## ABOUT THESE PUZZLES

Suguru, also known as Tectonics, Number Blocks, or  $+ \nu$  (Nanba Burokku), were first created in Japan by prolific puzzle designer Naoki Inaba. While the rules of Suguru are extremely simple, the spectrum of puzzle difficulties is extremely wide – from super easy to crazy-insane-impossible, which makes for an unusually deep puzzle.

In this book, all the Suguru are subdivided into a grid of 6 by 6 cells (a cell is an individual square which holds a single digit). The cells are grouped into containers, with thicker borders, each of which is one to five cells in size (most are five). You need to fill each container with unique digits, counting up from 1. So, for example, a two-cell container always contains the numbers 1 and 2. A five-cell container contains each of the numbers 1 through 5. Adjacent (touching) cells may never contain the same number, and this includes diagonally adjacent cells. That's it for the rules!

| 5 |  | 2 | 4 |
|---|--|---|---|
|   |  |   | 5 |
|   |  |   |   |
| 4 |  |   | 3 |
|   |  |   |   |
| 3 |  | 3 |   |

| 5 | 2 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 4 | 3 | 4 | 5 | 1 | 5 |
| 1 | 2 | 1 | 2 | 4 | 2 |
| 4 | 3 | 5 | 3 | 1 | 3 |
| 1 | 2 | 1 | 2 | 5 | 4 |
| 3 | 5 | 4 | 3 | 1 | 2 |

Like all my puzzles, every puzzle in this book has only one unique solution. I've arranged the puzzles in this book roughly in order of difficulty so that the first page contains the easiest puzzles, and the last page the hardest. If you've never tried these puzzles before, you should definitely try them in order.

## SUGURU TUTORIAL

In this tutorial, we'll start solving the puzzle on the previous page, and learn the basic rules-of-thumb you can use to solve these puzzles. First, some nomenclature.

When I say *cell* I mean an individual square in the puzzle. In the diagrams below, I've labeled the rows and columns, so that I can use "battleship notation" to refer to individual cells. For example, *A1* refers to the cell on the upper left, and *F6* refers to the cell on the lower right. *A2* is the circled cell, below.

When I say *container*, I mean a group of cells that are enclosed in a thick line. The puzzles below have a four-cell container that includes the cells *A*2, *A*3, *B*3, and *B*4.

When I say *enclosed cells* I am referring to cells that occupy the same container, such as A2, A3, B3, and B4.

When I say A2=4, I mean you should write a 4 into the cell A2.

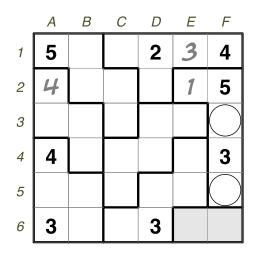
Okay, enough nomenclature, let's solve the puzzle!

|   | Α | В | С | D | Ε | F |
|---|---|---|---|---|---|---|
| 1 | 5 |   |   | 2 |   | 4 |
| 2 |   |   |   |   |   | 5 |
| 3 |   |   |   |   |   |   |
| 4 | 4 |   |   |   |   | 3 |
| 5 |   |   |   |   |   |   |
| 6 | 3 |   |   | 3 |   |   |

Normally, the first thing I do is look at the smallest containers. There is a two-cell container on the lower right, but I can't make much progress with it yet. The next smallest is the four-cell container (A2, A3, B3, and B4) which must contain the numbers 1 thru 4. Three of its cells are already adjacent to a 4, which means they can't be 4, leaving the remaining cell, A2, as the only option. A2=4.

|   | Α | В | С | D | Ε | F |
|---|---|---|---|---|---|---|
| 1 | 5 |   |   | 2 |   | 4 |
| 2 | 4 |   |   |   |   | 5 |
| 3 |   |   |   |   |   |   |
| 4 | 4 |   |   |   |   | 3 |
| 5 |   |   |   |   |   |   |
| 6 | 3 |   |   | 3 |   |   |

Another good thing to look for is cells in crowded areas. E1 and E2 are two such cells. Both cells are adjacent to (2, 4, and 5) leaving only 1 and 3 as possibilities. However, E2 already shares a container with a 3, so it can't be 3. E2=1 and E1=3.



Now we can finish up the container that contains F3 and F5. These cells must contain 2 and 4, but which is which? If we look again at the short container (E6, F6), we can see that it must contain the values 1 and 2. Both of these cells are adjacent to F5, which means F5 cannot contain the 2, so it must be 4. F5=4 and F3=2.

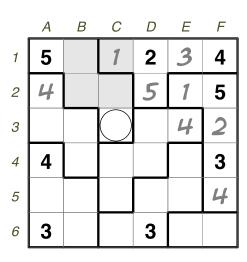
|   | Α | В | С | D | Ε | F |
|---|---|---|---|---|---|---|
| 1 | 5 |   |   | 2 | 3 | 4 |
| 2 | 4 |   |   |   | 1 | 5 |
| 3 |   |   |   |   |   | 2 |
| 4 | 4 |   |   |   |   | 3 |
| 5 |   |   |   |   |   | 4 |
| 6 | 3 |   |   | 3 |   |   |

Now we've created another crowded area. E3 is adjacent to (1, 5, 2, and 3) so it must be 4. E3=4.

