

Collegedunia NCERT Notes

NCERT Notes for Class 6 Science (Curiosity), 2026-27 Syllabus

Chapter 9: Methods of Separation in Everyday Life

Handpicking, threshing, winnowing, sieving, evaporation, decantation, filtration, churning and magnetic separation

6th Grade Science Revision Notes

Class 6 Science Chapter 9 notes revise everyday separation methods, their property basis and NCERT activity examples for the 2026-27 Curiosity textbook.

Also see for this chapter: [NCERT Book PDF](#) [NCERT Solutions](#) [Handwritten Notes](#)

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1 Chapter Snapshot

The chapter follows Malli and Valli across India as they observe how families, farmers and workers separate useful substances from mixtures. The main skill is choosing a method from the properties of the components.

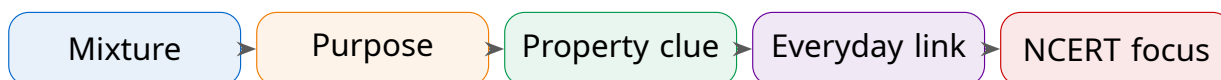
1.1 Chapter Snapshot: Key Points

Method	Best used for	Daily example
Mixture	Two or more substances present together.	Pulses with stones
Purpose	Remove an unwanted component or separate useful components.	Clean grains
Property clue	Size, weight, solubility or magnetism decides the method.	Choose method
Everyday link	Kitchen, farm, sea salt, tea and recycling examples.	Daily science
NCERT focus	Name the method and explain why it works.	Answer cue

Revision cue

Revise the chapter as a property chart: size, weight, solubility, settling, pores and

magnetism.

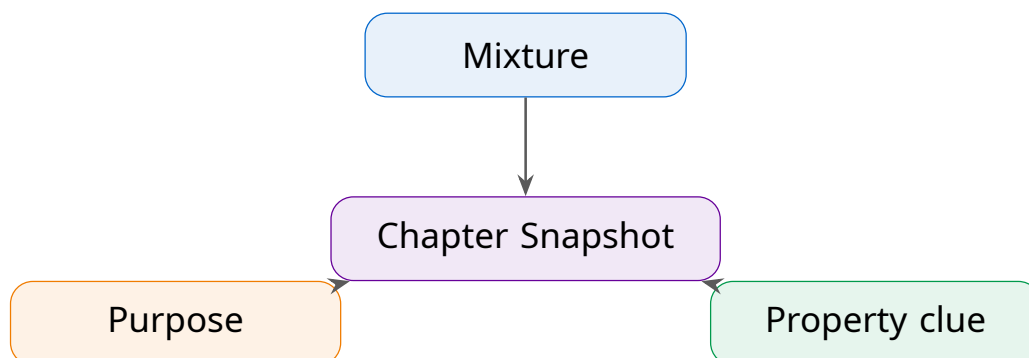


1.2 Chapter Snapshot: How It Works

Choose a method by asking three questions: what is mixed, which part is useful, and which property is different. This turns the chapter into a decision map instead of a list to memorise.

Answer method

In overview questions, group methods by property: size, weight, solubility, settling, pore size and magnetism.



Common check

Do not memorise methods as isolated names. Tie each method to the property it uses.

2 Handpicking

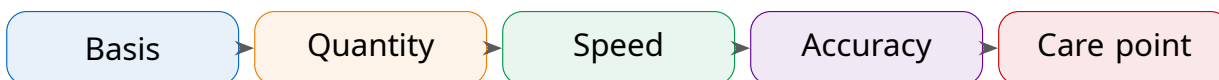
Handpicking is used when unwanted particles are few, visible and easy to remove by hand. The chapter begins with small stones and husk being removed from grains.

2.1 Handpicking: Key Points

Method	Best used for	Daily example
Basis	Difference in size, colour or shape.	Stones from rice
Quantity	Works best when unwanted material is small in amount.	Few chillies
Speed	Slow for very large heaps.	Farm limit
Accuracy	Good when particles are easy to spot.	Pepper in pulao
Care point	Not useful for tiny invisible particles.	Choose another method

Revision cue

Picture rice with a few stones: visible, different-looking pieces can be removed by fingers.

