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2.626 Fundamentals of Photovoltaics  
Fall 2008

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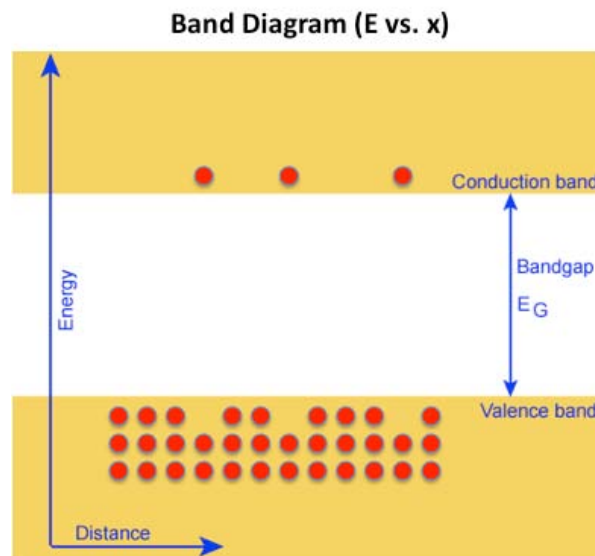
## 2.626 – Fundamentals of Photovoltaics

### Concept Quiz #2 – September 23, 2008

#### Question #1:

a) In the semiconductor band diagram below, electrons are denoted as filled circles. Draw a circle around the electrons that contribute to current.

b) Draw a rectangle around the electrons that can be excited by light. Explain your answer for full credit.



Courtesy Christiana Honsberg and Stuart Bowden. Used with permission.

#### Question #2:

a) Circle the type of semiconductor that absorbs light more readily:

direct bandgap semiconductor (e.g., GaAs)

indirect bandgap semiconductor (e.g., Si)

b) Explain which type of semiconductor (direct or indirect bandgap) would be more appropriate for a thin film solar cell device.