card game also invented by Sid Sackson. It appears in Chapter Three of his *Gamut of Games*.

## References

*Gamut of Games*, by Sid Sackson, 1969, Random House, p 156.

*Mathematical Games*, by Martin Gardner, November 1969, *Scientific American*, p 140.

*Mathematical Circus*, by Martin Gardner, 1979, Knopf, Chapter 4, "Patterns of Induction".

[http://en.wikipedia.org/wiki/Patterns\\_II](http://en.wikipedia.org/wiki/Patterns_II)

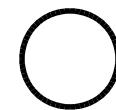
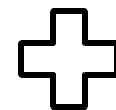
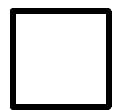
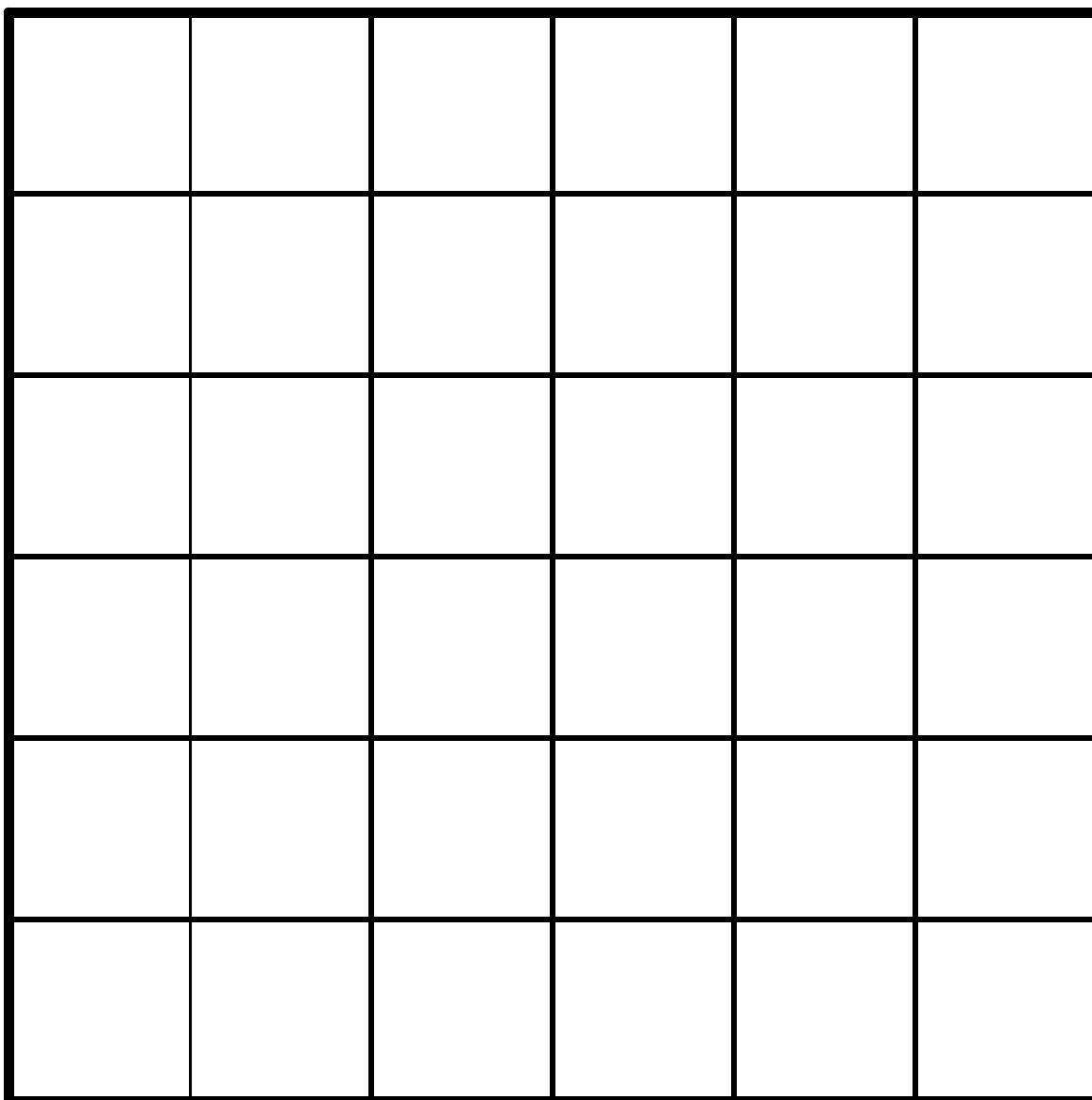
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[http://en.wikipedia.org/wiki/Eleusis\\_\(card\\_game\)](http://en.wikipedia.org/wiki/Eleusis_(card_game)

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Prepared for the Centennial of Martin Gardner's birth, October 2014, by John Miller, Portland, Oregon.

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