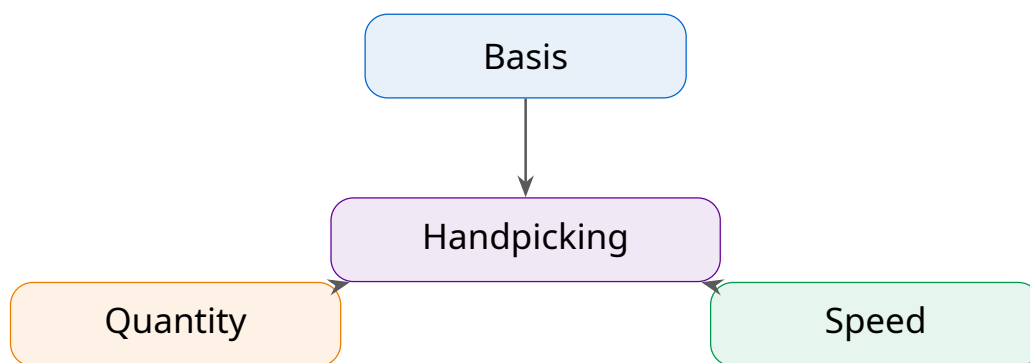


2.2 Handpicking: How It Works

Use handpicking only when the unwanted pieces are visible and few. It works because fingers can select the different particles without any apparatus.

Answer method

Use this wording: handpicking works because the unwanted particles are visible, few and different in size, colour or shape.

**Common check**

Do not use handpicking for large heaps or very tiny particles. It is meant for visible pieces present in small quantity.

3 Threshing and Winnowing

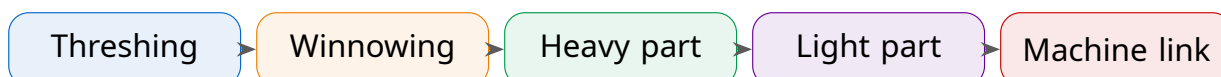
Threshing separates grains from stalks. Winnowing then uses moving air to separate lighter husk from heavier grains.

3.1 Threshing and Winnowing: Key Points

Method	Best used for	Daily example
Threshing	Beating stalks to free grains.	Wheat harvest
Winnowing	Air blows away lighter husk.	Scoop tray
Heavy part	Grains fall nearby.	Useful part
Light part	Husk is carried farther by wind.	Waste part
Machine link	Threshers perform both jobs faster.	Modern farm

Revision cue

Remember the farm order: first beat stalks for grain, then use air to remove husk.

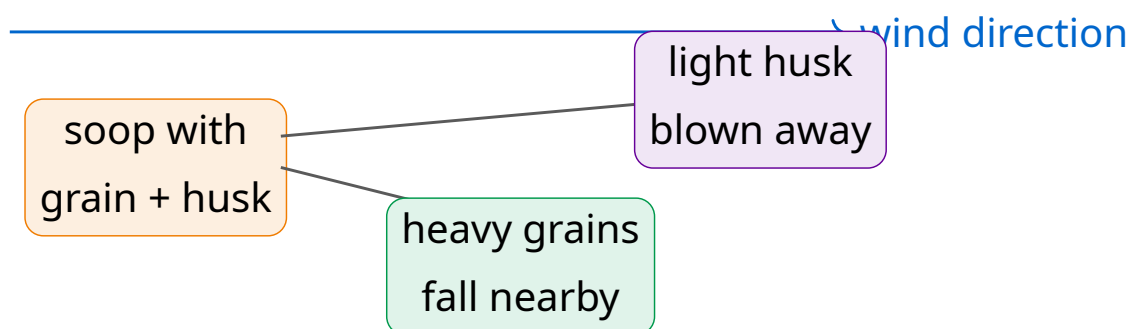


3.2 Threshing and Winnowing: How It Works

Threshing is done first because grains are attached to stalks. Winnowing comes next because husk is lighter than grain and moving air can carry it farther.

Answer method

For full marks, write both steps separately: threshing frees grains from stalks, winnowing removes lighter husk with air.

**Common check**

Do not call winnowing threshing. Threshing frees grains from stalks; winnowing separates husk from grains.

