WINTER BREAK LEARNING PACKET

STEM

4TH GRADE STUDENT

DEC 22ND – JAN 5TH

DEPARTMENT OF CURRICULUM & INSTRUCTION

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WEEK ONE - DECEMBER 22-26, 2025

STANDARD: 4.LS2.2 Using information about the roles of organisms (producers, consumers, decomposers) in an ecosystem, evaluate how those roles are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.

ACTIVITY I

- Play a game of food chains and webs using Tic Tak Toe.
- Pick who will be X and who will be O.
- The student will complete the questions.
- Once the questions are complete, the other person will read the question out loud and determine if it is correct.
- If they get it correct, the student gets to move. If they answer wrong, the other persons gets to place an X or O in a square.
- Continue until someone reaches Tic Tak Toe!
- Make sure to review the questions and answers when complete.

WEEK TWO - DECEMBER 29 - January 3, 2026

STANDARD: 4.LS2.1 Develop and use models to illustrate the flow of matter through a food web/food chain beginning with sunlight and including producers, consumers, and decomposers.

ACTIVITY II

- Read the article and use it to complete the crossword puzzle and diagram.
- Write a paragraph explaining the process of the flow of matter in a food chain in your own words.

WEEK ONE - DECEMBER 22-26, 2025

STANDARD: 4.LS2.2 Using information about the roles of organisms (producers, consumers, decomposers) in an ecosystem, evaluate how those roles are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.

ACTIVITY I

Use the diagrams to answer the questions.

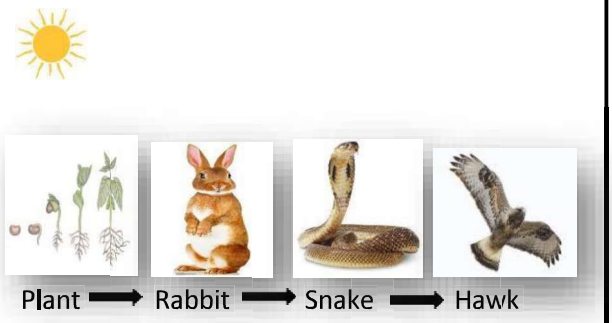
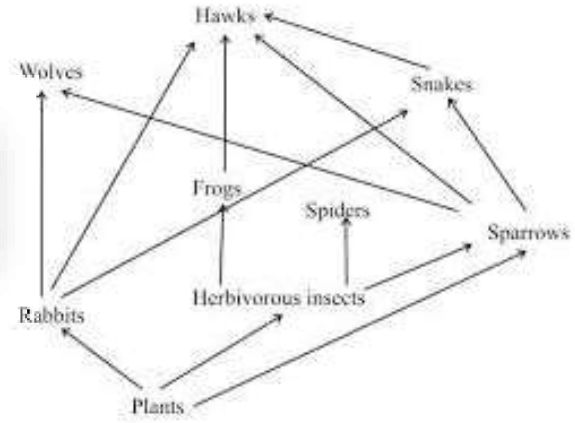
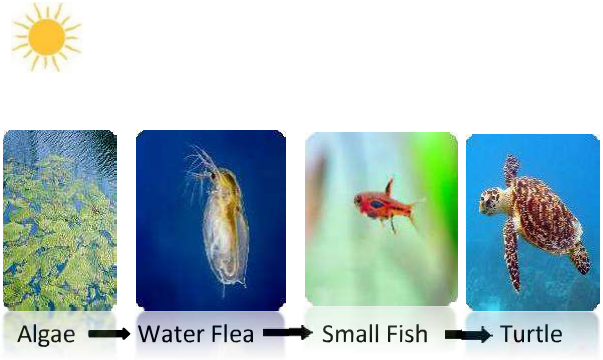
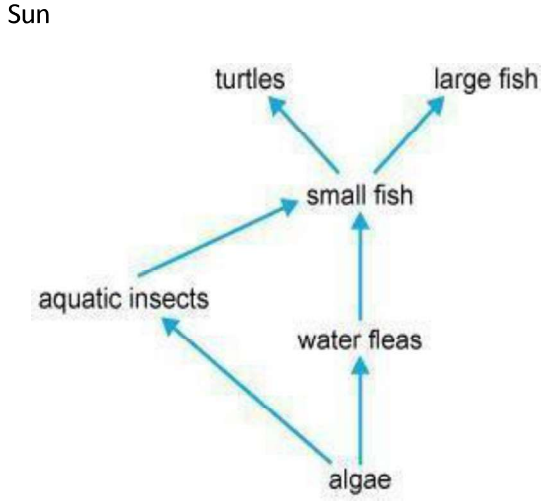
Diagram I – Terrestrial Food Chain	Diagram II – Terrestrial Food Web
	

