

The elements

1) Complete the table below and write out the electron configurations for the elements:

<i>Name</i>	<i>Symbol</i>	<i>Atomic #</i>	<i># protons</i>	<i>Weight</i>	<i># neutrons</i>	<i>Electron configuration</i>	<i># electrons</i>	<i>Valence</i>
Chlorine								
Magnesium								
Nitrogen								
Krypton								
Beryllium								
Neon								
Phosphorus								
Fluorine								

2) Group the above elements into pairs that share similar chemical properties based on their electron configuration.

3) What does your response to Question 2 tell you about the different groups in the periodic table?

4) In 1964, the Russians announced that they had made (discovered) element 104 by nuclear bombardment techniques. Scientists at the University of California at Berkeley claimed that they were the first ones to produce element 104 and that the Russian tests on their material did not prove to be element 104. One way of checking this material is to compare its compounds with those of another element that should form similar compounds. Name an element whose chemical properties should be similar to those of element 104.

5) Why are the inert gases (the noble gases) the most stable chemical elements?