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15 Puzzle

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Synonym	Fifteen Puzzle
Synonym	Game of Fifteen

The *15 Puzzle* is a square tablet containing 15 smaller square tiles labeled with the integers 1 to 15, set so that only one square may be moved at a time into the only available empty square by a move up or down or left or right (but never diagonally). The goal of the puzzle is to take a puzzle in an unsorted initial state, such as

7	8		1
2	3	4	5
6	9	10	11
12	13	14	15

and set each tile in its proper order.

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	

The puzzle was invented by Noyes Chapman, who also created a famously unsolvable version with 14 and 15 switched. His original idea was to construct a puzzle with 16 tiles that would be moved to form a magic square with 34 as its magic constant. The 15 Puzzle was initially made of wood; today they are almost always made of plastic. Darling calls it “the Rubik’s cube of its day.”

References

- [1] D. Darling, “15 Puzzle” in *The Universal Book of Mathematics: From Abracadabra To Zeno’s paradoxes*. Hoboken, New Jersey: Wiley (2004)