## The die is cast

## How many dice fall with the red side up after throwing?

Throw all the dice at once.
Put all the dice that fell with the red side up into the compartment at the far left.

Throw the remaining dice again, and put the ones that fell with the red side up into the next empty compartment.

Keep going until you run out of dice or all the compartments have dice in them.

How does the pattern made by the dice look like? What did you expect?

The number of dice in each compartment tends to get smaller, but sometimes you get outliers.
Throwing dice is a random process. These dice have a 1 in 6 chance of landing with the red side up. That means on average in each throw one sixth of the dice show a red dot. With every cast the number of red dots gets smaller. If you plot a graph showing how the number of red dots drops with time, you get for the ideal case a curve called an exponential curve. You can see this curve roughly in the shape made by the dice in the compartments.

However, the exact number of dice showing red in one single cast is different every time and fully unpredictable.