4 Sieving

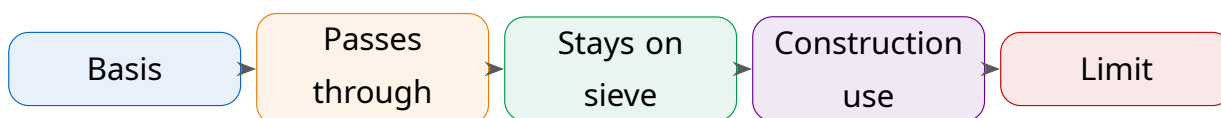
Sieving separates solid particles by size. Fine particles pass through the holes, while larger particles remain on the sieve.

4.1 Sieving: Key Points

Method	Best used for	Daily example
Basis	Difference in particle size.	Flour and bran
Passes through	Smaller particles go through holes.	Fine flour
Stays on sieve	Larger particles remain above.	Bran or pebbles
Construction use	Stones are separated from sand.	Building site
Limit	Fails when particle sizes are similar.	Need other method

Revision cue

Focus on the holes. If one solid is smaller than the holes and one is bigger, sieving works.



4.2 Sieving: How It Works

A sieve is useful when particle sizes are different. The smaller particles pass through equal-sized holes, while bigger particles stay above the sieve.

Answer method

Mention the sieve holes. Smaller particles pass through, while larger particles remain on the sieve.

bran or pebbles
stay above

sieve holes

fine particles
pass through

Common check

Do not use sieving when particles are the same size. The holes must let one component pass and hold the other.

5 Evaporation for Salt

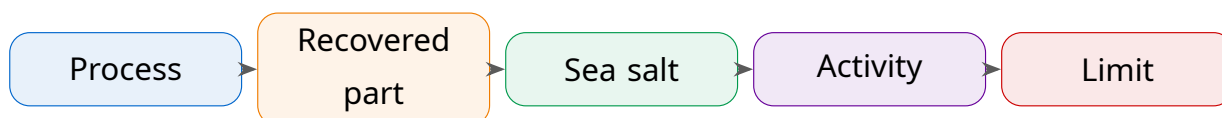
Evaporation separates a dissolved solid from a liquid. Seawater is kept in shallow pits so water evaporates and salt remains behind.

5.1 Evaporation for Salt: Key Points

Method	Best used for	Daily example
Process	Liquid changes into vapour.	Water leaves
Recovered part	Dissolved solid remains.	Salt crystals
Sea salt	Sunlight and air evaporate seawater.	Salt pans
Activity	Salt solution on black paper leaves salt patches.	Observation
Limit	Water is not recovered in simple evaporation.	Only salt remains

Revision cue

Think of salt pans: water leaves as vapour, and the dissolved solid is left behind.

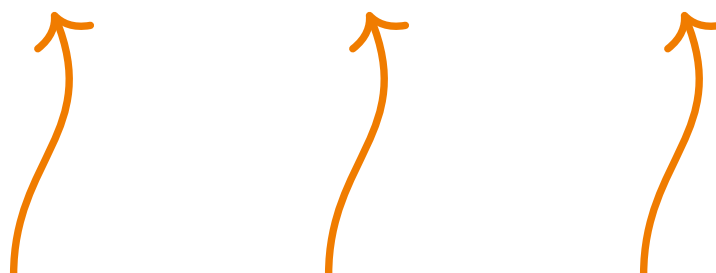
**5.2 Evaporation for Salt: How It Works**

In salt solution, salt is dissolved and cannot be filtered out. Heating or sunlight removes water as vapour, leaving salt behind.

Answer method

Write that salt is dissolved, so filtration will not work. Evaporation removes water and leaves salt crystals.

water vapour leaves



salt solution

salt crystals remain

Common check

Do not say filtration gives salt from salt solution. Dissolved salt passes through a filter with water.

6 Sedimentation and Decantation

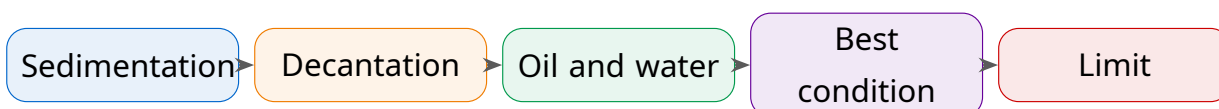
Sedimentation lets heavier insoluble particles settle. Decantation removes the clear liquid by gently pouring it away.

