Introduction to Materials Science

Materials Science · Practice Test · 12 Questions

1. Which of the following is NOT a main category of materials studied in materials science?

A) Metals
B) Ceramics
C) Plastics
D) Clouds

2. What property of a material describes its ability to resist scratching or abrasion?

A) Ductility
B) Hardness
C) Brittleness
D) Malleability

3. Which type of material is typically a poor conductor of heat and electricity?

A) Metal
B) Ceramic
C) Alloy
D) Glass

4. Polymers, like polyethylene (used in plastic bags), are generally categorized as which type of material?

A) Metals
B) Ceramics
C) Composites
D) Plastics

5. What is a material made from two or more constituent materials with significantly different physical or chemical properties, which remain separate and distinct at the macroscopic or microscopic level within the finished structure?

A) Alloy
B) Composite
C) Ceramic
D) Polymer

6. Steel is an example of which class of materials, primarily made of iron and carbon?

A) Ceramics
B) Polymers
C) Metals
D) Semiconductors

7. Which term describes the ability of a material to deform under tensile stress before fracturing?

A) Hardness
B) Strength
C) Ductility
D) Toughness

8. Which of these materials is a common example of a ceramic?

A) Gold
B) Rubber
C) Concrete
D) Aluminum

9. What property allows a material to be hammered or pressed into thin sheets without breaking?

A) Brittleness
B) Malleability
C) Elasticity
D) Viscosity

10. Which of the following is a characteristic of most metals?

A) They are typically brittle.
B) They are good electrical conductors.
C) They have low melting points.
D) They are usually transparent.

11. What is the term for a material that can conduct electricity under certain conditions, but not as well as a conductor and not as poorly as an insulator?

A) Insulator
B) Conductor
C) Semiconductor
D) Superconductor

12. Glass is an example of which broad category of materials?

A) Metals
B) Polymers
C) Ceramics
D) Composites