1. What makes metals good conductors of electricity? Nonlocalized electrons
2. Which of the following metals are known for their magnetic properties?
Copper Tin Iron Aluminum
3. What is the property of metals that allows them to deform without fracturing?

Brittleness Malleability Ductility Hardness

1. Which of the following metals is commonly used for making electrical wiring?

Gold Titanium Nickel Copper

1. What gives a polished metal surface its lustrous appearance?

Transparency to light Localized electrons Ductility Nonlocalized electrons

What are the different classifications of materials?

The different classifications of materials are: ​

1. Metals: These materials have valence electrons that are detached from atoms and spread in an 'electron sea' that "glues" the ions together. ​ They are strong, ductile, conduct electricity and heat well, and are shiny if polished. ​
2. Semiconductors: These materials have covalent bonding, where electrons are shared between atoms. ​ Their electrical properties depend strongly on minute proportions of contaminants. ​ Examples of semiconductors include silicon (Si), germanium (Ge), and gallium arsenide (GaAs). ​
3. Ceramics: These materials have atoms that behave like either positive or negative ions and are bound by Coulomb forces. ​ They are usually combinations of metals or semiconductors with oxygen, nitrogen, or carbon (oxides, nitrides, and carbides). ​ Ceramics are hard, brittle, and insulators. ​ Examples of ceramics include glass and porcelain. ​
4. Polymers: These materials are bound by covalent forces and weak van der Waals forces, and are usually based on carbon (C) and hydrogen (H). ​ They decompose at moderate temperatures and are lightweight. ​ Examples of polymers include plastics and rubber. ​
5. Composites: These are man-made materials that are made by combining different types of materials. ​ Composites can be made with various compositions, such as metal-ceramic (reinforced cement), ceramic-polymer (fiber-reinforced plastic), and metal-polymer (vinyl-coated steel bars). ​
6. Semiconductors: These materials have covalent or covalent/ionic bonding. ​ They are often used in electronic devices and have properties that are intermediate between those of metals and insulators.
7. Advanced Materials: This category includes electronic materials, superconductors, biodegradable materials, nanomaterials, and smart materials. ​ These materials have unique properties and are used in various advanced applications. ​