



Difficulty 2/3

BEFORE THE GAME ... REMOVE :



⇒ the 2 identification cards (white face) bearing on the back a white dot in the top left-hand corner and the mention "Periodical Puzzle" in various languages.



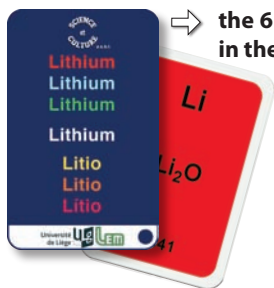
⇒ the 4 (yellow face) cards bearing on the back a white dot in the top left-hand corner :

hydrogen
helium
beryllium with the relative atomic masses : 9,4 ou 14,1
indium with the relative atomic masses : 38 ou 76 ou 114



⇒ the 2 (yellow face) cards bearing on the back a white dot in the two top corners :

ekaaluminium with the symbol "Ga" on the front face
ekasilicium with the symbol "Ge" on the front face.



⇒ the 6 (red face) cards bearing on the back a dark blue dot in the bottom right-hand corner :

lithium
sodium
potassium
rubidium
cesium
francium

AND NOW ... THE GAME !

The 42 remaining cards are shuffled and laid down, front face up. They must then be classified.

Once the classification is over, the students can put back the hydrogen and helium cards, which had been put aside at the beginning of the game.

EDUCATIONAL ASPECT

The only difference with the first version comes from the fact that the cards corresponding to alkalines have not a specific colour (red in this case) but are yellow like the others.

The formulae for the oxides have to be considered to classify the alkalines in the same family.

The game doesn't include the cards for hydrogen and helium. Classification thus begins with lithium.

In the process of classifying, the students reinvent Mendeleev's approach. Amongst other things, they have to reverse the order of potassium and argon, tellurium and iodine i.e take into account the **priority of chemical behaviour** (the formulae for the oxides) over the relative atomic masses.

The students are guided by the fact that iodine (I) belongs to a family (halogens) characterized by the colour of the card (blue face).