

THE PERIODIC PUZZLE

A GAME OF "CHEMICAL CARDS" TO INTRODUCE THE PERIODIC TABLE OF THE ELEMENTS

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THE POINT OF THE GAME

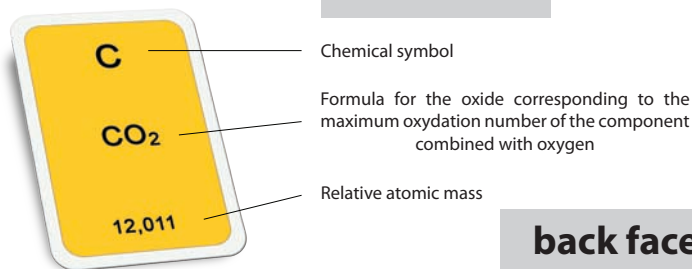
The periodic puzzle is a game of "chemical cards" used to classify the 44 elements of the main families which involves a thought process similar to Mendeleev's own approach in around 1870 :

- horizontally (from left to right) by increasing relative atomic mass ;
- vertically according to similarity of oxide formulas.

DESCRIPTION OF THE PERIODIC PUZZLE

In addition to the two identification cards, the game contains 54 "chemical cards". The following information can be found on each chemical card:

front face



back face

name of the element in:



PLEASE NOTE

- ⇒ For some elements the oxide corresponding to the maximum oxidation number of the element combined with oxygen is not known. In this case a question mark will be found instead of the oxide formula.
- ⇒ Relative atomic masses (atomic weights) are whenever possible quoted to five significant figures. The atomic weights given on the cards are the 2005 values found on the website of the International Union of Pure and Applied Chemistry (IUPAC) (<http://www.chem.qmw.ac.uk/iupac/AtWt/table.html>). **Dots are replaced by commas due to french way of indicating decimal points.**
- ⇒ The radioactive elements, marked with an asterisk to the right of the symbol for the element do not have a characteristic terrestrial isotopic composition. For these elements with no stable nuclides the mass number of the longest-lived isotope has been quoted in brackets.
- ⇒ Among noble gases XeO₄ is the only oxide. This often puzzles the students.
- ⇒ For halogens the faces of the cards are blue to show that halogens are all part of the same family but the formulae for the oxides are not given.

USING THE PERIODIC PUZZLE

The game consists of three increasingly difficult basic versions. In each version the two title cards and 12 other cards need to be removed before starting.

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