

3. State the period and group of the Periodic Table of the elements with the following electron arrangements:

(5 marks)

Electron arrangement	Period	Group
2,2	2	2
2,8	2 2 2	18 (8)
2,8,5	3	5
2,8,8,1	4	1
2,8,3	3	3

4) Explain, in terms of atomic structure, why helium is used in balloons instead of hydrogen.

(2 marks)

Helium has its outermost electron shell full ^(1/2)
 therefore making it unreactive. ^(1/2)
 Hydrogen has one valence ^(1/2) electron making it ^(1/2)
 very reactive.