6.1 Sedimentation and Decantation: Key Points

Method	Best used for	Daily example
Sedimentation	Heavy insoluble particles settle at the bottom.	Tea leaves settle
Decantation	Clear liquid is poured off.	Tea without strainer
Oil and water	Separate layers can be poured apart carefully.	Immiscible liquids
Best condition	Vessel must remain undisturbed.	Let particles settle
Limit	Fine suspended particles may remain.	Not fully clear

Revision cue

Use the two-step image: settle first, pour later. Do not disturb the bottom layer.

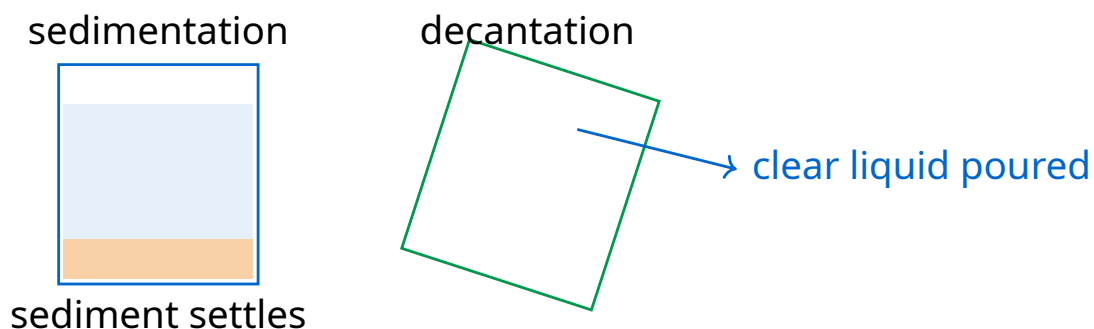


6.2 Sedimentation and Decantation: How It Works

First keep the liquid still so heavier insoluble particles settle. Then pour the clearer liquid slowly without disturbing the sediment.

Answer method

Use settle and pour in order. Sedimentation forms the bottom layer; decantation removes the clearer liquid.

**Common check**

Do not decant too early. The vessel must stay still long enough for heavier particles to settle.

7 Filtration

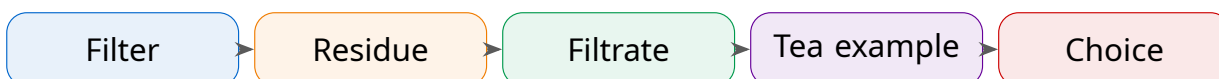
Filtration separates insoluble solid particles from a liquid using a filter. The solid left on the filter is residue, and the liquid that passes through is filtrate.

7.1 Filtration: Key Points

Method	Best used for	Daily example
Filter	Material with tiny pores.	Strainer or cloth
Residue	Solid left on the filter.	Mud on filter paper
Filtrate	Liquid collected below.	Clearer water
Tea example	Tea leaves remain in strainer.	Kitchen use
Choice	Smaller particles need finer pores.	Filter paper

Revision cue

Use the residue-filtrate pair: residue stays on the filter, filtrate passes through.

