

6 - Digital Dice Simulation

While throwing the dice gives us some intuition to how radioisotope decay works, it is not very flexible. We can't throw many more dice (not fun to pick up and count), and the dice can't have too many sides (they would look like soccer balls). A **digital simulation** would let you explore wider phenomena.

A digital dice-throwing app can be found at <https://www.jon.hk/app/kineqmsim/>

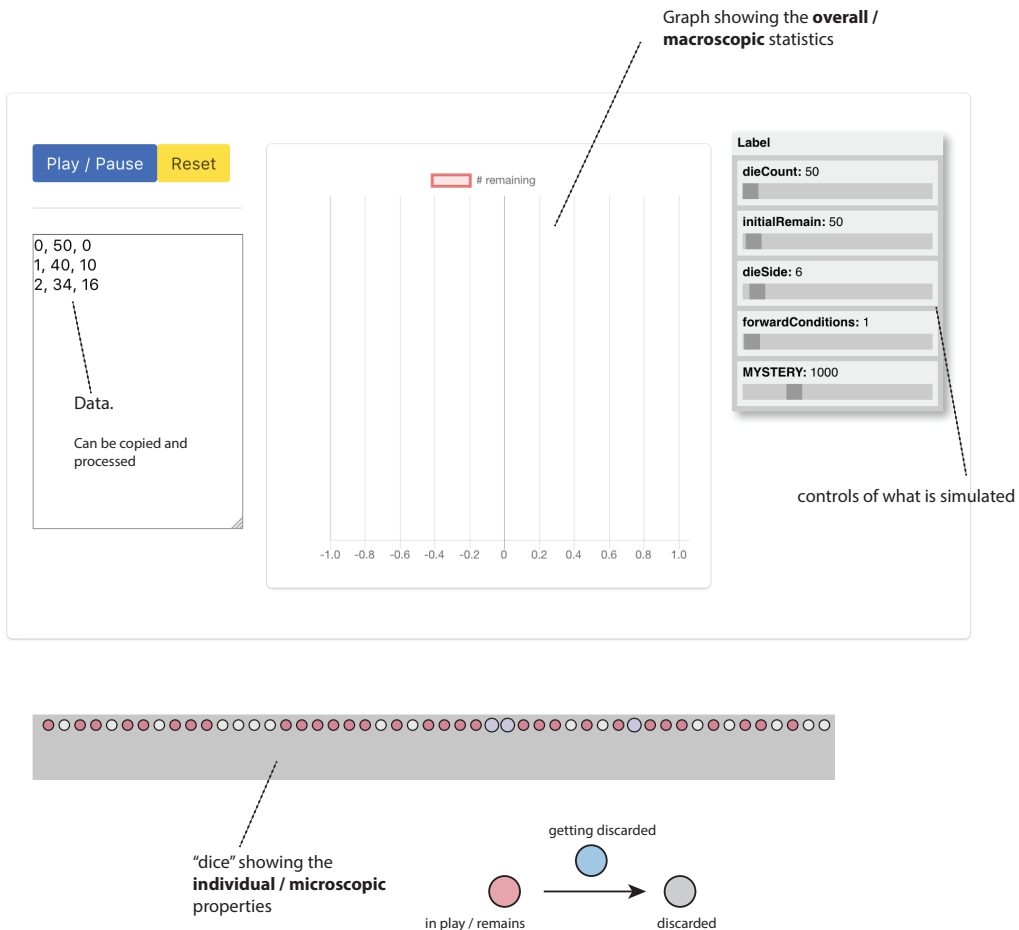
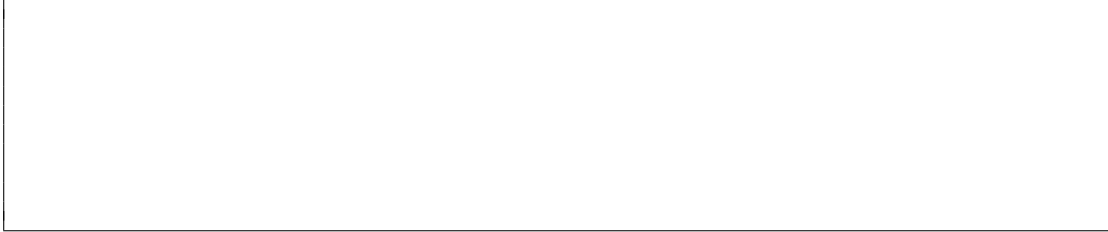


Figure 1 The interface of the simulation

For today, just play around and familiarize yourself with the interface.

1. **Controlling the simulation**

(a) Sketch a graph with `dieCount = 50`, `initialRemain = 50`, `dieSide = 6`, `forward conditions = 1`



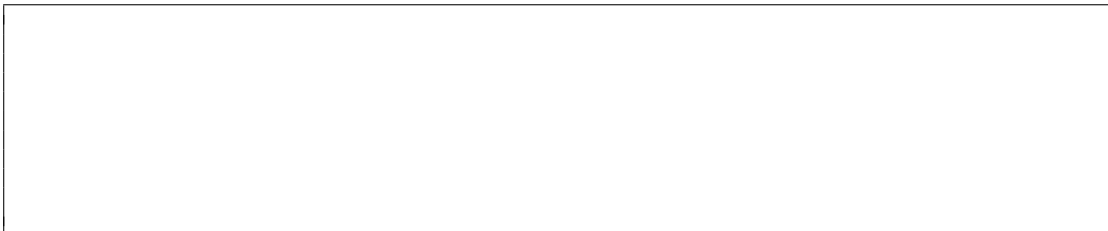
(b) Sketch a graph with **`dieCount = 500`**, **`initialRemain = 500`**, `dieSide = 10`, `forward conditions = 1`



(c) Sketch a graph with `dieCount = 500`, `initialRemain = 500`, **`dieSide = 100`**, `forward conditions = 1`



(d) Sketch a graph with `dieCount = 500`, `initialRemain = 500`, `dieSide = 100`, **`forward conditions = 5`**



(e) What does the “dieCount” slider do?

.....

.....

(f) What does the “dieSide” slider do?

.....

.....

(g) What does the “forwardConditions” slider do?

.....

.....

(h) What does the “MYSTERY” slider do?

.....

.....