

# Create 10 questions on separation techniques for grade 10 chemistry and give the answers in a separate sheet

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1. What are some of the common separation techniques used in chemistry?

Answer: Filtration, distillation, extraction, chromatography, decantation, crystallization, sedimentation, centrifugation, and sublimation.

2. How is distillation used to separate mixtures?

Answer: Distillation is a physical separation technique used to separate components of a mixture based on differences in their boiling points. Mixtures are heated until the components reach their boiling points and then the components are collected separately.

3. What is crystallization used for?

Answer: Crystallization is a technique used to separate solids from a solution. When the solution is cooled, the solute will crystallize out of the solution, leaving behind the solvent.

4. What is a decantation?

Answer: Decantation is a method of separating suspended particles from a liquid by pouring the liquid off the top leaving the suspended particles left behind.

5. How does extraction work?

Answer: Extraction is a process involving the separation of components from a mixture. It involves immersing the mixture in a solvent, such as water or an organic solvent, and then agitating, it to dissolve the desired component of the mixture in the solvent. The solvent is then evaporated or separated to leave behind the extracted component.

6. What is chromatography used for?

Answer: Chromatography is a technique used to separate a mixture based on the relative ability of its components to travel in or on a stationary phase. It can be used to separate components of a compound or a mixture of compounds.

7. How does filtration work?

Answer: Filtration is a process of separating solid particles from a liquid. The solid particles are trapped on the filter paper, while the liquid is passed through.

8. What is centrifugation?

Answer: Centrifugation is a method used to separate particles from a mixture by spinning the mixture at high speed in a centrifuge. The heavier particles settle out at the bottom of the centrifuge, while the lighter particles stay suspended in the solution.

9. What is sedimentation?

Answer: Sedimentation is a process where particles in a mixture settle out due to gravity. This process can be used to separate solid particles from liquids by allowing the particles to settle out of the mixture and collecting the liquids from above.

10. How is sublimation used to separate mixtures?

Answer: Sublimation is a process involving the conversion of a solid directly into a gas without first becoming a liquid. It is used to separate components of a mixture based on their relative volatility, with the less volatile component subliming first, leaving behind the more volatile component.