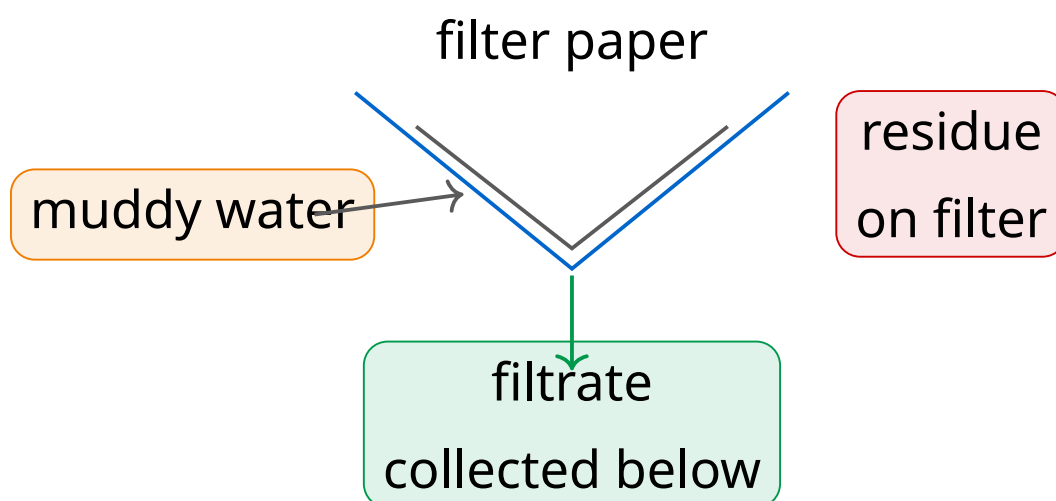


7.2 Filtration: How It Works

A filter has pores that allow liquid to pass but stop larger insoluble particles. The solid left behind is residue and the liquid collected is filtrate.

Answer method

Name both products: residue is the solid on the filter, and filtrate is the liquid collected below.



Common check

Do not use filtration for a dissolved solid like salt. Filtration works for insoluble particles.

8 Churning

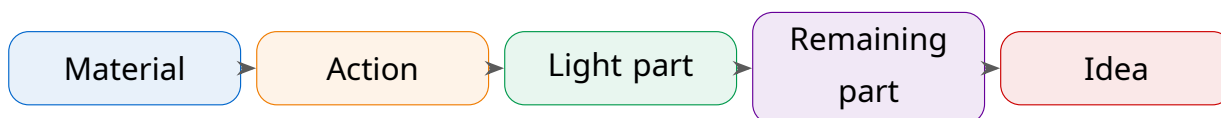
Churning separates butter from curd. Butter is lighter and floats, while buttermilk remains below.

8.1 Churning: Key Points

Method	Best used for	Daily example
Material	Curd or cream.	Kitchen example
Action	Repeated stirring or rotating.	Mathni or mixer
Light part	Butter floats at the top.	Useful component
Remaining part	Buttermilk is left behind.	Drink or cooking use
Idea	Components separate because of different properties.	Density clue

Revision cue

Remember curd changing into two parts: butter collects above and buttermilk remains below.

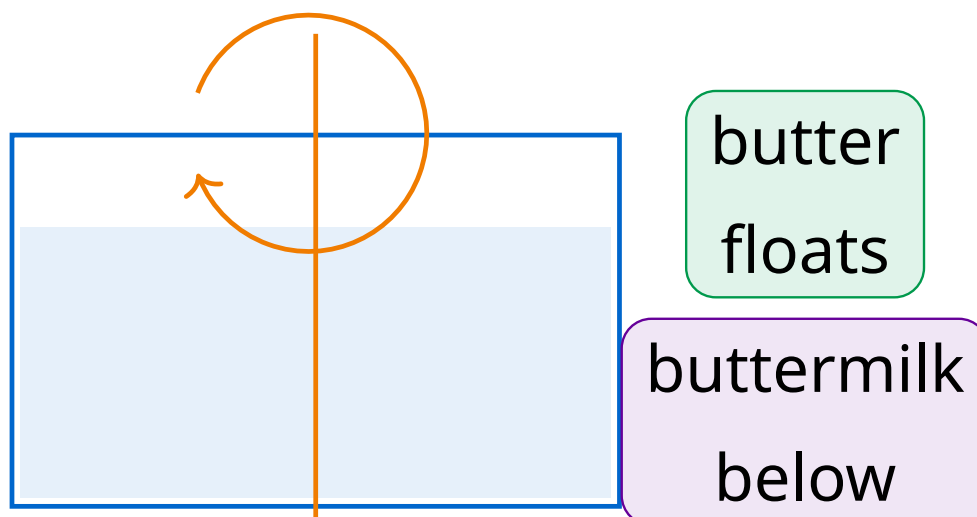


8.2 Churning: How It Works

Churning repeatedly moves curd or cream. Butter separates because it is lighter and gathers at the top, while buttermilk remains below.

Answer method

State that repeated stirring separates butter because it is lighter and gathers at the top.

**Common check**

Do not confuse churning with sieving. Churning separates butter by repeated motion and density difference.

