

**UNIT 1**

Food chains, Food webs and the Ecological pyramid

4 hours

**UNIT 2**

Ecosystems

3 hours

Aim: To develop an understanding of the interdependence of all organisms and the need to conserve natural resources

Objectives	
Teaching objectives	Learning outcomes
<b>Content</b> <ul style="list-style-type: none"><li>To teach concepts relating to ecosystems, including food chains, food webs and food pyramids, divided into the sections shown below:<ul style="list-style-type: none"><li>To show feeding relationships using food chains</li><li>To explain how a food web is composed of several food chains</li><li>To illustrate a food web</li><li>To examine the flow of energy</li><li>To explain what happens when a link is broken in the food web</li><li>To explain the concepts of species, populations, biological communities, food chain and food web</li></ul></li></ul>	<b>Content</b> <p>Learners will be able to:</p> <ul style="list-style-type: none"><li>discuss where they are on the food chain</li><li>construct food chains</li><li>interpret food webs</li><li>realize that the flow of energy is denoted by the arrows</li><li>predict how each organism in the food web would be affected by any change</li><li>distinguish between food chain, food web, food pyramid</li><li>analyze food webs, using ecological pyramids, to show biological communities</li></ul>
<b>Cognition</b> <p>To offer learners opportunities to classify, apply their knowledge and analyse evidence in order to reach logical conclusions. The learning outcomes opposite give specific examples of this</p>	<b>Cognition</b> <p>Learners will be able to:</p> <ul style="list-style-type: none"><li>classify animals as carnivores, omnivores, or herbivores</li><li>apply knowledge of the concepts of food chains, webs and pyramids to identify producers, consumers at different levels and decomposers</li><li>analyze, using ecological pyramids, the implications of the loss of producers and consumers to the transfer of energy within an ecosystem</li></ul>

<p><b>Communication</b></p> <p>Language of learning</p> <ul style="list-style-type: none"><li>• To teach the specialised vocabulary of ecosystems, including that of food chains, food webs and food pyramids</li></ul> <p>Language for learning</p> <ul style="list-style-type: none"><li>• To teach the language for the expression of opinions and for expressing hypotheses</li><li>• To teach the language of discussion</li><li>• To extend the language of questioning</li></ul> <p>Language through learning</p> <ul style="list-style-type: none"><li>• To enhance listening and reading skills</li></ul> <p><b>Culture</b></p> <ul style="list-style-type: none"><li>• To raise awareness of different diets around the world</li><li>• To raise awareness about the role of recycling in maintaining ecosystems</li><li>• To raise awareness of the potential for humans to change ecosystems with their behaviour/lifestyles</li></ul>	<p><b>Communication</b></p> <p>Learners will be able to:</p> <ul style="list-style-type: none"><li>• name species and their place in the food chain</li><li>• express relationships within a food web</li><li>• express opinions</li><li>• express hypotheses</li><li>• discuss issues relating to food webs and food pyramids</li><li>• gather significant information from texts</li></ul> <p><b>Culture</b></p> <p>Learners will have:</p> <ul style="list-style-type: none"><li>• increased awareness about different diets in different countries of the world</li><li>• increased awareness of the benefits of recycling for ecosystems</li><li>• increased awareness of how changes in ecosystems can occur</li></ul>
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**UNIT 3**  
**Biomes**  
**3 hours**

**Aim:** To develop an understanding of the interdependence of all organisms and the need for conserving natural resources

Objectives	
Teaching objectives	Learning outcomes
<p><b>Content</b></p> <ul style="list-style-type: none"> <li>• To define biome. Principal characteristics</li> <li>• To recognize some characteristics of different biomes</li> <li>• To locate the major terrestrial biomes on the planet</li> <li>• To value the diversity of climate</li> </ul> <p><b>Cognition</b></p> <ul style="list-style-type: none"> <li>• To point out the different biomes which are the most important on the planet</li> <li>• To define the principal reasons which make life possible in our planet</li> <li>• To describe the difference between biomes which exist in our planet</li> </ul> <p><b>Communication</b></p> <ul style="list-style-type: none"> <li>• To summarize major differences between biomes</li> <li>• To examine a variety of plant specimens (stems and leaves)</li> <li>• Examine a variety of animals to determine the terminology which best describes their likenesses</li> </ul>	<p><b>Content</b></p> <p>Learners will be able to:</p> <ul style="list-style-type: none"> <li>• recognise the world biome</li> <li>• make a list of the major biomes</li> <li>• identify the major biomes in a world map</li> <li>• define the spaces of life on Earth</li> <li>• identify relationships between climate and adaptations of the living beings</li> </ul> <p><b>Cognition</b></p> <p>Learners will be able to:</p> <ul style="list-style-type: none"> <li>• colour a map</li> <li>• understand the relationship between climate and living beings</li> <li>• predict what kind of living beings live in each biome</li> <li>• interpret graphs</li> <li>• recognise the variations in environment conditions which help biomes to exist</li> </ul> <p><b>Communication</b></p> <p>Learners will be able to</p> <ul style="list-style-type: none"> <li>• record observations concerning soils, plants, and animals for different biomes</li> <li>• classify an assigned number of plant types found in different biomes</li> <li>• classify an assigned number of animals found in biomes</li> <li>• retell the definition of biome in their own words</li> <li>• communicate the results of an investigation</li> </ul>

<p><b>Culture</b></p> <ul style="list-style-type: none"><li>• To solve problems related to environment</li><li>• To value World Nature through its diversity</li><li>• To show and interest in knowing the diversity of Nature on our planet.</li></ul>	<ul style="list-style-type: none"><li>• <b>Culture</b></li></ul> <p>Learners will be able to:</p> <ul style="list-style-type: none"><li>• Develop a positive attitude towards actions aimed at conserving and protecting biomes.</li><li>• Evaluate how the processes of natural biomes affect, and are affected by humans</li></ul>
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**Evaluation:** Have students discuss in small groups, and then write short answers to questions on worksheet.