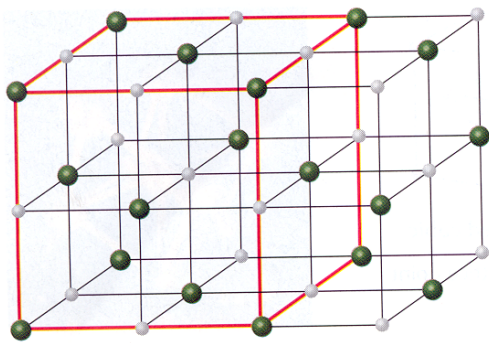


Metals and their Compounds

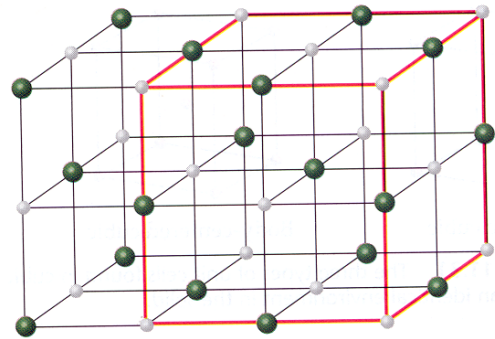
Lecture 4.2

Simple ionic solids

The Na^+Cl^- (common salt) structure is based on a close packed arrangement of Cl^- (chloride) ions. The smaller Na^+ (sodium) ions reside in the *octahedral holes* in this lattice (fig 11.34, p 418 BLB).



(a)



(b)

In this structure *all* these holes are filled by the Na^+ ions.

Re-emphasize - the choice of unit cell is arbitrary (not something in nature - but a way of describing structure). So, it is also *possible* to describe this structure the opposite way round.