St. Andrews Scots Sr. Sec.School

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Session: 2026 – 2027

(Answer Key)

Class: VI	Subject: Science	Chapter : The Magic Of Separating Substances

Multiple Choice Questions (MCQs). Tick (✓) the correct options. Page 126

1. (d) 2. (b)

SECTION – A

A. Oral Questions:

1. Handpicking.
2. Sieving separates finer particles from bigger ones for smoother textures in cooking, also practiced to remove unwanted particles.
3. Evaporation is the process of liquid turning into vapour, used to make salt by allowing seawater to evaporate in sunlight.
4. Winnowing separates husk from grains by blowing away the lighter husk while the heavier grains fall.
5. Filtration removes insoluble solid impurities from liquids, such as purifying drinking water.

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

1. (c). 2. (a). 3.(d). 4. (b). 5. (b).

6. (b). 7.(a). 8.(c)

C. Assertion-Reason Based Questions:

1. (c) 2. (a)

D. Case-Based Questions: Case 1:

(i) Handpicking allows individuals to manually remove larger undesired materials, such as stones or impurities, from the desired food items, ensuring that the final product is clean and safe for consumption.

(ii) Other examples include handpicking fruits and vegetables to remove rotten or damaged ones and selecting clean grains in the kitchen.

Case 2:

(i) Churning is a process where curd is stirred or shaken vigorously until it separates into butter (lighter part) and buttermilk (heavier part)

(ii) Butter floats on top after churning because it is lighter than buttermilks.

SECTION – B

A. Very Short Answer Questions:

1. Sieving.
2. Heavier particles settle down to the bottom of a liquid.
3. It uses a magnet to attract and separate magnetic materials, such as iron, from non-magnetic substances.
4. Removing husk is important to ensure the grains are clean, nutritious and suitable for consumption or cooking.
5. Filtration helps remove insoluble solid particles and impurities from liquids.

B. Short Answer Questions:

1. Winnowing separates husk from grains by using wind or air to blow away the lighter husk while the heavier grains fall to the ground. This process effectively cleans the grains, making them suitable for cooking or storage.

2. Sieving is the process of separating solids of different sizes using a sieve or mesh. In everyday life, it is used in cooking to remove unwanted lumps from flour or separate fine particles from bigger ones in various ingredients.

3. To make salt from seawater, the seawater is collected in shallow ponds and exposed to sunlight. As the sun heats the water, it evaporates, leaving behind salt crystals that can be harvested once the water has completely evaporated.

4. Churning is a process where cream is stirred or shaken vigorously so that the fat clumps together and the remaining liquid is buttermilk.

C. Long Answer Questions:

1. Handpicking is a manual method to remove unwanted materials by

physically picking them out, such as removing stones from beans. Winnowing uses air to separate lighter husks from heavier grains, commonly seen when farmers blow away husks after harvesting.

2. Sedimentation is when heavier particles settle at the bottom of a liquid, while decantation is pouring off the clear liquid from the top. To clean muddy water, let it sit so the mud settles, then decant the clear water, leaving the mud behind.

3. Magnetic separation uses magnets to attract iron, cobalt or nickel metals from a mixture of materials on a conveyor belt in recycling plants, efficiently separating metals that are magnetic materials from non-magnetic metals.

4. Filtration removes insoluble impurities from water by passing it through filter media like sand or activated carbon, trapping solid contaminants and allowing cleaner water to emerge. Multiple filtration stages can enhance water purity for safe consumption.

5. To make butter:
    1. Collect cream from milk.
    2. Churn the cream to agitate it, causing fat to separate from buttermilk.
    3. Wash the butter to remove buttermilk for better flavour and shelf life.
    4. Knead the butter to ensure a smooth texture.
    5. Pack the butter for storage or sale.

C. Application-Based Questions:

1. I would use magnetic separation to separate the iron nails from the sand because iron is magnetic, allowing the nails to be attracted to a magnet while leaving the non-magnetic sand behind. We can also use sieving as sand will pass through the sieve and nails will be left behind.

2. This process is called sedimentation. To separate the clean water, I would carefully decant the clear water from the top, leaving the settled mud at the bottom of the bucket.

3. I would place the mixture of sunflower seeds and dry leaves in a winnowing basket and gently toss it into the air or use a fan. The lighter dry leaves would be blown away, while the heavier sunflower seeds

would fall back into the basket.

4. I would suggest handpicking as the separation process because Sonia can easily select and collect the desired colourful sea shells from the sand or beach debris by visually identifying them.

5. They likely used sieving to separate the components because rice flour is finer than both arhar dal and gram seeds, allowing them to pass through the sieve while leaving the larger dal and seeds behind, followed by handpicking to remove gram seeds.