

Radioactivity Cards Lab Directions:

On the following two pages there are 15 radioactive isotope cards and 14 alpha/beta emission cards.

You will either print out and cut out the cards, make your own cards (with notecards) given the exact same isotopes and emissions, or do the activity in a notebook.

Your mission (if you choose to accept it) is to place the cards in order starting with $^{238}_{92}\text{U}$ and ending with $^{206}_{82}\text{Pb}$ *stable* with emission cards and isotopes to get from the start to the end.

Here is an **example** of what it will look like:

Start $^{238}_{92}\text{U}$ $^4_2\alpha$ $^{234}_{90}\text{Th}$ $^0_{-1}\beta$ $^{234}_{91}\text{Pa}$ $^{206}_{82}\text{Pb}$ *stable* End

Now, my example is not going to be totally right, it's just an example to get you going.

You will start with $^{238}_{92}\text{U}$ then do either an alpha or beta emission card and then the next isotope, then another alpha or beta emission card resulting in the next isotope, then another alpha or beta emission card resulting in the next isotope and so on until you get down to $^{206}_{82}\text{Pb}$ *stable*

The rules are that you have to use all of your cards in order to get from $^{238}_{92}\text{U}$ to $^{206}_{82}\text{Pb}$ *stable*.

When you finish, take a picture and send it to robert.ayton12@gmail.com.

$_{92}^{238}\text{U}$	$_{90}^{230}\text{Th}$	$_{82}^{214}\text{Pb}$
$_{91}^{234}\text{Pa}$	$_{86}^{222}\text{Rn}$	$_{83}^{214}\text{Bi}$

$_{83}^{210}\text{Bi}$	$_{90}^{234}\text{Th}$	$_{84}^{218}\text{Po}$
$_{84}^{214}\text{Po}$	$_{82}^{210}\text{Pb}$	$_{92}^{234}\text{U}$

$_{88}^{226}\text{Ra}$	$_{84}^{210}\text{Po}$	$_{82}^{206}\text{Pb}$ stable
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