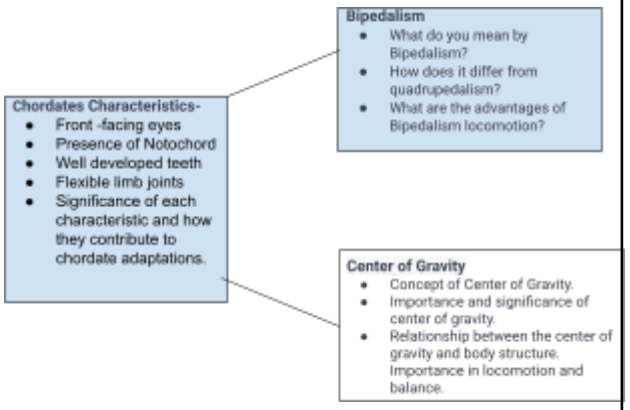
Subject	Science
Course	Zoology
Grade	HS
Standard	ZOO 10.4
Standard Description	Describe characteristics that make chordates unique, including investigating how the center of gravity relates to the evolution of bipedalism.
Lesson Name	Chordates Adaptations & Evolution of Bipedalism

Learning Outcome	By the end of the lesson, students will be able to determine the distinctive characteristic features of chordates. They will understand the concept of the center of gravity and its significance in evolutionary history. How does it influence the development of bipedalism, and efficient locomotion in chordates?
Lesson Objectives	● Identify unique characteristics that distinguish chordates from other phyla. ● Explain the concept behind the center of gravity and its significance in determining balance and locomotion. ● Analyze the connection between the shift in the center of gravity and the evolution of bipedalism in chordates.

Introduction	Have you ever pondered upon how humans walk on two legs while our ancestors walked on four limbs? In this lesson, we will discuss some unique features that mammals possess which have evolved over time such as front-facing eyes, the presence of a notochord, developed teeth, etc. which played a crucial role in the evolution of bipedalism.
Characteristics of Phylum Chordata	● Presence of Notochord ● Dorsal nerve cord ● Front facing eyes ● Well-developed teeth ● Flexible limb joints ● Importance of each characteristic and how they contribute to chordate adaptations.
Evolution of Bipedalism	● What do you mean by Bipedalism? ● Fossil evidence ● How does it differ from quadrupedalism? ● Advantages of Bipedalism locomotion.
Fun activity	
Center of Gravity and its Significance	● Concept of Center of Gravity. ● Importance of center of gravity. ● Correlation between the center of gravity and body structure. ● Importance in locomotion and balance.

Wrap-Up	
Project	The center of gravity position is crucial in bipedalism in chordates, considering the advantages, explain the relationship between the both and how it helps chordates in efficient locomotion and maintaining their overall balance.
Forum	What are the unique features which set Chordates apart from other animals, how do these characteristics help them in the evolutionary process?
Assessment	30 MCQ and 5 Open-ended questions.

[Note: Images, videos, activities, and examples will be added while developing the lesson]