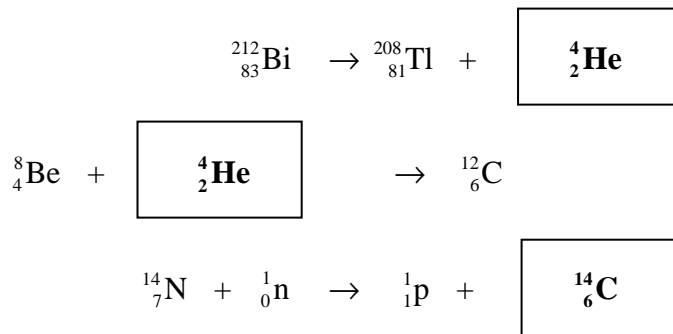


- Balance the following nuclear reactions by identifying the missing nuclear particle or nuclide.

Marks
4

What is a common source of the neutrons in the previous reaction?

Stars

- Explain why solid α emitters are generally considered as low risk radioisotopes while gaseous α emitters are high risk.

2

α -Radiation is highly ionising and causes severe tissue damage, but it is not very penetrating and easily stopped by our skin. Gaseous α -emitters are high risk as they can be breathed in and lodge in the lungs and then be transported round the body. Solid α -emitters are not dangerous unless ingested, which only happens in rare circumstances.