

Class 6 Science / Chapter 2: Diversity in the Living World

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

1. Biodiversity kya hai?

Hamare charo taraf bahut tarah ke paudhe aur janwar hain. Is variety ko Biodiversity (jaiv-vividhta) kehte hain. Kisi jagah ke paudhe aur janwar milkar us jagah ki biodiversity banate hain. Jaise har chidiya ki awaaz alag hoti hai - ye bhi diversity hai.

Sab ek dusre par nirbhar hain

- Ped chidiyon ko ghar aur khana dete hain.
- Janwar phal khakar beej door tak phailate hain.
- Isliye paudhe aur janwar ek dusre par depend karte hain.

Nature walk ke niyam: paudhon/phoolon ko todna nahi, janwaron ko pareshan nahi karna, sabka samman karna aur shaanti se observe karna.

2. Grouping (Samuh banana)

Jaise tum apni books-copies ko group karke bag me rakhte ho, waise hi paudhe-janwar ko unki samanta (similarity) aur antar (difference) ke hisaab se group karte hain. Fayda: padhna aur samajhna aasaan ho jata hai.

Group alag-alag basis par ban sakte hain: paudhe - height, tana (hard/soft), phool hai ya nahi; janwar - kya khatte hain, kahan rahte hain, kaise chalte hain, rang.

3. Paudhon ka grouping

Type	Pehchaan	Example
Herb (jadi-booti)	Chhote, narm hare tane	Tomato, tulsi
Shrub (jhadi)	Bahut bhoore lakdi wale tane, zameen ke paas se branches, tana ped jitna moota nahi	Rose, gudhal
Tree (ped)	Bahut lamba, kadak, moota, bhoora tana, branches oopar se shuru	Mango, neem
Climber	Kamzor tana, sahare se chadhta hai	Mataar ki bel

Type	Pehchaan	Example
Creeper	Zameen par failta hai	Kaddu, tarbooz

Venation (patti ki nason ka pattern): Patti par jo patli lines dikhti hain unhe veins kehte hain.

	Reticulate venation	Parallel venation
Pattern	Jaal jaisa, beech me moti nas	Nasein samanantar (parallel)
Example	Gudhal, aam, peepal	Kele, ghaas, gehu

Jadein (Roots): Taproot = ek mukhya moti jad aur usse nikli chhoti jadein (sarson, gudhal, chana). Fibrous root = ek hi size ki patli jadon ka gucchha tane ke neeche se (ghaas, gehu).

Cotyledon (beej-patra): beej ka wo hissa jo beej ke andar hota hai. Chana ke beej me 2 hote hain (dicot), makka me 1 (monocot).

	Dicot	Monocot
Cotyledon	2 (beej do hisson me tootta hai)	1
Venation	Reticulate	Parallel
Root	Taproot	Fibrous
Example	Chana, sarson, gudhal, matar	Makka, gehu, ghaas, chawal

Trick / Yaad rakhne ka tareeka

- Dicot = D, 2, Taproot, Reticulate (jaal). Monocot = M, 1, Fibrous, Parallel.
- "M-one" yaad rakho: Monocot me ek cotyledon.

4. Janwaron ka grouping

Janwar apni chaal (movement) ke hisaab se group ho sakte hain: ant - legs se chalti hai; goat - chalti aur koodti hai (legs); pigeon - chalta aur udta hai (legs aur wings); housefly - chalti aur udti hai (legs, wings); fish - tairti hai (fins). Janwar chal sakte hain, daud sakte hain, ud sakte hain, rengte hain, kood sakte hain.

5. Alag jagah, alag paudhe-janwar (Adaptation)

Registan, pahaad, samundar, jungle - har jagah ke paudhe-janwar alag hote hain kyunki wahan ki paristhitiyan alag hoti hain.

Jagah	Paudha / Janwar	Khaas feature	Fayda
Registan	Cactus	Moti, maansal (fleshy) tana	Paani store karta hai

Jagah	Paudha / Janwar	Khaas feature	Fayda
Pahaad (barf)	Deodar	Conical shape, dhalu branches	Barf phisal kar gir jaati hai
Registan	Camel (Rajasthan)	Lambi taangein, chaure khur, 1 hump	Ret me dhansta nahi; hump me khana store
Thanda registan	Camel (Ladakh)	Chhoti taangein, 2 humps, lambe baal	Pahaad me chalna, thand se bachna
Nilgiri	Rhododendron	Chhota ped, chhoti patti	Tez hawa jhel sake
Samundar	Machhli	Streamlined body, fins	Paani me tairna

Camel bina paani ke kaise rehta hai?

- Bahut kam peshaab karta hai.
- Uska gobar sookha hota hai.
- Use pasina nahi aata.
- Isliye sharir se paani kam nikalta hai aur wo kai din bina piye reh sakta hai.

