

40 A different nucleus can be formed by bombarding a stable nucleus with an energetic α -particle.

$^{23}_{11}\text{Na}$ is bombarded with an energetic α -particle.

What could be the products of this nuclear reaction?

A $^{25}_{10}\text{Ne}$ + neutron

B $^{25}_{11}\text{Na}$ + proton

C $^{26}_{12}\text{Mg}$ + β

D $^{27}_{13}\text{Al}$ + γ

Space for working