Absolute Age
Earth Science

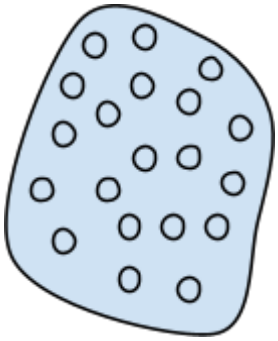
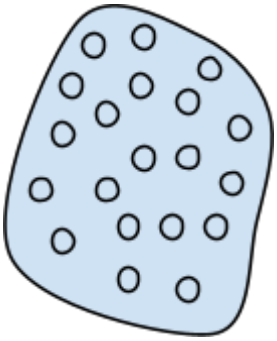
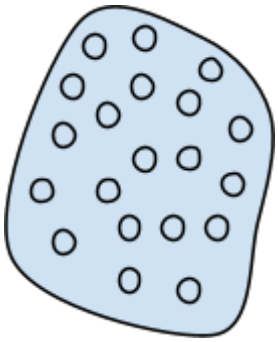
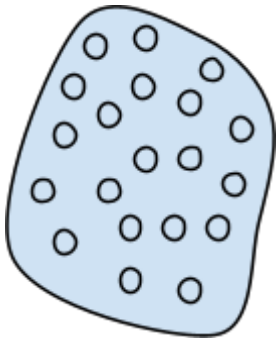
Name_____
Period _____

# Rocks and Absolute Age

*Half-life is the time it takes for half of the radioactive atoms, parent element, to decay into the non-radioactive element, the daughter element.*

The rock below contains Thomasium and the **half-life is 5,000 years.**

The total amount of atoms it contains is 20.

| | |
|---|---|
| **0 Half-lifes** (Ratio 20:0)<br>  <br>Age = 0 yrs | **1 Half-life** (Ratio ____:____)<br>  <br>Age = _____ yrs |
| **2 Half-lives** (Ratio ____:____)<br>  <br>Age = _____ yrs | **3 Half-lives** (Ratio ____:____)<br>  <br>Age = _____ yrs |

1. Draw in the rock the ratio of radioactive atoms to non-radioactive atoms.
    a. pick one color for the radioactive element
    b. pick a different color for the non-radioactive element ☐ _____
    c. make a key to your colors on the right ☐ _____
2. Figure out the ratio after each half-life.
3. Color the correct number of atoms for that ratio.
4. Calculate age, write answer on line under the rock.
5. *What would the age of the rock be after 4 half-lives?* _____

    a. *What would the ratio be?* _____