

## Half-life Experiment

**PURPOSE:** To simulate radioactive decay and half-life.

**DISCUSSION:** In this activity you will simulate radioactive decay with candy. The candy can be used to discover the relationship between the passage of time and the number of radioactive nuclei that decay. A candy piece with the plain side up will represent an atom that has not yet decayed. When this atom “decays,” it will land with the printed side up.

**EQUIPMENT:**

- 100 candy pieces
- a plastic Ziploc bag
- paper towel
- graphing calculator

**PROCEDURE:**

1. Carefully count out 100 pieces of candy and place in the plastic bag.
2. Seal the bag and gently shake for 10 seconds.
3. Gently pour out all the candy on the paper towel.
4. Remove all the pieces of candy that have “decayed” – landed with printed side up.

Count the pieces that remain or haven’t “decayed.” Record this data in the first data table under your individual trial column.

5. Repeat steps 2-4 until all the pieces have decayed.
6. Record your data on the white board at the front of the room, and record the class data on the second data table.
7. Average the class data for each half-life, and record these averages in the appropriate data table.