9 Magnetic Separation

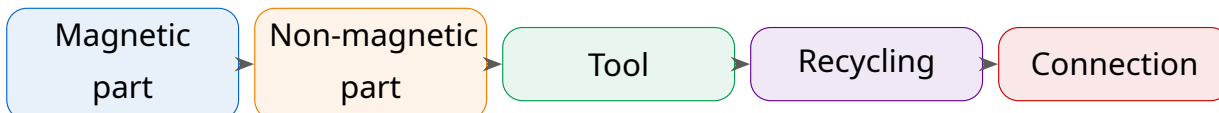
Magnetic separation uses a magnet to separate magnetic substances from non-magnetic substances. The chapter uses iron nails mixed with sawdust.

9.1 Magnetic Separation: Key Points

Method	Best used for	Daily example
Magnetic part	Iron and some other metals are attracted.	Nails
Non-magnetic part	Sawdust does not get attracted.	Wood powder
Tool	A magnet is moved through the mixture.	Class activity
Recycling	Magnets remove scrap iron from waste.	Industry use
Connection	Links back to Exploring Magnets.	Previous chapter

Revision cue

Look for iron first. If iron is present, a magnet gives a quick separation.

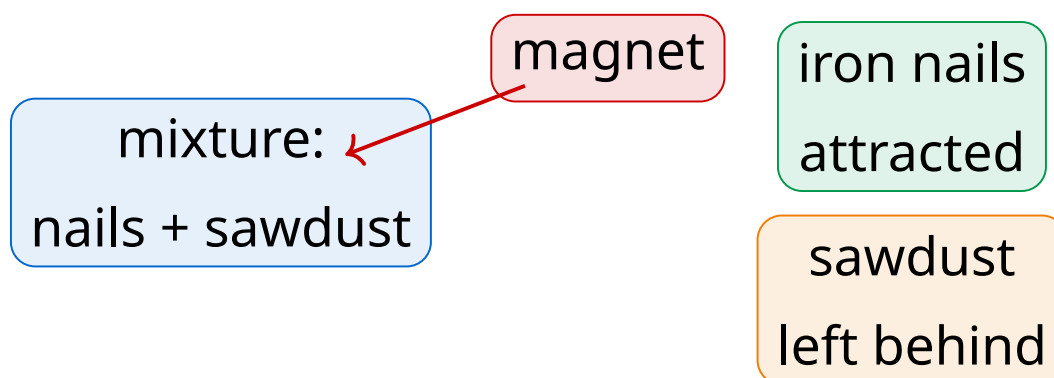


9.2 Magnetic Separation: How It Works

Move a magnet through the mixture or near it. Magnetic iron pieces get attracted, while sawdust, sand or plastic do not.

Answer method

State that iron is magnetic, so a magnet attracts nails while sawdust or sand remains behind.

**Common check**

Do not use a magnet unless one component is magnetic. Sawdust and most stones will not be attracted.

10 Choosing the Correct Method

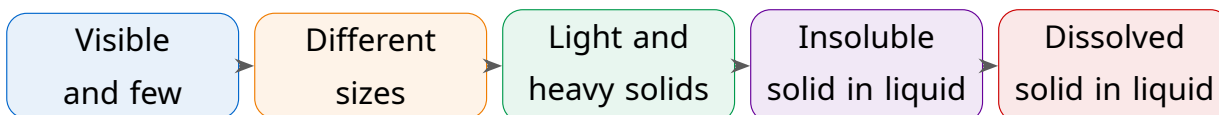
The safest way to choose a method is to ask which property differs most clearly. Size suggests sieving, weight suggests winnowing, solubility suggests evaporation and magnetism suggests magnetic separation.

10.1 Choosing the Correct Method: Key Points

Method	Best used for	Daily example
Visible and few	Use handpicking.	Stones from pulses
Different sizes	Use sieving.	Bran from flour
Light and heavy solids	Use winnowing.	Husk and grains
Insoluble solid in liquid	Use sedimentation, decantation or filtration.	Mud in water
Dissolved solid in liquid	Use evaporation to recover the solid.	Salt solution
Magnetic clue	Use a magnet.	Iron nails

Revision cue

Start from the property clue, not from the object name. The same object may need different methods in different mixtures.

