

Class 6 Science / Chapter 9: Methods of Separation in Everyday Life

Curiosity Grade 6 / Notes + Activities ke Jawab / Notes by Abhishek Sir

1. Separation kyon karte hain?

Jab do ya zyada cheezein mili hon to use **mixture** kehte hain. Hum mixture ke components ko alag karte hain kyunki: (1) bekaar ya nuksaandayak cheez hataane ke liye (anaaj se kankad), (2) upyogi cheez alag karne ke liye (dahi se makkhan). Kabir ka doha: jaise soop se bhusa udkar anaaj bach jaata hai, waise achchhe log achchhai rakhte aur burai hata dete hain.

2. Separation ke tareeke

Tareeka	Kab/Kaise	Example
Handpicking	Haath se chunna; size, rang, shape ka antar; jab matra kam ho	Dal se kankad, pulao se kaali mirch, hari mirch
Threshing	Dandiyan ko peetna taaki daane alag ho jaayein <i>Teacher</i>	Gehu ki dandi se daane (thresher machine dono kaam karti hai)
Winnowing	Hawa se halka bhusa aur bhaari daane alag (soop/bamboo tray)	Bhusa-anaaj, mungfali ke chhilke
Sieving	Solid-solid mixture jisme kan ka size alag; chhalni ke chhed	Aate se bhusi/choker, ret se kankad
Evaporation	Ghule hue solid ko paani sukhaa kar alag karna	Samundar ke paani se namak
Sedimentation	Bhaari na ghulne wala kan neeche baith jaata hai	Chai ki patti ka bartan me baithna
Decantation	Baithne ke baad upar ka liquid dheere se ulta kar alag karna	Chai, dal-chawal dhona, tel aur paani
Filtration	Na ghulne wale solid ko liquid se filter se alag karna (pore size zaroori)	Chai ki chhaani, kapda, filter paper se kichad ka paani
Churning	Mathna: halka makkhan upar tairta hai	Dahi se makkhan, chhach

Tareeka	Kab/Kaise	Example
Magnetic separation	Magnet se loha alag karna	Buraada se kil, kachre me se loha

Zaroori shabd

- **Residue:** filter paper par bacha hua thos (kichad).
- **Filtrate:** filter se nikla saaf paani.
- **Mixture:** do ya zyada padarth ka mel.

Trick / Yaad rakhne ka tareeka

- **H-T-W-S-E-S-D-F-C-M:** Handpicking, Threshing, Winnowing, Sieving, Evaporation, Sedimentation, Decantation, Filtration, Churning, Magnetic.
- Namak ke liye **Evaporation**, paani aur namak dono wapas chahiye to **Condensation** bhi lagta hai (vapour ko thanda karke paani).

Namak kaise milta hai: samundar ka paani ugle gadhdhon me dhoop aur hawa me rakha jaata hai, paani evaporate ho jaata hai aur namak bachta hai. **Sambhar Lake (Rajasthan)** bhi namak ka source hai. **Dandi March (Namak Satyagraha)** Sabarmati Ashram se shuru hua tha.

Filtration me choose kaise: kaise filter? Jis size ke kan hatane hain uske hisaab se: **chaai ki chhaani, kapda, filter paper (sabse mahin chhed), cotton, charcoal, ret. Machhli** pakadne ka jaal bhi ek tarah ki filtration hai.

3. Activities ke Jawab

Q. Activity 9.1 - Bhune mungfali ke chhilke

Ans. Haathon me ragadne par chhilka alag ho jaata hai. **Phoonk marne par halka chhilka** udd jaata hai aur **bhaari mungfali** neeche reh jaati hai. Ye winnowing hai.

Q. Winnowing me kya hota hai? Hawa se kaun udta hai?

Ans. Daane aur bhusa ek jagah nahi girte. **Bhusa (halka)** door udta hai aur **daane (bhaari)** paas girte hain. Hawa dono ko alag kar deti hai.

Q. Valli band kamre me chawal se bhusa kaise alag kare?

Ans. Pankhe ke saamne soop se hilaye ya phoonk maare, ya haath se handpicking kare.

Q. Aate ko chhaanne ki zaroorat kyun? Kya chhed bade hon to sieving chalegi?

Ans. Aate se bran (chokar) aur kankad hatane ke liye. **Nahi**, agar chhed kan se bade hon to sab kuch nikal jaayega.

Q. Activity 9.2 - Namak ke ghol ki boondein kaale kaagaz par

Ans. Sookhne par safed namak ke dhabbe bache. Paani evaporate ho gaya. (Garmi me kaale kapdon par safed dhabbe pasine ke namak ke hote hain.)

