

Delhi Public School Ghaziabad
Class XI
Biology Lesson plan based on DOL
Chapter 20 – Locomotion and movement

Unit	Human Physiology (Chapter 20 Locomotion and movement)
Class Transaction	Total: 3 periods
Pre-requisite for the course	This lesson requires • Basic knowledge of types of muscles • Knowledge of movement • Knowledge of regulation of skeletal system • Basic knowledge of disorders of muscular and skeletal system
Assessment of qualifying knowledge	• Written test • Lab activity • Oral questioning
Objective	Students would be able to understand • Types of muscles • Types of movement • Muscular and skeletal system • Joints • Disorders of muscular and skeletal system
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> • All the types of movement • Mechanism of muscle contraction • Human skeletal system <u>SKILLS</u>- <i>Students would be able to</i> • Describe mechanism of the sliding filament theory • Describe role of calcium ions in muscle contraction • Understand different types of joints and their locations 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- <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	NCERT text book, Reference Book, CBSE Exemplar, DPSG Spiral www.learncbse.in/cbse-notes/ https://mycbseguide.com www.examfear.com
Self Study, Home	Independent Practice: Students would do the given questions in their spirals. It is also

Work, Assignments	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 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> 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 18 marks and is given by CBSE.

Day 1:
a. Students will be shown a ppt and will be made aware of the different types of movement.
b. Students will be told about the types of muscles.
c. Students will be told about structure of skeletal muscle in detail.
Guided practice: DOL 1
a. Students will be made to describe structure of skeletal muscle in detail.
b. Students will be made to describe and discuss in groups about coordination of different systems in locomotion.
c. Students will asked to draw diagram of sectional view of a muscle showing muscle bundles and muscle fibres.
Communication and brainstorming: Students develop effective communication skills and learn to put across their views.
Collaboration: 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.
Independent practice: DOL 3
b. Students will be asked to revise the work done in class.

Day 2:
a. Students will be shown a ppt and will be made aware of mechanism of muscle contraction.
b. Students will be told about the structure and function of actin and myosin proteins.

c. Students will be made aware of the stages in cross bridge formation, rotation of head and breaking of cross bridge.
Guided practice: DOL 1
a. Students will be made to recall mechanism of muscle contraction.
c. Students will be asked to describe and discuss in groups about sliding filament theory.
Critical thinking and problem solving: Helps students to think critically and solve the given problem
Communication and brainstorming: Students develop effective communication skills and learn to put across their views.
Summarize and check for understanding: DOL 2
a. Oral questioning based on the day's teaching
b. Discussion on the topic in groups – Importance of myoglobin.
Character and citizenship: Group discussion helps to develop interpersonal skills, respecting and valuing views of others
Independent practice: DOL 3
a. Students will be asked to revise the work done in class.
d. Students will be asked to describe diagrammatically stages in cross bridge formation, rotation of head and breaking of cross bridge.

Day 3:
a. Students will be shown a ppt and will be made aware of human skeletal system.
b. Students will be told about disorders of muscular system.
c. Students will be told about joints and their locations.
Guided practice: DOL 1
a. Students will be made to describe bones of skull.
b. Students will be asked to list all the vertebrae present in vertebral column.
c. Students will be asked to describe and discuss in groups about appendicular skeleton.
Collaboration: Students learn to work in collaboration to achieve a common goal. They learn to manage time and divide and delegate work and responsibilities.
Communication and brainstorming: Students develop effective communication skills and learn to put across their views.
Summarize and check for understanding: DOL 2
a. Oral questioning based on the day's teaching
Communication: Involves sharing of ideas and information to advance scientific understanding, processes, theories and discoveries

Independent practice: DOL 3
a. Students will be asked to revise the work done in class.
b. Students will be asked to research on disorders of muscular system.

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