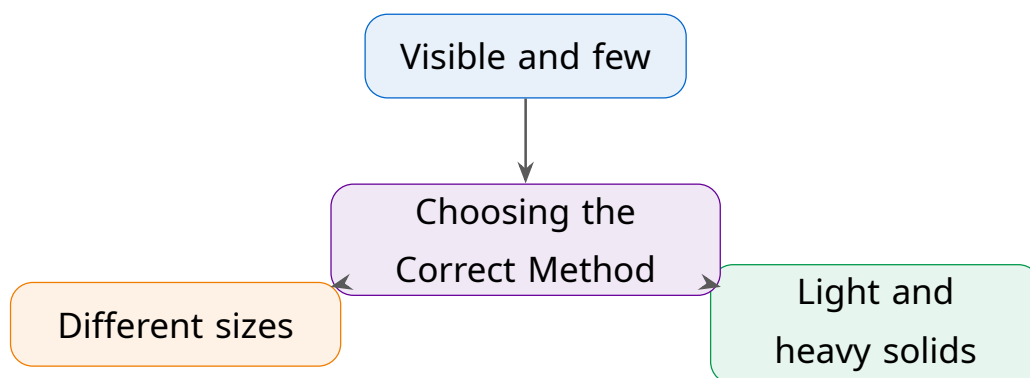


10.2 Choosing the Correct Method: How It Works

Do not choose from memory alone. Match the mixture to the property: size, weight, solubility, settling, pore size or magnetism.

Answer method

Write the decision clue: visible pieces, particle size, weight, dissolved solid, insoluble solid or magnetic part.

**Common check**

Do not group all solid-liquid mixtures together. Insoluble solids and dissolved solids need different methods.

11 Important Activities

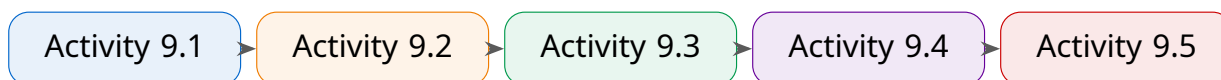
NCERT activities train students to observe before naming the process. Roasted peanut skins, salt solution, muddy water, pond water filters and method sorting all test the same idea: property decides separation.

11.1 Important Activities: Key Points

Method	Best used for	Daily example
Activity 9.1	Peanut skins are blown away.	Winnowing idea
Activity 9.2	Salt solution dries on paper.	Evaporation idea
Activity 9.3	Heating salt solution leaves salt.	Recover solid
Activity 9.4	Filter paper separates mud.	Filtration
Activity 9.5	Make a low-cost water filter.	Design skill
Activity 9.6	Sort examples by purpose of separation.	Method-choice practice

Revision cue

Treat each activity as evidence: the observation tells which separation method is being used.

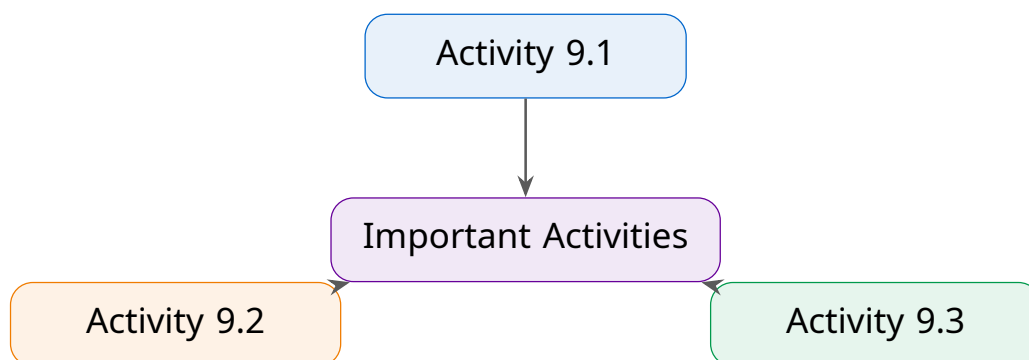


11.2 Important Activities: How It Works

Each activity shows the same scientific habit: observe the mixture, test a property difference, then name the separation method.

Answer method

When asked about an activity, quote the observation first, then name the matching method.



