

Topic 3: Biodiversity & Conservation (13 hours)

Subtopic 3.1 Introduction to Biodiversity

Significant Ideas:

- ❖ Biodiversity can be identified in a variety of forms, including species diversity, habitat diversity, and genetic diversity.
- ❖ The ability to both understand and quantify biodiversity is important to conservation efforts.

Knowledge & Understanding

3.1.1 **Biodiversity** is a broad concept encompassing the total diversity of living systems, which includes the **diversity of species, habitat diversity** and **genetic diversity**.

3.1.2 **Species diversity** in communities is a product of two variables: the number of species (**richness**) and their relative proportions (**evenness**).

3.1.3 Communities can be described and compared through the use of **diversity indices**. When comparing communities that are similar, **low diversity could be indicative of pollution or eutrophication or recent colonization of a site**. The number of species present in an area is often indicated by general patterns of biodiversity.

3.1.4 **Habitat diversity** refers to the range of

different habitats in an ecosystem or biome .	
3.1.5 Genetic diversity refers to the range of genetic material present in a population of a species.	
3.1.6 Quantification of biodiversity is important to conservation efforts so that the areas of high biodiversity may be identified, explored, and appropriate conservation put in place where possible.	
3.1.7 The ability to assess changes to biodiversity in a given community over time is important in assessing the impact of human activity in the community.	
Applications & Skills	
3.1.AS1 Distinguish between biodiversity, diversity of species, habitat diversity, and genetic diversity .	
3.1.AS2 Comment on the relative values of biodiversity data.	
3.1.AS3 Discuss the usefulness of providing numerical values of species diversity to understanding the nature of biological communities and the conservation of biodiversity.	