# SU DOKU COMPONENT PUZZLES

Su Doku puzzles are an excellent way to practise component facts if the puzzles incorporate the need to use some addition/subtraction facts to solve them. This type of Su Doku puzzle is often called a 'killer' puzzle and is both more enjoyable and more challenging than the original Su Doku puzzles. Since 9 x 9 grids are rather daunting, I make smaller puzzles for my pupils and produce grids for a variety of number ranges (e.g. numbers 1–4 or 1–5 for the easiest puzzles and a range of numbers up to 8 or 9 for harder puzzles).

Make sure the puzzle-solver knows how to partition and combine small numbers without counting in ones, and that they use logic and reasoning – not guesswork – to reach a solution.

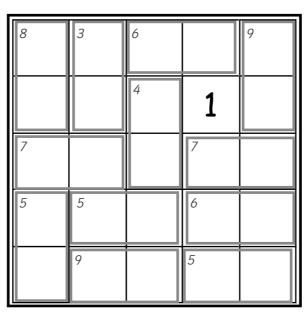All my puzzles are designed to be solved without resorting to guesswork or trial and error.

Many more Su Doku puzzles at varying levels of difficulty can be found in my books *Overcoming Difficulties with Number* and *The Dyscalculia Resource Book*.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

In the Su Doku Component puzzle below, the numbers from 1 to 5 appear once, and once only, in each row and in each column.

The thicker lines enclose two different components that must add up to the number in the top left of the enclosure.

*HINTS:*
*Each row and each column must add up to 1 + 2 + 3 + 4 + 5 =* ☐ *.*

*There is only one way to build each of the numbers 3 and 4 (2 + 2 = 4 cannot be used in the puzzle because you are not allowed two 2s in the same column or the same row) and only two possible ways to build the number 5, namely* ☐ + ☐ *or* ☐ + ☐ *.*

| 8 | 3 | 6 |   | 9 |
|---|---|---|---|---|
|   |   | 4 | **1** |   |
| 7 |   |   | 7 |   |
| 5 | 5 |   | 6 |   |
|   | 9 |   | 5 |   |

# SU DOKU COMPONENT PUZZLES

In the Su Doku Component puzzles on this page, the numbers from 1 to 6 appear once in each row and in each column.

The thicker lines enclose two (or in one case, three) different components that must add up to the number in the top left of the enclosure.
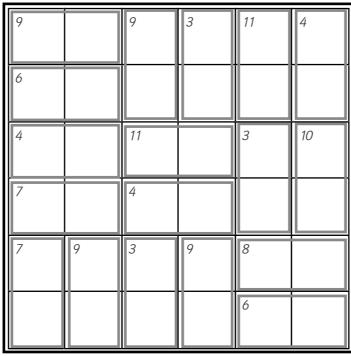
*HINT: The easiest way into the first puzzle is to recognise that there is only one way of building the number 6 from three different components:  6 = ☐ + ☐ + ☐ .*

Write the numbers **1 – 6** once only in each column and each row.

Ronit Bird  2009

Write the numbers **1 – 6** once only in each column and each row.

Ronit Bird  2009

# SU DOKU COMPONENT PUZZLES

In the Su Doku Component puzzle on this page, and in the first puzzle on the next page, the numbers from 3 to 8 appear once in each row and in each column.

The thicker lines enclose two different components that must add up to the number in the top left of the enclosure.

*HINTS:  Determine what each row and each column must total: 3 + 4 + 5 + 6 + 7 + 8 =* ☐ *.*

*Notice that the largest number that can be built from two components is 8 + 7 =* ☐
*and that the smallest number that can be built from two components is 3 + 4 =* ☐ *.*

*Notice why the numbers 7 and 8 can only be created by using 3 as one of the components.*

*Notice that there are only two possible combinations for creating the numbers 12 and 13 and only one possible combination for 14 or 15.  Work them out  : 12 =* ☐ *+* ☐ *or* ☐ *+* ☐

*13 =* ☐ *+* ☐ *or* ☐ *+* ☐

*14 =* ☐ *+* ☐

*1 5 =* ☐ *+* ☐ *.*

Write the numbers
**3 – 8** once only in
each column and
each row.



Ronit Bird  2009

# SU DOKU COMPONENT PUZZLES

In the Su Doku Component puzzle at the top of this page, the numbers from 3 to 8 appear once in each row and in each column. In the puzzle at the bottom of this page, it is the numbers from 4 to 9 that appear once in each row and in each column.

The thicker lines enclose two different components that must add up to the number in the top left of the enclosure.

Write the numbers **3 – 8** once only in each column and each row.



Write the numbers **4 – 9** once only in each column and each row.



Ronit Bird  2009

# DIFFERENCE SU DOKU PUZZLES

In this Su Doku puzzle the numbers from 1 to 5 appear once in each row and in each column.
Thicker lines enclose two numbers (which must, of course, not be the same as each other).
The number given at the top of the enclosure is the difference (subtraction fact) between the two enclosed numbers.

Write the numbers **1 - 5** once only in each column and each row.

| | | | | |
|---|---|---|---|---|
| Difference of 4 | | Difference of 1 | Difference of 1 | |
| 2 | Difference of 3 | | Difference of 3 | |
| Difference of 3 | | Difference of 4 | | 3 |
| | Difference of 1 | | Difference of 2 | Difference of 4 |
| Difference of 1 | | 5 | | |

Ronit Bird  2009