

### Unit 4 Hd 7 Natural Transmutation

Fill in the decay-scheme diagram below, similar to the one shown on the other side of this handout. Start at U-235 and ending up with an isotope of lead. Use the table on the left and identify each element in the series with its chemical symbol.

**Mass Number**

235												
231												
227												
223												
219												
215												
211												
207												
203												
	82	82	83	84	85	86	87	88	89	90	91	92

**Atomic Number**

Step	Particle emitted
1	Alpha
2	Beta
3	Beta
4	Alpha
5	Alpha
6	Alpha
7	Alpha
8	Alpha
9	Beta
10	Beta
11	Alpha
12	Stable

What isotope is the final product? \_\_\_\_\_

U-238 decays to Pb-206 through a series of alpha and beta decays

**Mass Number**

238												
234												
230												
226												
222												
218												
214												
210												
206												
	82	82	83	84	85	86	87	88	89	90	91	92

Step	Particle emitted
1	Alpha
2	Beta
3	Beta
4	Alpha
5	Alpha
6	Alpha
7	Alpha
8	Alpha
9	Beta
10	Beta
11	Alpha
12	Beta
13	Beta
14	Alpha
15	Stable

**Atomic Number**

What isotope is the final product? \_\_\_\_\_