1. Which material would best resist compression forces?
   A. Rubber
   B. Concrete
   C. Wood
   D. Plastic

2. Which of the following structures is designed primarily to resist torsion forces?
   A. Suspension bridge
   B. Transmission tower
   C. Drill bit
   D. Skyscraper

3. Explain why bridges are often made using a combination of concrete and steel.

4. Match the material property with its definition:

Ductility	Ability to stretch without breaking
Brittleness	Resistance to scratching or denting
Hardness	Ability to return to its original shape after deformation
Elasticity	Tendency to break without significant deformation

5. **Fill-in-the-Blank**:
   The _____ of a material refers to its ability to withstand pulling forces, while _____ refers to its ability to withstand compression.

6. **True or False**:
   - Metals are good conductors of electricity due to their free-moving electrons.
   - Wood is a good insulator because it contains air pockets.

7. A skyscraper must be built in an area prone to earthquakes. Which material properties should the designers prioritize, and why?

8. Why are aluminum and titanium commonly used in the construction of airplanes? Explain in terms of material properties.

9. A beam made of a specific material bends under a force of 100 N. What is the stress experienced if the cross-sectional area of the beam is 0.01 m^2? (Stress = Force ÷ Area)

10. Discuss how the choice of materials impacts the safety and durability of buildings during extreme weather conditions.
11. A suspension bridge uses cables made of steel. Explain how the material's tensile strength ensures the stability of the bridge.
12. Compare and contrast two materials (e.g., wood and metal) in terms of their properties and suitability for construction.
13. A chair is designed to hold a maximum weight of 150 kg. If the chair fails when a 200 kg person sits on it, what material property might have been overlooked during the design process?