

Delhi Public School Ghaziabad
Class XII
Biology - Lesson plan based on DOL
Chapter 13 – Organisms and populations

Unit	Ecology and environment (Ch. Organisms and populations)
Class Transaction	Total: 03 periods (approx. one hour each)
Pre-requisite for the course	This lesson requires: • Basic knowledge of the organisms and its environment. • Basic knowledge of population attributes
Assessment of qualifying knowledge	• Written test • Lab activity • Online quiz
Objective	To provide students with knowledge of the organism and its environment, population and population attributes, abiotic and biotic factors
Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and understand Organism and its environment, major abiotic factors, responses to abiotic factors <u>SKILLS</u>- Students would be able to Understand and differentiate between organism attributes and population attributes. Understand mechanism of growth models and population attributes, responses to abiotic factors Competencies developed in students: collaborative learning, critical thinking and problem solving, character building, communication, citizenship
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Brain Storming-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. Introduction of the topic- ppt and Digital Content would be shared Guided practice followed by Independent Practice- NCERT questions to be discussed in the classroom. Techniques to be used: Student - teacher interaction, collaborative learning, independent research, differentiated teaching, peer learning
Resources	NCERT text book, Reference Book, CBSE Exemplar, DPSG Spiral www.learncbse.in/cbse-notes/ https://mycbseguide.com www.examfear.com
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 , MID TERM EXAMINATION, HALF YEARLY EXAMINATION, ANNUAL BOARD EXAMINATION
Addressing Classroom Diversity	Due to various social backgrounds and multiple intelligences, the classroom might be a diverse arena. The following techniques can be used for various groups: <i>For high scoring students:</i> Encouragement for referring other resources

	<i>For low scoring students:</i> Peer education, Provide grade-up classes, <i>For differently abled students:</i> Call parents at regular intervals, Provide PCC classes, Encourage and motivate them at every level.
Marks	Weightage of whole unit is 14 marks and is provided by CBSE.

Day 1:
a. Students will be shown a ppt and will be made aware of ecological levels of organisation.
b. Students will be told about the causes of formation of major biomes.
c. Students will be told about the major abiotic factors which directly or indirectly influence the form and functioning of organisms.
Guided practice: DOL 1
a. Students will be made to list all the major biomes and causes of formation of these biomes.
b. Students will be made to draw diagrams to show precipitation and annual variation in temperature in different biomes.
c. Students will be asked to investigate and describe the factors (biotic and abiotic) affecting organisms and populations.
Communication and brainstorming: Students develop effective communication skills and learn to put across their views.
Creativity and innovation: Students use the knowledge given in class and create projects and models and perform research to give innovative solutions to the problem studied.
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 show transformation diagrammatically.

Day 2:
a. Students will be shown a ppt and will be made aware of all the possibilities to cope with the adverse situations.
b. Students will be told about different types of adaptations that enable the organism to survive and reproduce in its habitat.
Guided practice: DOL 1
a. Students will be made to recall ways to avoid stressful environmental conditions.
b. Students will be asked to investigate and make a flow chart to show different types of adaptations in plants and animals.

c. Students will be asked to list differences between ectotherms and endotherms with examples.
Creativity and innovation: Students use the knowledge given in class and create projects and models and perform research to give innovative solutions to the problem studied.
Collaboration and communication: Students learn to work in collaboration to achieve a common goal. They learn to manage time and divide and delegate work and responsibilities.
Summarize and check for understanding: DOL 2
a. Oral questioning based on the day's teaching
b. Discussion on the topic in groups– significance of adaptations in animals and plants.
Communication, collaboration and brainstorming: Students develop effective communication skills and learn to put across their views.
Independent practice: DOL 3
a. Students will be asked to revise the work done in class.
b. Students will be asked to describe adaptations in plants and animals.
c. Students will be asked to describe and discuss in groups organism's responses to unfavorable environmental conditions.
Collaboration and communication: Students learn to work in collaboration to achieve a common goal. They learn to manage time and divide and delegate work and responsibilities.

Day 3:
a. Students will be shown a ppt and will be made aware of organismic attributes and population attributes.
b. Students will be told about the types of age pyramids.
c. Students will be made aware of population growth models.
d. Students will be made aware of different types of population interactions.
Guided practice: DOL 1
a. Students will be made to describe types of age pyramids.
b. Students will be asked to list all the methods of determination of population density.
c. Students will be asked to make teams and investigate all the population interactions with examples in any ecosystem.

Collaboration and communication: Students learn to work in collaboration to achieve a common goal. They learn to manage time and divide and delegate work and responsibilities.
Communication: Involves sharing of ideas and information to advance scientific understanding, processes, theories and discoveries
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 in groups – coevolution considering prey and predator.
Communication: Involves sharing of ideas and information to advance scientific understanding, processes, theories and discoveries
Collaboration: Students learn to work in collaboration to achieve a common goal. They learn to manage time and divide and delegate work and responsibilities.
Independent practice: DOL 3
a. Students will be asked to revise the work done in class.
b. Students will be asked to explain population interactions with examples.
c. Students will be asked to make age pyramids.
d. Students will be asked to list methods of determination of population density.

Closure of the lesson
Summarizing the lesson by mind mapping
Giving them revision worksheets