# **Three indistinguishable dice problem – Matt Parker**



You only have the tool on the left - three dice inside a cube.

But you want to play a game that requires throwing a single dice and then a game that requires throwing two dice and adding their score together.

Is there a way that you can use the sum of these three dice to simulate both of these scenarios?

#### Task 1

## First work out the distribution of numbers you can score with three dice

Sum	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Number of																
ways																

#### Can you map this in a nice way to the distribution for 1 dice?

Sum	1	2	3	4	5	6
Number of						
ways						

## Task 2

How about for 2 dice?

Sum	2	3	4	5	6	7	8	9	10	11	12
Number of											
ways											