

Reimagining the Periodic Table

Creativity is not a word traditionally associated with chemistry. However, creativity is at the heart of scientific endeavour and teaching *for* and *with* creativity¹ should be embedded within chemistry learning.

This poster describes one such teaching activity based on the Periodic Table that uses evaluative, divergent and convergent thinking² to develop students' creative thinking skills.

Stage 1 – evaluative thinking

Taking the standard representation of the Periodic Table as the starting point, the students evaluate the arrangement to identify potential shortcomings such as: the position of hydrogen, the break in the atomic number continuum at the end of each period, or the separate f block.

Creative Chemists: Strategies for Teaching and Learning

By Dr Simon Rees and Prof. Doug Newton, Durham University.

Stage 2 - Divergent thinking

The students are challenged to come up with new arrangements of the elements (Fig. 1). At this stage, it is important that the students are open to any ideas and criticism should be suspended.

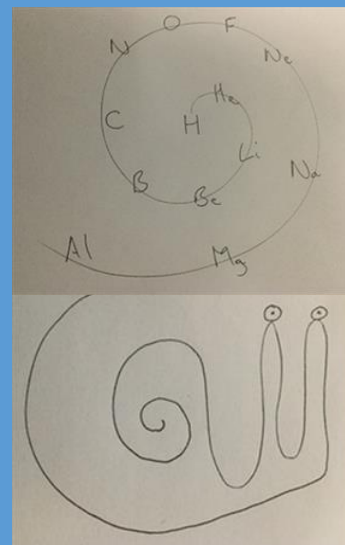


Fig. 1. Student generated arrangements

Stage 3 - Convergent thinking

These ideas are then evaluated to decide on a new arrangement of the elements that is both novel and useful (the basis of creative thinking). The students' ideas are compared to other arrangements that have been produced such as Benfey's spiral or the Chemical Galaxy.

Further info:



www.creativechemists.wordpress.com



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References

1. Beghetto, R. A. (2017). *Creativity in teaching*. The Cambridge handbook of creativity across domains.
2. Rees, S. W. & Newton, D. (2020). *Creative Chemists: Strategies for teaching and learning*. Royal Society of Chemistry.