

## 7.6: Discussion Questions

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- Discuss the thermodynamics of work hardening and annealing in terms of the microscopic picture of defects in metallic crystals.
  - In your pocket or purse, you may have a brass key, which is an alloy of Cu and Zn. How do the mechanical properties of this alloy depend on its structure, and why don't we make keys out of pure Cu or Zn?
  - Cooling carbon steels along the eutectic lines (A and B) in the iron-carbon phase diagram above results in the formation of pearlite and ledeburite. How does the microstructure of these two iron alloys differ, and how does the microstructure affect their mechanical properties?
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