

Silicon

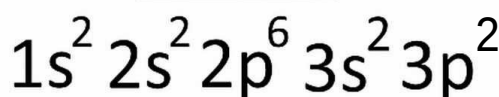
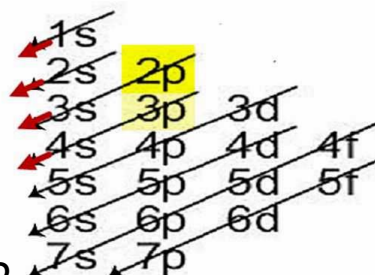
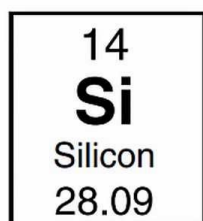
n = Principle quantum number,
 l = orbital angular momentum quantum number (0 to $n-1$),
 m_l = magnetic quantum number ($-l$ to $+l$),
 m_s = electron spin quantum number ($+1/2$ and $-1/2$)

Electron Configuration Chart

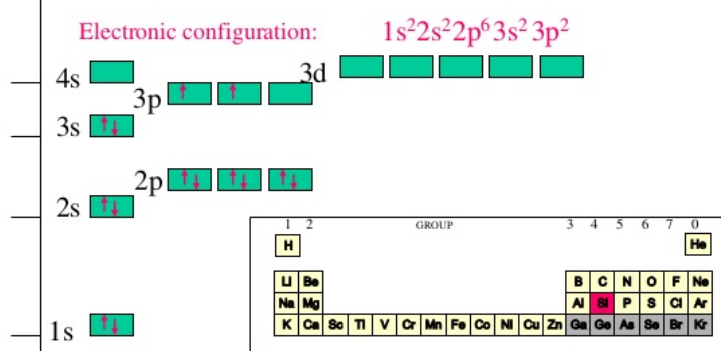
s holds up to **2**

p holds up to **6**

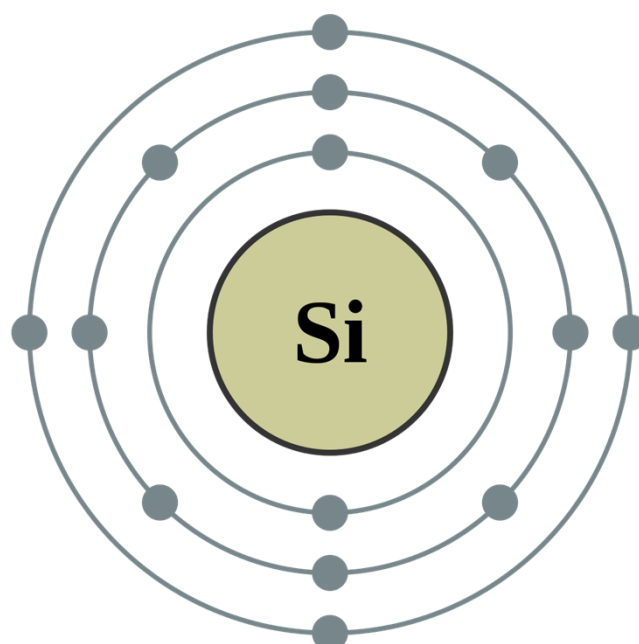
d holds up to **10**



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3



4

Energy Band Formation (Si)

□ Energy levels in Si as a function of inter-atomic spacing

The $2N$ electrons in the $3s$ sub-shell and the $2N$ electrons in the $3p$ sub-shell undergo sp^3 hybridization.

