Radioactive Dice
Data Interpretation

Name:_____

Date:_____

1. Plot your data on the graph below.

The Decay of 50 ^{238}U Dice over 15 Rolls

- - - - - Theoretical Decay

Observed Decay

^{238}U Atoms Remaining

50

45

40

35

30

25

20

15

10

5

0

0   5   10   15

Roll Number
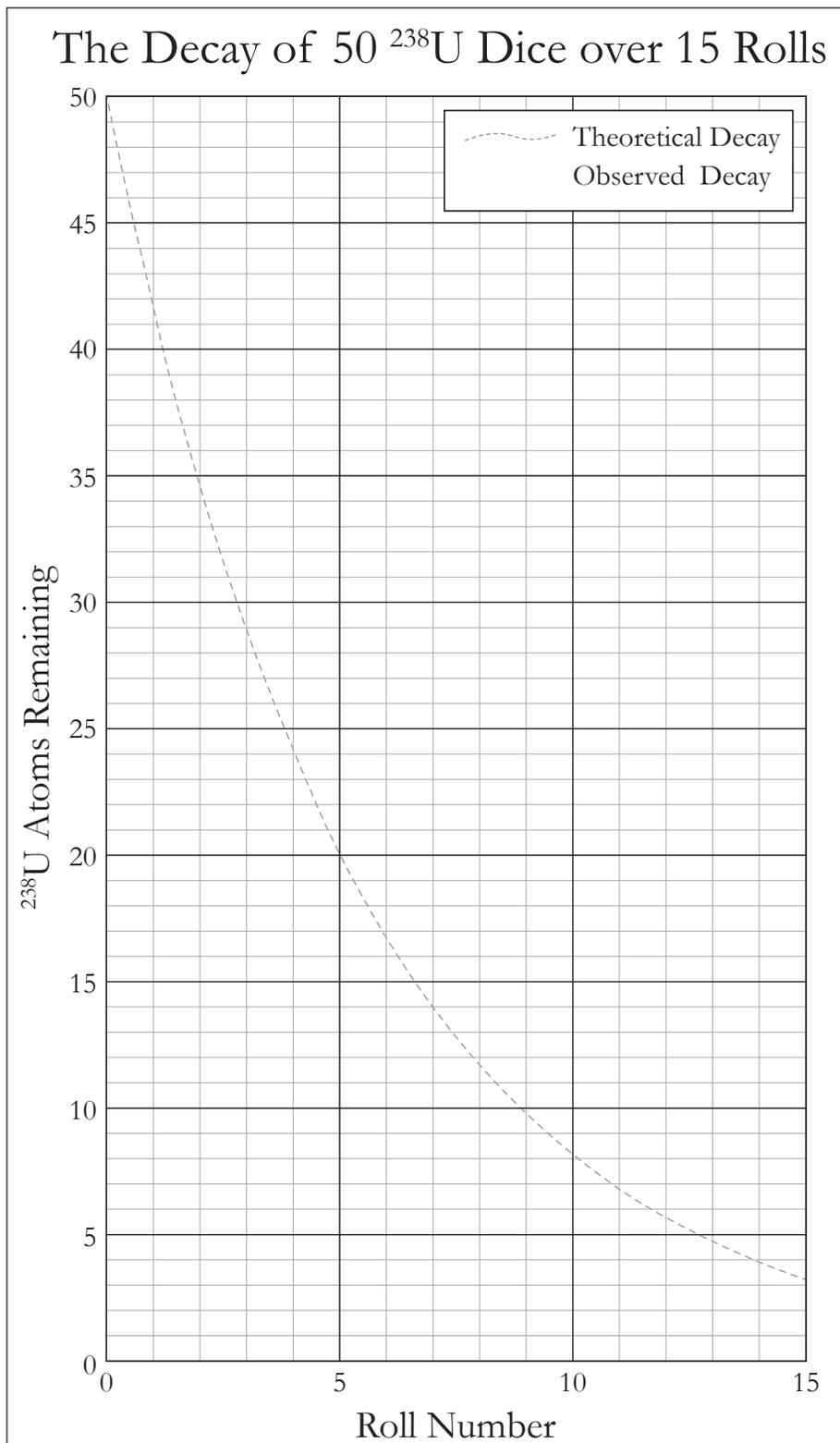
2. Complete the graph's legend so the "Observed Decay" symbol matches what you drew on the graph.

3. Using words like "slope" or "curve," write a sentence describing the shape of the data you plotted:

4. How well do your data fit the dashed line representing the calculated theoretical decay curve?

5. What could you change about the experiment to produce results that match the theoretical curve more closely?

6. After how many rolls does your graph cross the half-way point of 25 remaining dice?

7. How does this compare to the actual half-life of ^{238}U? (remember, one roll represents 1.18 billion years)