

THIRD TERM
WEEKLY LESSON NOTES
WEEK 3

Week Ending: 14-07-2023	DAY:	Subject: Science
Duration: 100mins		Strand: Cycles
Class: B8	Class Size:	Sub Strand: Ecosystem
Content Standard: B8.3.3.1 Demonstrate an understanding of the interdependence of organisms in an ecosystem and their interaction		Indicator: B8.3.3.1.1 Explore the feeding relationships within an ecosystem
		Lesson: 1 of 2
Performance Indicator: Learners can explore the feeding relationships within an ecosystem		Core Competencies: DL 5.3: CI 6.8: DL 5.1: CI 6.6:
References: Science Curriculum Pg. 67		
Phase/Duration	Learners Activities	Resources
PHASE 1: STARTER	Using questions and answers, review to find out what learners already know about ecosystem. Share learning indicators and introduce the lesson.	
PHASE 2: NEW LEARNING	Begin the lesson by discussing the concept of an ecosystem and its components. <u>Components of an ecosystem</u> <i>1. Biotic Factors: These are the living organisms within an ecosystem, including plants, animals, fungi, and microorganisms. Biotic factors interact with each other and with the abiotic factors to sustain life within the ecosystem.</i> <i>2. Producers: Producers, often green plants or photosynthetic organisms, are capable of converting sunlight, water, and carbon dioxide into organic matter through the process of photosynthesis. They form the base of the food chain by producing energy-rich organic compounds.</i> <i>3. Consumers: Consumers, also known as heterotrophs, are organisms that obtain their energy by consuming other organisms. They can be categorized into primary consumers (herbivores), secondary consumers (carnivores that feed on herbivores), and tertiary consumers (carnivores that feed on other carnivores).</i> <i>4. Decomposers: Decomposers, such as bacteria and fungi, play a vital role in an ecosystem by breaking down organic matter from dead organisms and waste materials. They release nutrients back into the environment, allowing them to be recycled and used by producers.</i> <i>5. Abiotic Factors: These are the non-living components of an ecosystem that influence the distribution and characteristics of organisms. Abiotic factors include sunlight, temperature, water availability, soil composition, air quality, and geological features. They</i>	Pictures and Charts

directly or indirectly affect the survival, reproduction, and behavior of organisms.

6. **Habitat:** A habitat refers to the specific place within an ecosystem where an organism lives and meets its requirements for food, water, shelter, and reproduction. Different organisms have adaptations that allow them to thrive in specific habitats within an ecosystem.

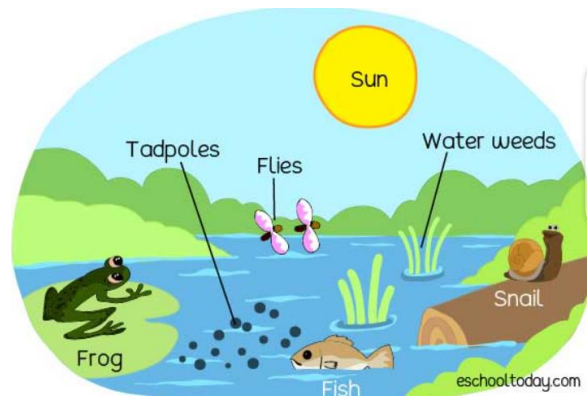
7. **Energy Flow:** Energy flows through an ecosystem in a unidirectional manner. It enters the ecosystem through sunlight, which is converted into chemical energy by producers through photosynthesis. This energy is transferred to consumers as they feed on other organisms. However, energy is not recycled but eventually dissipates as heat.

8. **Food Chains and Food Webs:** Food chains depict the transfer of energy from one organism to another in a linear sequence, showing the flow of energy from producers to consumers. Food webs are more complex, interconnected networks of food chains that illustrate the feeding relationships among various organisms within an ecosystem.

Ask learners to brainstorm and list examples of different organisms they can find in an ecosystem.

Describe an ecosystem as a self-sustaining unit in which components interact. E.g. a pond, a forest and many others.

Ecosystem: An ecosystem is defined as the interactions between living and non-living things in a given area.



Assessment

1. What is an ecosystem?
2. Name the components of an ecosystem.
3. What are producers in an ecosystem and what is their role?
4. Differentiate between primary consumers and secondary consumers.
5. What is the role of decomposers in an ecosystem?
6. Give examples of abiotic factors in an ecosystem.
7. Explain the concept of a habitat and its significance in an ecosystem.
8. How does energy flow through an ecosystem?
9. Define a food chain and a food web. How are they different?
10. Why is it important to maintain balance and sustainability within an ecosystem?

PHASE 3: REFLECTION	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	
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Content Standard: B8.3.3.1 Demonstrate an understanding of the interdependence of organisms in an ecosystem and their interaction	Indicator: B8.3.3.1.1 Explore the feeding relationships within an ecosystem	Lesson: 2 of 2
Performance Indicator: Learners can explore the feeding relationships within an ecosystem		Core Competencies: DL 5.3: CI 6.8: DL 5.1: CI 6.6:
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Phase/Duration	Learners Activities	Resources
PHASE 1: STARTER	<p>Revise with learners on the previous lesson.</p> <p>Share learning indicators and introduce the lesson.</p>	
PHASE 2: NEW LEARNING	<p>Engage learners in a discussion about the role of the sun in sustaining life on Earth.</p> <p>Introduce the objective of understanding how life on Earth would be without the sun.</p> <p>Learners in groups discuss the potential consequences and challenges that would arise in the absence of the sun's energy.</p> <p>Define and explain the terms: producer, primary consumer, secondary consumer, food chain, and food web.</p> <p>Provide examples of each term and discuss their roles in energy transfer within an ecosystem.</p> <p>Encourage learners to ask questions and provide their own examples to reinforce understanding.</p> <p>Distribute sample diagrams of food chains and food webs to each learner.</p> <p>Instruct learners to study the diagrams and identify the different organisms involved.</p> <p>Ask learners to create their own food chain and food web diagrams using the provided examples or their own imagination.</p> <p>Learners to label each organism and indicate the flow of energy from the sun to the different trophic levels.</p> <p>Ask learners to present their created diagrams to the class. Allow time for learners to explain the flow of energy and interactions depicted in their diagrams.</p>	Pictures and charts

	<p>Engage the class in a discussion about the interdependence of organisms and the importance of energy transfer in an ecosystem.</p> <p><u>Assessment</u></p> <ol style="list-style-type: none"> 1. What is the role of the sun in sustaining life on Earth? 2. What would happen to life on Earth if the sun were absent? 3. Define and differentiate between a producer, primary consumer, and secondary consumer in an ecosystem. 4. Explain the terms "food chain" and "food web" and their significance in energy transfer in an ecosystem. 5. How does energy flow through a food chain? 6. How does a food web differ from a food chain? Give an example of each. 7. Create a diagram illustrating a food chain, labeling the different organisms and indicating the flow of energy from the sun. 8. Discuss the interdependence of organisms in an ecosystem and how energy transfer contributes to this interdependence. 9. How does understanding energy transfer in ecosystems contribute to our appreciation of the natural world? 10. Can you think of any examples of real-world ecosystems and describe the energy transfer patterns within them? 	
<p>PHASE 3: REFLECTION</p>	<p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>	