

Question: How long will it take for the soil around the Fukushima Nuclear Power Plant to be safe to grow food in again?

Hypothosis:

Understanding: What is half-life?

Half-life explains how long it takes for half of something to decay.



Procedure: Each time you shake the box you create 1 half-life.

The half-life of Uranium is  $4.9 \times 10^9$  years

Write that amount out in numbers \_\_\_\_\_

# of Half-Life's (shakes)	# of atoms that are URANIUM (heads up)	# of atoms that are LEAD (tails up)	# of years that have passed	% of Uranium decayed
0	100	0	0	0%

- 1. How many years will pass until it is safe to grow food in the soil in Fukushima Japan?
- 2. As the amount of Uranium decreases in the soil, what happens to the amount of lead in the soil?
- 3. If there is a change in the weather patterns on Earth, will the half-life of Uranium remain the same or change?

## GRAPH THE AMOUNT OF URANIUM ATOMS AND TIME