Foxford Learning Plan

KS4

Biology

Ecology

Key Vocabulary

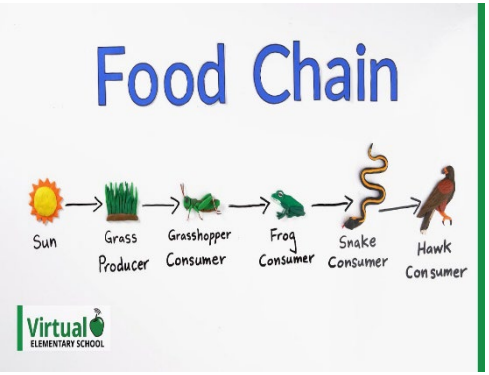
Abiotic factors	The non-living aspects of an ecosystem e.g. temperature, light intensity, moisture, wind direction, wind intensity, soil pH, soil mineral content, carbon dioxide levels and oxygen levels.
Adaptation	A feature of an organism that increases its chance of survival in its environment. Such features may be behavioural, structural or functional.
Biotic factors	The living components of an ecosystem e.g. food availability, pathogens, predators and other species.
Community	All of the populations of different species living together in a habitat.
Competition	When different organisms compete for the same resources (e.g. light, water, mates, territory) in an ecosystem. This limits population sizes and stimulates evolutionary change.
Extremophiles	Organisms that can live in extreme environments e.g. high temperatures, high salinity.
Food chain:	Describes the feeding relationships between organisms and the resultant stages of biomass transfer.
Pyramid of biomass	A table of the dry mass of living material at each trophic level of a food chain. This forms the shape of a pyramid
Tertiary consumers	Carnivores that consume other carnivores at trophic levels 4 and above of a food chain.
Transect	A line along an area used in sampling to determine the abundance and distribution of organisms in an ecosystem.
Quadrat:	A square grid of known area used in sampling to determine the abundance and distribution of organisms in an ecosystem.

Key Skills

Over the course of the topic, I will be able to: -

Investigate the effect of planting density on height of seedlings. Measure height and calculate means. Present and analyse the results.
Evaluate method to estimate cover and modify to estimate a plant population on the school field.
Use transect lines and quadrats to collect data. Analyse ecological data from quadrats and transects.
Use quadrats and sensors; record and analyse results. Use transect lines and quadrats to collect data. Analyse ecological data from quadrats and transects.
Use a transect to investigate the change in type and number of plant species across a changing habitat, e.g. a footpath.





I will Understand

1. Describe Carl Weise's system of classification and classify organisms into the three domains system.
2. Describe Biotic and Abiotic factors
3. Explain the feeding relationships can be represented by food chains and food webs.
4. Describe the role of Biotechnology.