

Periodic table's design gets an elemental challenge

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For more than 100 years, the periodic table has been a symbol of the intrinsic organization of matter and a mainstay of science classrooms everywhere.

Many people have attempted to better the arrangement of the 111 fundamental elements, but no one has been able to supplant the original, created in 1869 by Russian chemist Dmitri Mendeleev with 63 known elements.

Now, a challenger has arrived: Ecologist Philip Stewart of the University of Oxford in England has designed a table that is fueling intense interest.

What makes his table distinct is its galaxy design. "It should be looked at like a work of art as much as a work of science," says Stewart, who was inspired by a design he saw at an exhibition devoted to rebuilding after World War II.

"I always thought it had a galaxy look to it; then I had the idea to put it on a starry background."

It also remedies the traditional table's shortfalls. The traditional table arranges the elements in rows and columns. From left to right, the atomic number ? the number of protons in the nucleus of an atom ? increases. Chemically similar elements are grouped in columns.

The new design has the elements spiral out from the center of neutronium in increasing atomic number. The elements form spokes that correspond to the original table's columns.

The rare earth elements are left out of the traditional table and relegated to footnotes or printed below the table. In Stewart's, they join their neighbors, tracing starry arcs of increasing atomic number.

Another design improvement corrects the original table's problem of elements that are actually neighbors being artificially separated.

Teachers hope the design will inspire young scientists, but there is debate over its usefulness.

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