

Well, it turns out it is actually carbon-11 which has a much longer half life so using the robots to simulate it is not feasible. Your new task is to update your program to run the simulation without the robots. You should run at least 10 trials with a sample size of at least 100 atoms.

Chance of decay:

The half life of carbon-11 is _____ seconds. That means after that many seconds, fifty percent of the atoms will still be carbon-11 and the other half will have decayed into boron.

What percent of atoms remain after one second?

What are the chances each atom will remain carbon each second?

Program considerations:

How will you keep track of time?

How will you keep track of the trials?

How will you show your results?