



Subject: Grade 7 Natural Sciences

Topic: Methods of physical separation

Total: 34 Marks

1. salt 3 marks

Explanation:

Salt is dissolved in the water. When the water turns into a gas, the salt remains behind in the flask.

2. Liebig condenser | Liebig condensor | condensor | condenser 3 marks

Explanation:

The Liebig condenser has a straight inner tube that the warm condensing vapour passes through.

The outer tube has cooling water passing through it. In this way the warm vapour cools down and condenses back into a liquid.

3. B: distillation 4 marks

Explanation:

Distillation is a method used to separate a mixture of a dissolved solid (eg. salt) and a liquid (eg. water).

When the mixture is heated (no 15 in diagram), the liquid turns into a gas, is cooled down by the Liebig condenser (no 5 in diagram) and turned into liquid water, which is collected into a separate container (no 8 in diagram).

4. A: distillate 4 marks

Explanation:

The water which is collected in the beaker during **distillation** is called the distillate. The distillate is pure water.

5. sieves | a sieve 3 marks

Explanation:

Sieves were used to separate the two solid substances. The sand fell through and the gold ore remained behind.

6. physical 3 marks

Explanation:

A mixture is made up of two or more materials with different physical properties, like sand and water. Because they have different properties, they can be separated from one another.

7. D: water

4 marks

Explanation:

Water must be replaced with **ethanol** or **methylated spirits**. It is the best solvent for chromatography paper.

8. true

2 marks

Explanation:

Iron is attracted to a magnet, while sand is not. The magnet will attract the iron and leave the sand behind.

9. B: evaporation

4 marks

Explanation:

Evaporation is used to separate a soluble solid from a liquid.

When heated, the liquid turns into a gas which escapes, while the solid remains in the dish.

10. residue | filtrate

4 marks

Explanation:

The filtrate is the liquid that has passed through the filter paper and falls to the bottom of the test tube.

The residue is the solid substance that cannot pass through the fine filter paper and stays in the funnel.

Total: 34 Marks