

Good Metals

H	
Li	Be
Na	Mg
K 4s ¹	Ca ₂ 4s ²

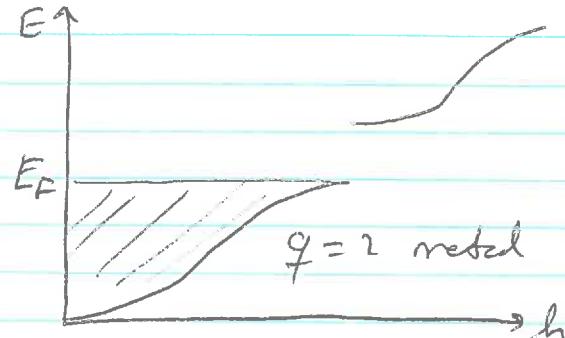
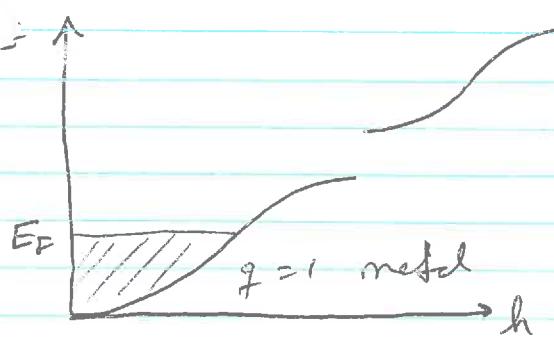
↓ Insulators?

↓
 $q=2$
Alkali
Metals Alkaline Earth
Metals

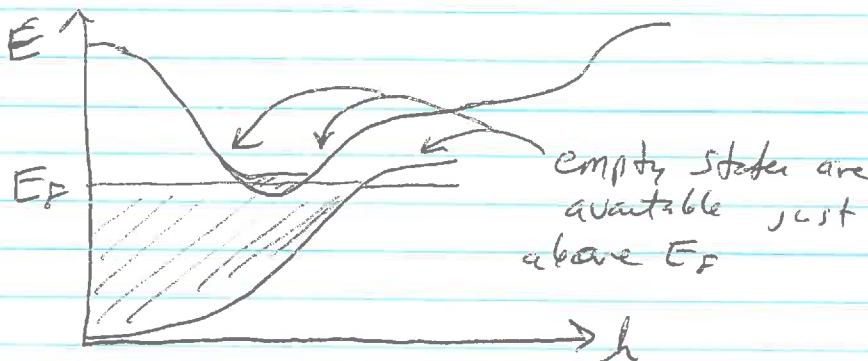
Charles Kittel

Intro to Solid State Physics
7th Edition
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Why are the $q=2$ elements also metals, when the 1D band structure says they should be insulators?



In fact, when you take the 3D crystal structure into account, there are other bands that "dip down" and steal some electrons.



The alkaline earth are not as good metals as the Alkali metals