



Material	Electrical properties
	Materials with many free electrons. These electrons can easily be made to flow through the material.
	Examples: all metals, semi-metals like carbon- graphite, antimony and arsenic.
	Materials that have very few free electrons.
	Examples: plastic, glass and wood.
	Materials that behave like insulators when pure, but will conduct when an impurity is added and/ or in response to light, heat, voltage etc.
	Examples: Elements: silicon, germanium, selenium Compounds: gallium arsenide and indium antimonide.

Identify whether the p-n junctions are forward or reverse biased and how this effects the electric field.

Label the band theory diagram of the atom

Identify the materials

Explain the LED p-n junction

Explain solar cell p-n junctions

Explain doping and describe examples of n and p type semiconductors.

Label the diagram

Identify the junction and semiconductor types

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What potential difference forms across the depletion layer when conducting?

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What is the valence band and how is it described in an insulator?

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What is the conduction band and what do we call electrons free to move?

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