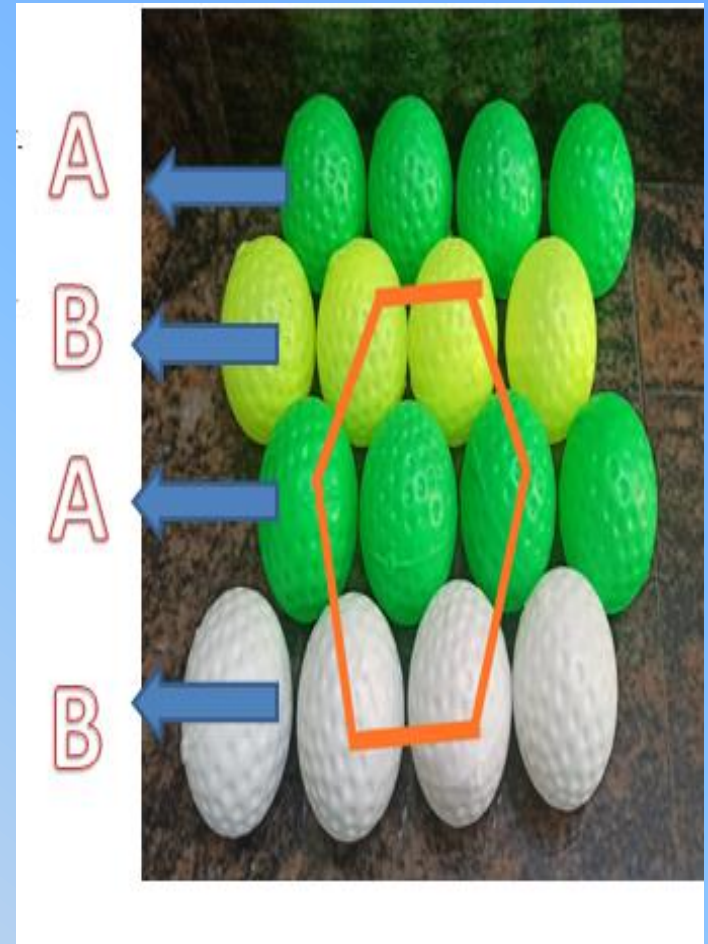# HEXAGONAL CLOSE PACKED(HCP)
2-DIMENSIONAL

• The second row is placed above the first one in a staggered manner such that its spheres fit in the depressions of the first row.

• If this arrangement of spheres in the first row is called 'A' type , the one in the second row is different and called 'B' type .

• When the third row is placed adjacent to the second in staggered manner, its spheres are aligned with those of the first layer. Hence an arrangement of type 'ABAB' is formed.

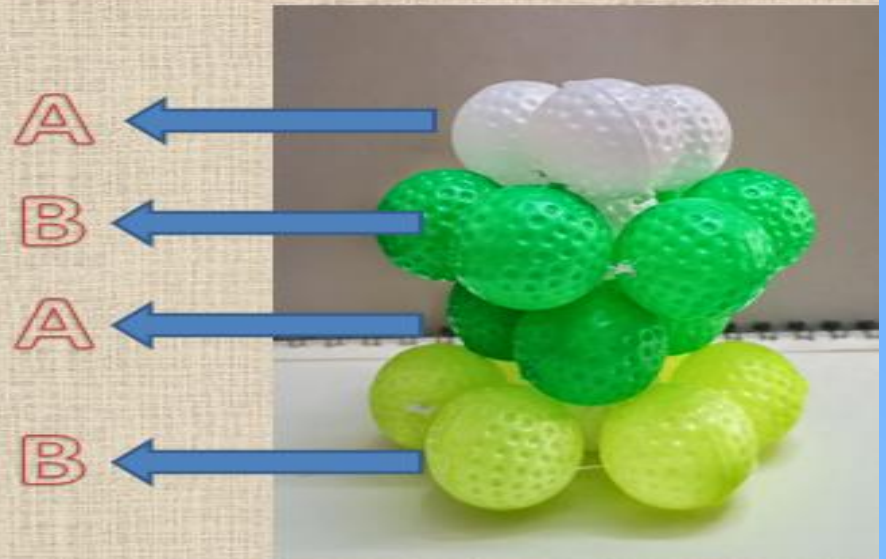• It has less free space and this packing is more efficient.

• Coordination number =6

HEXAGONAL CLOSE PACKED(HCP)
3-DIMENSIONAL

Hexagonal packed structure with layer view

HCP (ABAB) Type

A
B
A
B

- Used to cover tetrahedral voids
- Pattern type= 'ABAB'
- Ex: Magnesium, Zinc

Top Layer T_L

Middle Layer M_L

C

C/2

a

Bottom Layer B_L