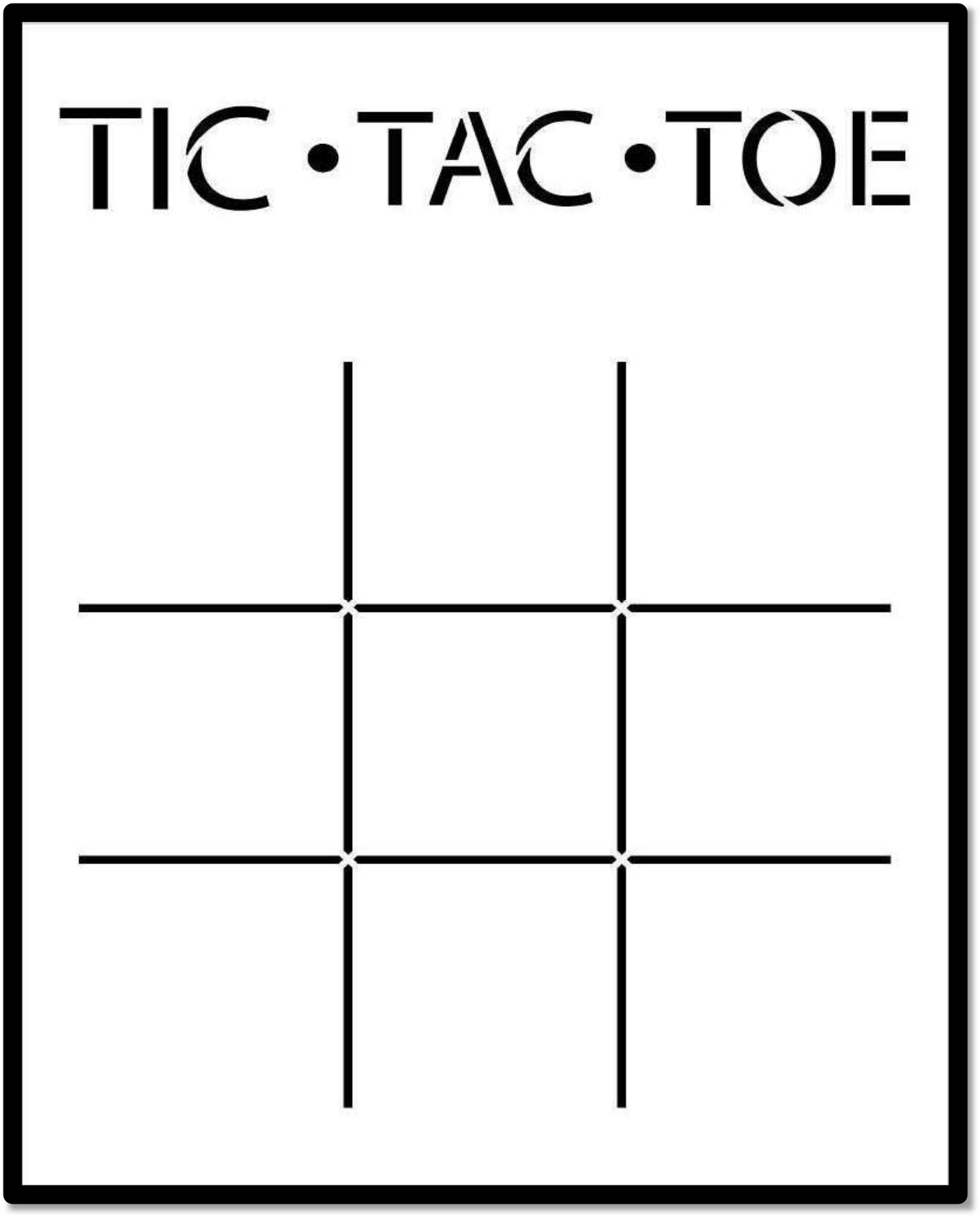
Diagram I – Aquatic Food Chain	Diagram II – Aquatic Food Web
	

Name: _____

Answer the questions and explain.