Q. Activity 9.3 - China dish me namak ka ghol garam karna

Ans. Paani ubal kar vapour banke ud jaata hai aur dish me namak bachta hai. Dono wapas paane ke liye vapour ko thanda karke condense karte hain (distillation).

Q. Oil aur paani alag kaise karein?

Ans. Sedimentation ke baad decantation (tel upar tairta hai, paani neeche; dheere se ek ko nikaal lo).

Q. Activity 9.4 - Filter paper cone, mud paani

Ans. Mitti ke kan filter paper se paar nahi jaate. Filter paper par mud = residue, flask me saaf paani = filtrate.

Q. Activity 9.5 - Low-cost water filter

Ans. Bottle ke neeche chhed karo, andar kapda/cotton, mote kankad, chhote kankad, ret, charcoal ki parat lagao. Upar se paani daalo, neeche saaf paani milega.

Q. Doodh phat gaya to kya karein?

Ans. Paneer banao: phate doodh ko kapde se chhaano (filtration); paneer kapde me aur paani (whey) alag.

Q. Mixed carpenter ki kilein sawdust me

Ans. Magnetic separation (magnet se loha chipakta hai, buraada nahi).

Q. Activity 9.6 - Let us play (10 phrases)

Ans. 1 Kankad dal se - handpicking/sieving. 2 Dahi se makkhan - churning. 3 Hari mirch dalia se - handpicking. 4 Tarbooj ke beej - handpicking. 5 Buraada aur kil - magnetic separation. 6 Genda phool - handpicking. 7 Kankad ret se - sieving. 8 Nariyal ke tukde aate se - sieving. 9 Tel paani se - decantation. 10 Namak ke ghol se namak - evaporation.

4. Let us enhance our learning - Answers

Q. Q1. Handpicking ka purpose

Ans. (ii) Sorting

Q. Q2. Churning se kya alag hota hai?

Ans. (iii) Cream (makkhan) from milk

Q. Q3. Filtration me zaroori factor

Ans. (iii) Pore size

Q. Q4. True/False (karan ke saath)

Ans. (i) T - dhoop me paani evaporate ho jaata hai, namak bachta hai. (ii) T - kam matra ho to haath se chunna aasaan. (iii) F - puffed rice halka hai, to winnowing se alag hoga,

threshing se nahi (threshing = dandi se daane). (iv) T - tel aur nimbu paani na milne wale liquids hain, ek upar ek neeche, decantation se alag. (v) F - rice flour aur paani ko sieving se nahi, filtration/decantation se alag karte hain.

Q. Q5. Match

Ans. (i) Gram flour + black gram = (d) Sieving. (ii) Chalk powder + paani = (e) Filtration. (iii) Corn + potatoes = (a) Handpicking. (iv) Iron powder + sawdust = (b) Magnetic separation. (v) Oil + paani = (c) Decantation.

Q. Q6. Decantation filtration ki jagah kab?

Ans. Jab solid bhaari ho aur neeche baith jaye (jaise chai ki patti, chawal dhote samay), ya filter na ho, ya do liquid (tel-paani) alag karne ho.

Q. Q7. Naak ke baal aur separation

Ans. Naak ke baal filter ki tarah kaam karte hain. Saans ke saath aayi dhool aur kan rok lete hain, andar nahi jaane dete (filtration).

Q. Q8. COVID me mask kis se bane? Role?

Ans. Mask kapde ya filter jaise cotton/non-woven fabric se bante hain. Wo hawa me virus ke bade drops aur dhool ko rokne hain (filtration jaisa), ek se doosre me phailne se bachate hain.

Q. Q9. Aloo, namak aur buraada ka mixture

Ans. 1. Handpicking: aloo haath se alag. 2. Baaki ko paani me daalo, namak ghul jaata hai, buraada tairta hai. 3. Buraada hatao (haath se/chhanni se). 4. Namak ke ghol ko filter karke, phir evaporate karo: namak mil gaya.

Q. Q10. Intelligent Leela - sahi options

Ans. Before her father felt thirsty, she went to fetch water. The water was muddy and unfit. She kept it for some time and then filtered the muddy water using muslin cloth. Leela then boiled the water for 10 minutes in a covered pan. After cooling, she filtered it again and made it fit for drinking. Title: "Leela ka saaf paani".

5. Important Q&A (exam ke liye)

Q. Threshing aur winnowing me antar

Ans. Threshing: dandi se daane alag karna (peetkar). Winnowing: hawa se bhusa aur daane alag karna.

Q. Sedimentation aur decantation

Ans. Sedimentation: bhaari kan neeche baithna. Decantation: upar ka liquid dheere se ulta kar alag karna.

Q. Evaporation se kya alag hota hai?

Ans. Liquid me ghule solid ko (jaise namak) alag karte hain.

Chapter ka Naam (copy-paste)

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