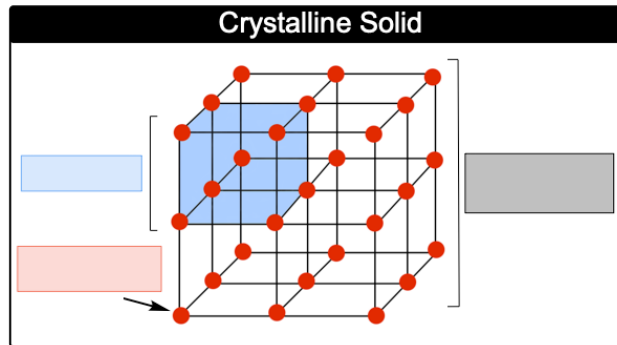


CONCEPT: CRYSTALLINE SOLIDS

- *Crystalline solids* are closely packed structures arranged in a highly ordered and symmetrical pattern.
 - **A Unit Cell:** the smallest and most fundamental _____ structure of a *crystal lattice*.
 - **Crystal Lattice:** composed of identical _____ arranged in a 3-dimensional space.
 - **Lattice Point:** area within *crystal lattice* which is occupied by an _____ with identical surroundings.

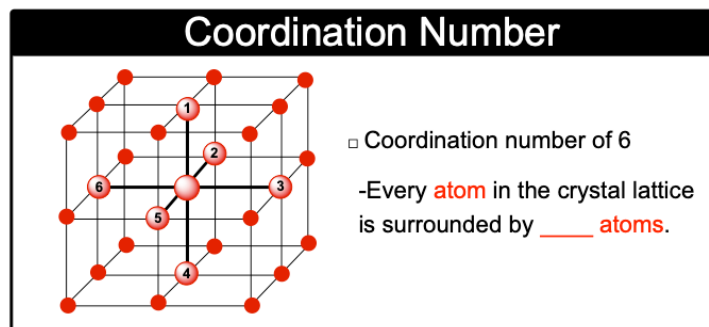


EXAMPLE: What is the most basic repeating structure of a crystal lattice?

- a) lattice point b) unit cell c) crystalline solid d) atom

Cubic Unit Cell

- There are ____ types of **cubic unit cell** arrangements; each possess different *coordination number* and *packing efficiency*.
 - **Coordination Number** is the number of neighboring atoms _____ one atom in a crystal lattice.



- **Packing Efficiency** is the percentage of occupied space by _____ in a unit cell.
 - ____ complexity, _____ coordination number, as a result _____ packing efficiency.