Zaroori definitions

- **Adaptation:** wo khaas features jinse paudhe/janwar apni jagah par jee paate hain.
- **Habitat:** wo jagah jahan paudhe/janwar rehte hain (khana, paani, hawa, ghar milta hai).
- **Terrestrial habitat:** zameen par (jungle, registan, ghaas ka maidan, pahaad).
- **Aquatic habitat:** paani me (talab, jheel, nadi, samundar).
- **Amphibians:** jo paani aur zameen dono par rehte hain (jaise mendhak).

6. Biodiversity ko bachana

Jab habitat kharab hota hai (ped katna, jungle khatam), to janwaron ka ghar, khana aur saadhan khatam ho jaate hain aur biodiversity ghat jaati hai. Bengal Tiger, Cheetah aur Great Indian Bustard kam hue. Sarkar ke project: **Project Tiger (1973)**, **Cheetah Reintroduction Project (2022)**. **Sacred groves** = gaon walon dwara bachaye gaye jungle, jahan ped kaatna mana hai.

Scientists: Janaki Ammal - botanist, Silent Valley bachane me madad. Salim Ali - "Birdman of India", chidiyon par 10 kitabein, Padma Vibhushan 1976. **Silent Valley (Kerala):** logon ke 10 saal ke andolan se bacha.

7. Activities ke Jawab

Q. Activity 2.1 - Nature walk observations (Table 2.1 aur 2.2)

Ans. Apne school/park ke paudhon ko dekhkar likho. **Samanta:** sabke tane, patte, phool hote hain. **Antar:** kuch paudhe lambe/chhote, tana kadak/narm, patte ka shape alag, phool ke rang aur khushboo alag. **Janwar:** kuch zameen par, kuch ped par, kuch paani me rehte hain; khana aur chaal bhi alag (jaise cow ghaas khati hai aur chalti hai; nayi rows me e.g. Dog: ghar/zameen, roti-maans, chalta/daudta).

Q. Activity 2.2 - Class ne kitne alag paudhe-janwar banaye?

Ans. Har bachche ne alag paudha ya janwar banaya hoga. **Haan, aur bhi bahut saare variety hain** jo board par nahi aa paaye - isse pata chalta hai ki biodiversity bahut badi hai.

Q. Activity 2.3 - Cards ka grouping. Alag groups ka basis alag kyon?

Ans. Kyunki har student ne alag common feature chuna (jaise koi ne height, koi ne phool hai ya nahi). Isliye grouping ke basis alag ho sakte hain.

Q. Activity 2.4 - Herb, shrub, tree me kya antar? (Table 2.3)

Ans. **Tree:** bahut lamba, moota kadak bhoora tana, branches oopar. **Shrub:** madhyam height, kai bhoore lakdi wale tane, zameen ke paas se branches. **Herb:** chhota, narm hara tana. **Table:** Mango - Tall, Brown, Hard, Thick, branches higher up = **Tree**; Rose - Medium, Hard, Thin, close to ground = **Shrub**; Tomato - Short, Green, Tender = **Herb**.

Q. Activity 2.5 - Fig 2.4a aur 2.4b ki nasein me kya antar?

Ans. Fig 2.4a (gudhal) me jaal jaisi (reticulate) nasein, beech me moti nas. Fig 2.4b (kela) me nasein samanantar (parallel) hain.

Q. Activity 2.6 - Fig 2.5a aur 2.5b ki jadon me antar?

Ans. 2.5a (sarson) me ek mukhya moti jad (taproot) aur uski shakhaein; 2.5b (ghaas) me patli barabar jadon ka gucchha (fibrous). Observation ke baad paudha wapas laga do.

Q. Activity 2.7 - Venation aur root ka relation (Table 2.4)

Ans. **Haan.** Reticulate venation wale paudhon me aam taur par taproot (sadabahar, chana) aur parallel venation wale me fibrous root (lemongrass, gehu) hoti hai. **Example:** Marigold - reticulate, taproot; Lemongrass - parallel, fibrous.

Q. Activity 2.8 - Chana aur makka ke beej

Ans. Chana ke beej do hisson (2 cotyledon) me tootte hain - dicot. Makka me ek patla cotyledon - monocot. **Relation:** dicot = reticulate + taproot; monocot = parallel + fibrous.

Q. Activity 2.9 / Table 2.5 - Janwaron ki chaal

Ans. Ant - walks - legs; Goat - walks and jumps - legs; Pigeon - walks and flies - legs, wings; Housefly - walks and flies - legs, wings; Fish - swims - fins. **Aur:** Snake - rengta hai - poora sharir; Frog - koodta aur tairta hai - back legs; Snail - dheere sarakta hai - muscular foot. **Conclusion:** alag-alag janwar alag tarah se chalte hain aur alag body parts use

karte hain.