Common check

Do not skip the observation. The activity result is the evidence for the method name.

12 Practice Answer Frames

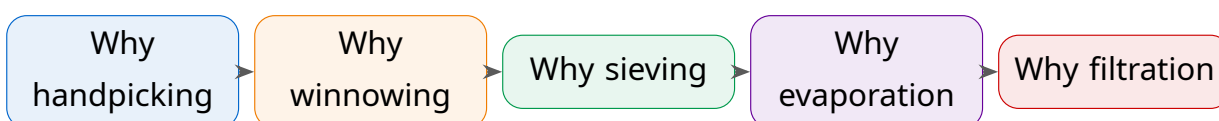
Strong answers do not only name the method. They also state the property that makes the method work.

12.1 Practice Answer Frames: Key Points

Method	Best used for	Daily example
Why handpicking	Particles are visible and few.	Explain basis
Why winnowing	Husk is lighter than grains.	Mention air
Why sieving	Particles differ in size.	Mention holes
Why evaporation	Water evaporates but salt remains.	Mention dissolved solid
Why filtration	Insoluble solid cannot pass through fine pores.	Mention residue

Revision cue

A good answer has three parts: method name, property used and separated component.

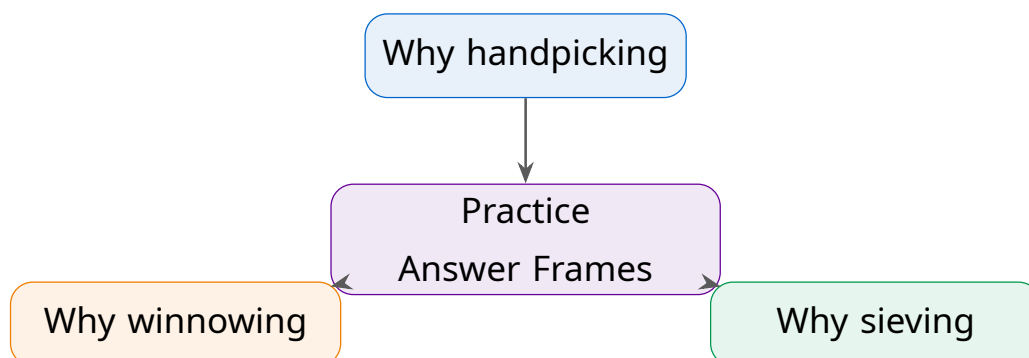


12.2 Practice Answer Frames: How It Works

For a full-mark answer, write the method, the property used and the separated component. Add an example only if the question asks for one.

Answer method

Turn the frame into a sentence: method plus property plus example.



Common check

Do not stop after naming the method. The reason earns the important mark.

13 Quick Reference Summary

Use this section for last-minute revision. The chapter is built around one idea: components can be separated when their properties are different.

13.1 Method Finder Table

Method	Use when	Example
Handpicking	Few visible solids in another solid.	Stones from rice
Threshing	Grains attached to stalks.	Wheat stalks
Winnowing	Lighter and heavier solid particles.	Husk and grains
Sieving	Different sized solid particles.	Flour and bran
Evaporation	Dissolved solid in a liquid.	Salt solution
Sedimentation	Heavy insoluble solid in liquid.	Muddy water
Decantation	Clear liquid above settled solid or separate layers.	Tea or oil and water
Filtration	Insoluble solid in liquid.	Tea leaves or mud
Churning	Butter from curd.	Buttermilk
Magnetic separation	Magnetic and non-magnetic solids.	Iron nails and sawdust
Condensation	Water vapour cooled back into liquid.	Recover water after evaporation

13.2 Five Mark Practice

1. Explain why winnowing cannot be done well in a closed room.
2. Describe how salt can be obtained from salt water by evaporation.
3. Compare sedimentation, decantation and filtration using tea or muddy water.
4. Give two examples where separation is used in the kitchen.

5. Choose a method for separating iron nails from sawdust and explain the reason.
6. Why is condensation needed if both salt and water must be recovered from salt solution?

Final memory

Use S-W-S-E-F-M: Sieving, Winnowing, Sedimentation, Evaporation, Filtration and Magnet. Add handpicking, threshing, churning and condensation for the complete chapter list.

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