

Dicey Operations



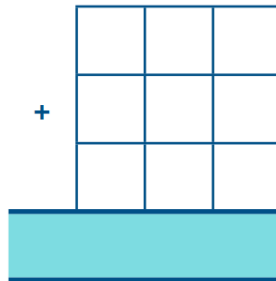
Find a partner and a die (preferably 0 - 9 but if you don't have one you can use a 1 - 6 die).

Each of you draw an addition grid like the one on the right.

Take turns to throw the die and decide which of your cells to fill in.

Throw the die nine times each until all the cells are full.

Whoever has the sum closest to 1000 wins.



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When I rolled a 7, I decided to put it in the tens place because it would help the number be larger. Then I rolled a 3, and I decided to put it in the hundreds place because if the hundreds place was a very small or large number like 7-9 or 1-2, it can have a large effect. And when my partner rolled a 5, and she put it in the hundreds place, there is a probability that she would get larger numbers. Next, when it's time for the 2nd 3 digit number, my partner rolled a 8, and she put it in the hundreds place, so $8+5=13$. So the number must be larger than 1300.

3	7	0
5	0	6

My grid

5	2	6
8	6	8

My partner's grid

If I roll a small number, I can put it in the hundreds place to have a big chance to win.

If she rolls a 1, the number must be larger than 1400, so I have a bigger chance to win.

Then, when I rolled a 4 for the last 3 digit number, I decided to put it in the hundreds place because there is a chance that I can roll a large number. The number must be less than 1400.

And the final results are:

3	7	0
5	0	6
4	5	4
1	3	3

→ My grid

5	2	6
8	6	8
5	0	9
1	9	0

→ My partner's
grid

My strategy is to look what your partner got and if you rolled a 3 or 4, you will need to put it in the hundreds place because if you put a very small number, then your outcome can be small only if you are lucky and rolled 7 or 8. If it is very large at first, like 7, 8, 9, your number would be very big.