Continuing in that vein, we can fill in D2 with a 5 (because all the other numbers are adjacent), and then the only remaining cell in its container is C1 which must be the remaining number, 1. D2=5 and C1=1.

|   | Α | В | С | D | Ε | F |
|---|---|---|---|---|---|---|
| 1 | 5 |   |   | 2 | 3 | 4 |
| 2 | 4 |   |   |   | 1 | 5 |
| 3 |   |   |   |   | 4 | 2 |
| 4 | 4 |   |   |   |   | 3 |
| 5 |   |   |   |   |   | 4 |
| 6 | 3 |   |   | 3 |   |   |

The 1 we just put in C1 eliminates all but one of the unsolved cells of the adjacent container, which means C3=1.

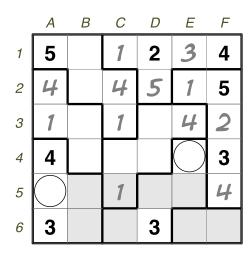


The 4 in A2 now eliminates all but one of the unsolved cells in that same container, so C2 must be 4. C2=4.

|   | Α | В | С | D | E | F |
|---|---|---|---|---|---|---|
| 1 | 5 |   | 1 | 2 | 3 | 4 |
| 2 | 4 |   |   | 5 | 1 | 5 |
| 3 |   |   | 1 |   | 4 | 2 |
| 4 | 4 |   |   |   |   | 3 |
| 5 |   |   |   |   |   | 4 |
| 6 | 3 |   |   | 3 |   |   |

|   | Α | В | С | D | E | F |
|---|---|---|---|---|---|---|
| 1 | 5 |   | 1 | 2 | 3 | 4 |
| 2 | 4 |   | 4 | 5 | 1 | 5 |
| 3 |   |   | 1 |   | 4 | 2 |
| 4 | 4 |   |   |   |   | 3 |
| 5 |   |   |   |   |   | 4 |
| 6 | 3 |   |   | 3 |   |   |

The 1 we recently put in C3 has a long reach, and enables us to find two more distant 1s. A3=1 and C5=1.



It's clear that A5=1, because B5 and B5 are adjacent to the 1 in C5.

Both E4 and E5 are the remaining possibilities for a 1 in their container, but we can eliminate E5, because it is adjacent to both cells in the two-cell container (E6, F6), one of which must contain a 1. A5=1 and E4=1.

|   | Α | В | С | D | Ε | F |
|---|---|---|---|---|---|---|
| 1 | 5 |   | 1 | 2 | 3 | 4 |
| 2 | 4 |   | 4 | 5 | 1 | 5 |
| 3 | 1 |   | 1 |   | 4 | 2 |
| 4 | 4 |   |   |   | 1 | 3 |
| 5 | 1 |   | 1 |   |   | 4 |
| 6 | 3 |   |   | 3 |   |   |

The remaining possibilities for E5 are 2 and 5. However, since one of (E6, F6) must contain a 2, E5 cannot also be 2. E5=5.

The cells (C6, D5) must contain 2 and 4, but which is which? The nearby cells (B5, B6) must contain 2 and 5. Since one of those nearby cells must contain 2, and they are both adjacent to C6, C6 cannot also contain the 2. C6=4 and D5=2.

|   | Α | В | С | D | E | F |
|---|---|---|---|---|---|---|
| 1 | 5 |   | 1 | 2 | 3 | 4 |
| 2 | 4 |   | 4 | 5 | 1 | 5 |
| 3 | 1 |   | 1 |   | 4 | 2 |
| 4 | 4 |   |   |   | 1 | 3 |
| 5 | 1 |   | 1 |   | 5 | 4 |
| 6 | 3 |   |   | 3 |   |   |

At this point, perhaps you'd like to finish the puzzle yourself? Here's where we are.

Give it a try! The answer is shown on the next page.

| 5 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 4 | 4 | 5 | 1 | 5 |
| 1 | 1 |   | 4 | 2 |
| 4 |   |   | 1 | 3 |
| 1 | 1 | 2 | 5 | 4 |
| 3 | 4 | 3 |   |   |

| 5 | 2 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 4 | 3 | 4 | 5 | 1 | 5 |
| 1 | 2 | 1 | 2 | 4 | 2 |
| 4 | 3 | 5 | 3 | 1 | 3 |
| 1 | 2 | 1 | 2 | 5 | 4 |
| 3 | 5 | 4 | 3 | 1 | 2 |

## To recap:

- 1. Find small containers they have fewer digit possibilities and can often be solved early.
- 2. Look for crowded areas cells that are surrounded by all but one number. Either the numbers are explicitly filled out, or they are implicit (because they belong to the same container).
- 3. Look for containers in which all but one remaining cell are adjacent to the same number (the nonadjacent cell must be that number).
- 4. Look at the effect of the digits you have most recently entered, and how they affect the cells next to them.

These strategies will help you solve many of the puzzles in this book, but we've barely dipped into the tactics you can use to solve these puzzles.

When you get stuck on a more difficult puzzle, you'll probably find it useful to mark each unsolved cell with the possible numbers that it might contain. These markings can help you make further progress, and as you erase these numbers, you can solve cells using the process of elimination.

Over time, you'll develop more skills, as you encounter new challenges. Discovering how to effectively solve these puzzles is half the fun!

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