St. Andrews Scots Sr. Sec.School

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Session: 2026 – 2027
(Answer Key)

Class: VI | **Subject: Science** | **Chapter: Exploring Materials Around Us**

Multiple Choice Questions (MCQs). Tick (✓) the correct options. **Page 83**

1. (b) 2. (c)

Multiple Choice Question (MCQ). Tick (✓) the correct options. **Page 89**

(d)

(Science riddles). **Page 89**

1. (a) Light (reflection). 2. (b) Glass

SECTION-A

A. Oral Questions:

1. Materials are substances used to make different objects. Their properties decide how they are used
2. Objects like cars and kitchen utensils are made from metal because metal is strong, long-lasting and a good conductor of heat and electricity.
3. Plastic cups are preferred for picnics because they are lightweight, unbreakable and moisture-resistant.
4. Classification means grouping materials based on their properties. It helps us choose the right material for different uses.
5. An object is transparent if light passes through clearly, translucent if light passes partially and opaque if light cannot pass through.

B. Multiple Choice Questions (MCQs). Tick (✓) the correct options.

1. (b) 2. (d) 3.(b) 4.(c) 5. (c) 6(b)
7. (b) 8. (c)

C. Assertion-Reason Based Questions:

1. (a) 2. (a)

D. Case-Based Questions:

Case 1:

- Bringing a glass cup to a picnic might be a bad idea because glass is fragile and can easily break, posing a safety hazard.
- A better choice would be a plastic or metal cup because they are durable, lightweight and less likely to break.

Case 2:

(a) The spoon appears shiny because it is made of metal, which has a reflective surface, while the wooden desk is not shiny because the wood is not reflective and has a matte finish.

(b) The property responsible for this is lustre, which refers to how much light is reflected off a material's surface.

SECTION – B

A. Very Short Answer Questions:

1. Soluble materials are substances that dissolves in water , like sugar or salt.
2. A glass bottle is made from glass because glass is transparent, allowing us to see the contents inside it.
3. If a material is transparent, it means that light can pass through it easily, allowing objects behind it to be seen clearly.
4. Wood is an example of a non-lustrous material because it is not shiny and reflects very little light.
5. Some materials float because they are lighter than water, while others sink because they are heavier than water.

B. Short Answer Questions:

1. **Transparent materials:** Allow light to pass through completely, enabling clear visibility of objects behind them (e.g., glass).

   Translucent materials: Allow some light to pass through but partially, making objects behind them appear blurred (e.g., frosted glass).

   Opaque materials: Do not allow any light to pass through, making it impossible to see objects behind them (e.g., wood).
2. Different materials are chosen based on their properties and suitability for specific functions. For example:

- Wood is used for furniture because it is strong yet lightweight.
- Plastic is used for bottles because it is lightweight, durable, and resistant to moisture.

3. One activity is to press your fingernail against the surface of the object. If the object leaves an marks or scratches easily, it is considered soft; if there is no marks or scratch, it is considered hard.
4. Metal is used for making keys because it is strong, durable, and can withstand wear and tear from frequent use. Additionally, metal can be precisely shaped to fit into locks.
5. Classifying materials helps in organising them based on their properties, making it easier to understand their uses, choosing appropriate materials for specific applications, and conducting scientific studies. It also simplifies the learning process about different types of materials.

C. Long Answer Questions:

1. **Wood:** Used for furniture (like tables) due to its strength, durability and aesthetic appeal.

- **Glass:** Chosen for windows and drinkware because it is transparent, easy to clean, and safe for food.
- **Plastic:** Ideal for containers and toys as it is lightweight, waterproof, and can be moulded into various shapes.

2. **Hardness:** Hard materials (e.g., diamonds) are used in tools; they resist scratching.

- **Softness:** Soft materials (e.g., cotton) are used in clothing for comfort; they can be easily compressed.
- **Transparency:** Materials can be transparent (glass), translucent (frosted glass), or opaque (wood), influencing their use in products like windows or privacy screens.

3. Fill three containers with water. Add salt to one, sand to another, and chalk powder to the third. Stir and observe: salt dissolves (soluble), sand settles (insoluble), and chalk also settles, depending on its form.
4. **Buoyancy:** Lightweight materials (like foam) help life jackets float, keeping wearers safe. Boats are made from materials like fibreglass or aluminium that are strong yet light enough to float efficiently on water.
5. **Metal:** Chosen for spoons and cookware due to its durability, heat resistance and safety in food handling.

   Plastic: Used for storage containers as it is lightweight, flexible and less prone to breakage, helping keep food fresh and secure.
6. **Early Civilisations:** Utilised natural materials (stone, wood, clay) for tools and shelter.

   Metal Development: The advent of metals (copper, bronze) improved tool-making.

   Industrial Revolution: Introduced synthetic materials (plastics) and mass

production.

Modern Innovations: Led to composite and smart materials with unique properties for advanced applications, reflecting societal needs and technological progress.

D. Application-Based Questions:

1. Water is transparent, allowing light to pass through, so Rishit can see through it. In contrast, milk is opaque and contains particles that scatter light, making it difficult to see through.
2. Radhika should choose wood or metal. Wood is durable, aesthetically pleasing, and easy to work with, making it a popular choice for furniture. Metal is also a good option for a modern design as it offers strength and stability.
3. A stainless steel bottle would be ideal. Stainless steel is durable, insulated and can keep drinks hot or cold.
4. To determine if a ball is suitable for football, check the following properties:

- Size: Ensure it meets the standard size for football (usually size 5 for adults).
- Weight: Check that it weighs between 410-450 grams.
- Material: The outer material should be durable, usually made of synthetic leather for better grip.
- Shape: It should be perfectly round to roll and bounce correctly.
- Inflation: Ensure it is properly inflated to maintain shape and performance during play.

NOTE- Only Section B is to be done in the notebook. Section-A remains in book only.