

**Big Bang Activity Quiz**  
(15 points)

Name \_\_\_\_\_

1. What nuclear particles were first present before any elements formed?  
\_\_\_\_\_
2. Why could these particles not join to become new things at first—why did you need to move apart? \_\_\_\_\_
3. What was the first thing formed from two particles? \_\_\_\_\_
4. Give one way the nucleus you named in #3 formed: \_\_\_\_\_  
\_\_\_\_\_
5. Why was a positron (ping pong ball) sometimes thrown out of a group that formed (What change took place in the particle that emitted it?)  
\_\_\_\_\_
6. At what temperature did the first particles begin to join? \_\_\_\_\_
7. At about what temperature did most of the new particles form? \_\_\_\_\_
8. Name three other nuclei that formed early in the universe (not yet named)  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
9. In how much time did all of these things form? \_\_\_\_\_
10. When we did the activity a second time, did we get the same result for the same people? \_\_\_\_\_
11. What particle were you in the model and what changes did you go through?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
12. What was the Big Bang and what was the early universe like?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Bonus: Describe by giving names and numbers of particles one way to form a heavier particle than deuterium.