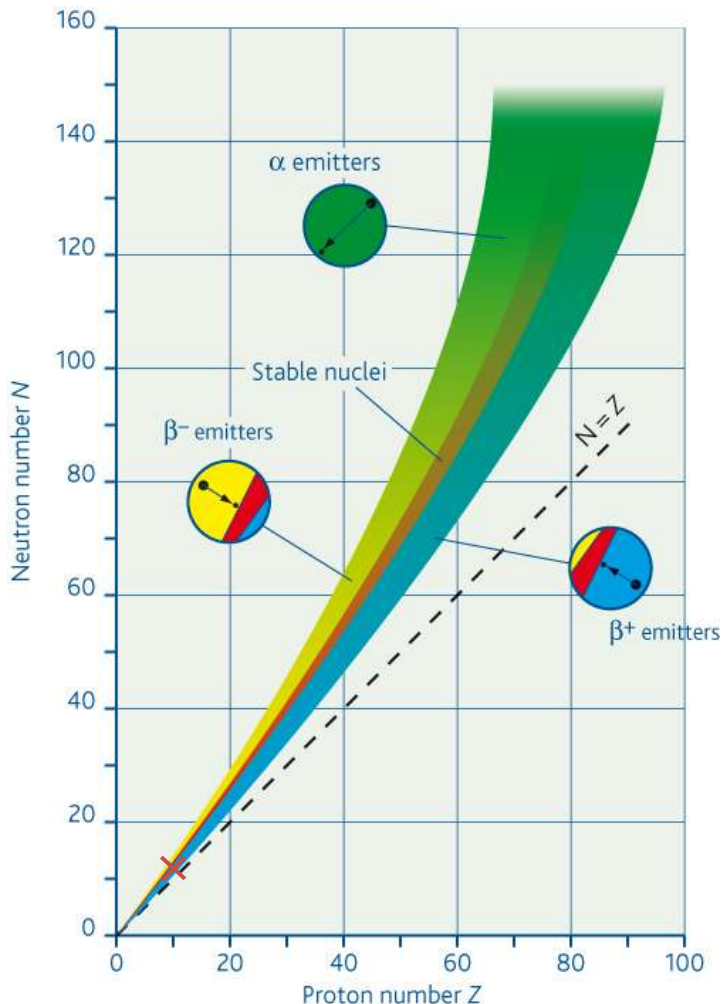


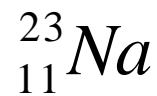
Valley of Stability

There are 20 known isotopes of sodium. Sodium 23 is the only stable isotope. In this exercise you will look at a few of the isotopes and predict how the isotopes are likely to behave.

Here is the valley of stability diagram:



1. Write sodium 23 in isotope notation.



2. How many protons and neutrons does sodium 23 have?

Protons = 11

Neutrons = 12

3. Mark on the diagram where sodium 23 will lie.

4. Sodium 20 has a half life of about 0.45 s. Suggest where on the valley of stability it would be found.

It will be well below the line of stability

5. What kind of decay will this isotope show?

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6. Write down the decay equation to show the products of this decay.