Q. Activity 2.10 - Table 2.6 (alag regions ke paudhe-janwar)

Ans. Desert: camel, cactus, scorpion; Mountains: deodar, yak, snow leopard; Ocean: fish, whale, seaweed; Forest: lion, sal, tiger. **Observation:** har region ke paudhe-janwar alag hain kyunki paristhitiyan alag hain.

8. Let us enhance our learning - Answers

Q. Q1. Wheat aur kidney beans ke paudhon ki jadon aur patti ki nason me antar?

Ans. Wheat (monocot): fibrous roots, parallel venation. Kidney beans (dicot): taproot, reticulate venation.

Q. Q2. 10 janwaron ko habitat ke hisaab se baanto

Ans. A (Aquatic): Dolphin, Whale. C (Dono): Frog, Crocodile. B (Terrestrial): Horse, Sheep, Squirrel, Earthworm, Pigeon, Tortoise. (Crocodile paani aur zameen dono par rehta hai, isliye C me.)

Q. Q3. Mooli (radish) kaun si jad hai? Patti me kaisi venation?

Ans. Mooli ek taproot hai. Uske paudhe ki patti me reticulate venation hogi (kyunki taproot wale dicot hote hain).

Q. Q4. Pahadi bakri aur maidani bakri me samanta/antar aur karan

Ans. Samanta: dono ke 4 pair, sing, kaan aur muh hain, dono ghaas khaate hain. Antar: pahadi bakri ke ghane lambe baal hote hain, taangein majboot aur pairon ki pakad achchi; maidani ke baal kam. Karan: pahaad par thand hoti hai aur dhalu chattanein hoti hain - isliye adaptation alag.

Q. Q5. Cow, cockroach, pigeon, bat, tortoise, whale, fish, grasshopper, lizard ke 2 group (nayi basis par)

Ans. Basis: Pankh hain ya nahi. Pankh wale: cockroach, pigeon, bat, grasshopper. Pankh nahi: cow, tortoise, whale, fish, lizard. (Dusra basis: ghar/paani vs zameen, ya anda dene vs bachcha dene wale bhi sahi.)

Q. Q6. Jungle katne se kya asar? Kya karein?

Ans. Asar: janwaron ka ghar/khana khatam, biodiversity ghati, hawa ganda, baarish kam, mitti ka kataav. Upay: ped lagana, kam kaagaz/lakdi use karna, jungle ki suraksha, recycle, sacred groves aur sanrakshit kshetra banana, logon ko jaagruk karna.

Q. Q7. Flowchart me A aur B ke examples

Ans. Paudha - patti hai? Haan - kya reticulate venation hai? Haan -> A = gudhal, aam, peepal, chana (dicot). Nahi (parallel) -> B = ghaas, gehu, kela, makka (monocot).

Q. Q8. Raj kehta hai "Gudhal shrub hai" - Sanjay kya sawaal pooche?

Ans. "Gudhal ke tane kadak aur bhoore hain ya narm hare? Branches zameen ke paas se nikalti hain ya oopar se? Uski height kitni hai? Tana kitna moota hai? Kya wo tree se chhota hai?"

Q. Q9. Group A (dicot, taproot) aur B (monocot, fibrous) ke examples

Ans. A: chana, sarson, matar, gudhal. B: gehu, makka, chawal, ghaas. (a) A ki aur samanta: reticulate venation, beej me 2 cotyledon, phool ke hisse aam taur par 4 ya 5 ke multiple me. (b) B ki: parallel venation, beej me 1 cotyledon, phool ke hisse 3 ke multiple me.

Q. Q10. Duck ke pair (webbed feet) me kya antar? Kaun si activity?

Ans. Duck ke pairon ki ungliyan jhilli (web) se judi hoti hain, pigeon ke alag alag. Isse duck achchi tarah tair sakti hai (paddle ki tarah). Pigeon ke pair pakadne/chalne ke liye hain.

9. Important Q&A (exam ke liye)

Q. Biodiversity kya hai?

Ans. Kisi jagah me paaye jaane wale paudhe aur janwaron ki variety.

Q. Dicot aur monocot me 3 antar likho

Ans. Cotyledon 2 vs 1; reticulate vs parallel venation; taproot vs fibrous root.

Q. Adaptation kya hai? Ek example do.

Ans. Wo khaas feature jisse jeev apni jagah par jee sake. Jaise registan me cactus ka maansal tana paani store karta hai.

Q. Habitat kise kehte hain?

Ans. Wo jagah jahan paudhe/janwar rehte hain aur unhe khana, paani, hawa, ghar milta hai.

Chapter ka Naam (copy-paste)

Diversity in the Living World

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