

Delhi Public School Ghaziabad
Class XII
Biology
Lesson plan based on DOL
Chapter 15 – Biodiversity and conservation

Unit	Ecology and environment (Ch. 15 – Biodiversity and conservation)
Class Transaction	Total: 3 periods
Pre-requisite for the course	This lesson requires Basic knowledge of biodiversity, need for conservation of biodiversity, levels of biodiversity, species distribution and species richness Knowledge of latitudinal gradients, species area relationship. Knowledge of causes of loss of biodiversity, ways to conservation of biodiversity and various attempts made to conserve biodiversity
Assessment of qualifying knowledge	Written test Lab activity Oral questioning
Objective	Students would be able to understand biodiversity, need for conservation of biodiversity, levels of biodiversity, species distribution and species richness, latitudinal gradients, species area relationship, causes of loss of biodiversity, ways to conservation of biodiversity and various attempts made to conserve biodiversity
Learning Outcomes	<u>KNOWLEDGE-</u> <i>Students will know and understand</i> 1. concept of biodiversity 2. Causes of loss of biodiversity, need for conservation of biodiversity 3. Species richness and distribution 4. Causes and preventive measures of conservation of biodiversity <u>SKILLS-</u> <i>Students would be able to</i> Understand why tropics show more species diversity than temperate regions Understand “The Evil Quartet”. Understand causes and preventive measures for loss of biodiversity Competencies developed in students: collaborative learning, critical thinking and problem solving, character building, communication, citizenship
Transaction Methodology	Transaction would proceed in the following manner-

(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	<i>Brain Storming</i>-The class would start with a discussion on what the students have already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying. <i>Introduction of the topic</i>- ppt and Digital Content would be shared <i>Guided practice followed by Independent Practice</i>- NCERT questions to be discussed in the classroom. Techniques to be used: Quiz MCQ Peer Assessment Case Studies Lab Activities Any Other
Resources	Text Book: NCERT text book Reference Book CBSE Exemplar DPSG Spiral Weblinks: https://www.khanacademy.org/science/biology/biodiversity-and-conservation
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their spirals. It is also advised that the students come to the class with proper background knowledge of the topic under discussion. They can refer to the resources stated above.
Assessments	UNIT TESTS HALF YEARLY EXAMINATION ANNUAL BOARD EXAMINATION INTERNAL ASSESSMENT - Practical – 30 marks
Addressing	Due to various social backgrounds and multiple intelligences, the

Classroom Diversity	classroom might be a diverse arena. The following techniques can be used for various groups: <i>For high scoring students:</i> High order thinking questions to be done Encouragement for referring other resources <i>For low scoring students:</i> Spiral questions Peer education PCC classes <i>For differently abled students:</i> Call parents at regular intervals Provide grade-up classes Encourage and motivate them at every level.
Marks	The weightage of whole unit is 14 marks and is given by CBSE.

Day 1:
a. Students will be shown a ppt and will be made aware of levels of biodiversity.
b. Students will be told about the latitudinal and altitudinal gradients.
c. Students will be told about the species area relationships.
Guided practice: DOL 1
a. Students will be made to draw diagrams to show diversity of vertebrates, invertebrates and major taxa of plants.
b. Students will be made to list examples of genetic, species and ecological levels of biodiversity.
c. Students will be asked to describe and discuss in groups patterns of biodiversity.
Communication and brainstorming: Students develop effective communication skills and learn to put across their views.
Critical thinking and problem solving: Helps students to think critically and solve the given problem
Summarize and check for understanding: DOL 2
a. Oral questioning based on the day's teaching.
Independent practice: DOL 3
a. Students will be asked to revise the work done in class.
b. Students will be asked to investigate diversity of vertebrates, invertebrates and major taxa of plants.
c. Students will be made to list examples of genetic, species and ecological levels of

biodiversity.

Day 2:
a. Students will be shown a ppt and will be made aware of the evil quartet.
b. Students will be told about the types of extinction.
c. Students will be made aware of Red Data Book and IUCN.
Guided practice: DOL 1
a. Students will be made to recall causes of loss of biodiversity.
b. Students will be asked to describe effect of anthropogenic action on biodiversity loss.
c. Students will be asked to list endangered and threatened species.
d. Students will be asked to investigate and research ways of conserving endangered and threatened species.
Summarize and check for understanding: DOL 2
a. Oral questioning based on the day's teaching
b. Discussion on the topic in groups – Biodiversity conservation.
Communication, collaboration and brainstorming: Students develop effective communication skills and learn to put across their views.
Critical thinking and problem solving: Helps students to think critically and solve the given problem
Independent practice: DOL 3
a. Students will be asked to revise the work done in class.
b. Students will be asked to describe types of extinction.
c. Students will be asked to describe the evil quartet.

Day 3:
a. Students will be shown a ppt and will be made aware of narrow utilitarian.
b. Students will be told about the broadly utilitarian.
c. Students will be made aware of strategies for conservation of biodiversity.
Guided practice: DOL 1
a. Students will be made to list methods of ex situ and in situ conservation.
b. Students will be asked to list various ethical issues for conservation of biodiversity.
c. Students will be asked to discuss in groups endemism in biodiversity hotspots.
Communication, collaboration and brainstorming: Students develop effective communication skills and learn to put across their views.

Critical thinking and problem solving: Helps students to think critically and solve the given problem
Summarize and check for understanding: DOL 2
a. Oral questioning based on the day's teaching
b. Discussion on the topic – sacred groves.
Independent practice: DOL 3
a. Students will be asked to revise the work done in class.
b. Students will be asked to explain ex situ conservation.
c. Students will be asked to explain in situ conservation.
d. Students will be asked to list national parks and sanctuaries in India.

Summarize and check for understanding: DOL 2

a. Oral questioning based on the day's teaching

b. Discussion on the topic – sacred groves.

Independent practice: DOL 3

a. Students will be asked to revise the work done in class.

b. Students will be asked to explain ex situ conservation.
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c. Students will be asked to explain in situ conservation.
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d. Students will be asked to list national parks and sanctuaries in India.
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Closure of the lesson

Summarizing the lesson by mind mapping
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Giving them revision worksheets
