

3.4 Isotopic 128

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As the displays dim, you hear a panicked yelp. Min is nowhere to be seen. You mutter curses under your breath as you realise that calling for Min could attract unwanted attention. Tapping away at the supercomputer, you bring up a floor plan revealing a hidden room.

This time you are able to deconstruct the wall blocking your way, and as you peer inside you see a safe at the back of the hidden room. Approaching it, a screen flashes with a message: 'PLEASE INPUT XENON-128', before presenting you with a series of chemical elements.

Chemistry may have been your best subject in high school, but will it be useful here?

Tackle the puzzle at:

<http://www.ms.unimelb.edu.au/~mums/puzzlehunt/2014/puzzles/isotopic128.html>

The image shows two screenshots of a puzzle interface. Each screenshot has a 'STEPS' and 'NEXT' display at the top. The left screenshot shows 'STEPS 5/50' and 'NEXT' with a grid of 9 dots and the number '4' in the bottom-left dot. The right screenshot shows 'STEPS 13/50' and 'NEXT' with a grid of 9 dots and the number '2' in the top-right dot.

The left 3x3 grid contains the following chemical symbols (row by row):

- Row 1: Three empty circles.
- Row 2: Empty circle, ${}^2\text{H}$, ${}^4\text{He}$.
- Row 3: ${}^2\text{H}$, ${}^8\text{C}_9$, ${}^2\text{H}$.

The right 3x3 grid contains the following chemical symbols (row by row):

- Row 1: ${}^4\text{He}$, ${}^{16}\text{O}$, ${}^8\text{C}_7$.
- Row 2: ${}^2\text{H}$, ${}^4\text{He}$, empty circle.
- Row 3: ${}^4\text{He}$, ${}^4\text{He}$, empty circle.