

9 (a) Describe the structure of an atom of helium-4, ${}^4_2\text{He}$.

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..... [3]

(b) The Sun is a medium-sized star powered by nuclear fusion reactions which release energy.

(i) State what happens during nuclear fusion reactions which form helium.

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..... [2]

(ii) State **two** regions of the electromagnetic spectrum by which the Sun radiates most of its energy.

..... [2]

(c) Describe what happens to a star when most of the fuel in its centre has been converted to helium.

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