1. Which of the organisms is a consumer in the terrestrial food chain? Select all that apply. **A. Rabbit** **B. Plant** **C. Snake** **D. Hawk** **Explain:**	**2. Which organism in the aquatic food web makes its own food?** **A. Aquatic insects** **B. Water fleas** **C. Algae** **D. Turtles** **Explain:**
3. Which organisms does the snake consume to get energy in the food web? Select all that apply. **A. Spider** **B. Frog** **C. Rabbit** **D. Sparrows** **Explain:**	**4. Which of the organisms in the aquatic food chain is considered an herbivore?** **A. Algae** **B. Water Flea** **C. Small Fish** **D. Turtle** **Explain:**
5. What is the producer in the Aquatic food Web? **A. Water Flea** **B. Small Fish** **C. Turtle** **D. Algae** **Explain:**	**6. Are there any decomposers represented in the food chains or webs.** **A. Yes** **B. No** **Explain:**
7. In an energy pyramid, which organisms has the most energy? **A. Herbivore** **B. Carnivore** **C. Producer** **D. Consumer** **Explain:**	**8. Where do producers get their energy?** **A. The other organisms** **B. The sun** **C. The sky** **D. The soil on the ground** **Explain:**
9. Which organism is not a consumer in the terrestrial food chain? **A. Plant** **B. Rabbit** **C. Snake** **D. Hawk** **Explain:**	**10. What is the main source of energy for all living things?** **A. Hawk** **B. Plants** **C. Sun** **D. Spider** **Explain:**

If you get the question correct place a X or an O in a square.



WEEK TWO - DECEMBER 29 - January 2, 2026

STANDARD: **4.LS2.1 Develop and use models to illustrate the flow of matter through a food web/food chain beginning with sunlight and including producers, consumers, and decomposers.**

ACTIVITY II

Flow of Matter in Food Chains

All living things must have a way to get energy in order to survive. Animals get their energy by eating food, such as plants or other animals. But where does the energy in plants and animals come from in the first place, and how does it move through an entire ecosystem?

The sun is the main source of energy for all life on Earth. Producers, like green plants and algae, use sunlight to make their own food through photosynthesis. When plants create food, they store energy that becomes the starting point of every food chain. Consumers, such as herbivores, carnivores, and omnivores, cannot make their own food. Instead, they must eat producers or other consumers to get the energy they need to live, grow, and move**.** Primary consumers, such as grasshoppers or rabbits, are usually herbivores that eat producers. Secondary consumers, like frogs or small birds, feed on primary consumers. Tertiary consumers, such as snakes or hawks, eat secondary consumers and are often top predators in a food chain. Decomposers, including fungi, worms, and bacteria, play a different but equally important role. They break down dead plants, dead animals, and waste materials, returning nutrients back into the soil that producers need to survive.

As matter moves through a food web, the energy from the sun flows from one organism to the next. A simple food chain might begin with sunlight being absorbed by grass. A grasshopper eats the grass and becomes the primary consumer. A frog may then eat the grasshopper, acting as a secondary consumer, and later a snake might eat the frog, serving as a tertiary consumer. When any of these organisms die, decomposers break them down, releasing nutrients into the soil that help plants grow again. This recycling of nutrients shows how matter is never lost—it simply moves through producers, consumers, and decomposers in a continuous cycle.

In a food web, many food chains are connected. Instead of just one organism being eaten by another, multiple pathways show how animals rely on different sources for food and how energy and matter flow in many directions. Whether simple or complex, all food chains and food webs begin with the sun's energy, move through producers and consumers—including primary, secondary, and tertiary consumers—and always end with decomposers returning nutrients back to the environment.

Name: _____

Complete the crossword puzzle below using the article above.
(Each box represents one letter. Use the clues for **Across** and **Down**.)

Crossword Grid (print or redraw)

Across

4. □ □ □ □ □ □
5. □ □ □ □ □ □ □ □
6. □ □ □ □ □ □ □ □ □ □
7. □ □ □ □ □ □ □ □ □ □ □
8. □ □ □ □ □ □ □ □ □

Down

1. □ □ □
2. □ □ □ □ □ □ □
3. □ □ □ □ □ □ □ □
4. □ □ □ □ □ □ □ □ □
5. □ □ □ □

Clues

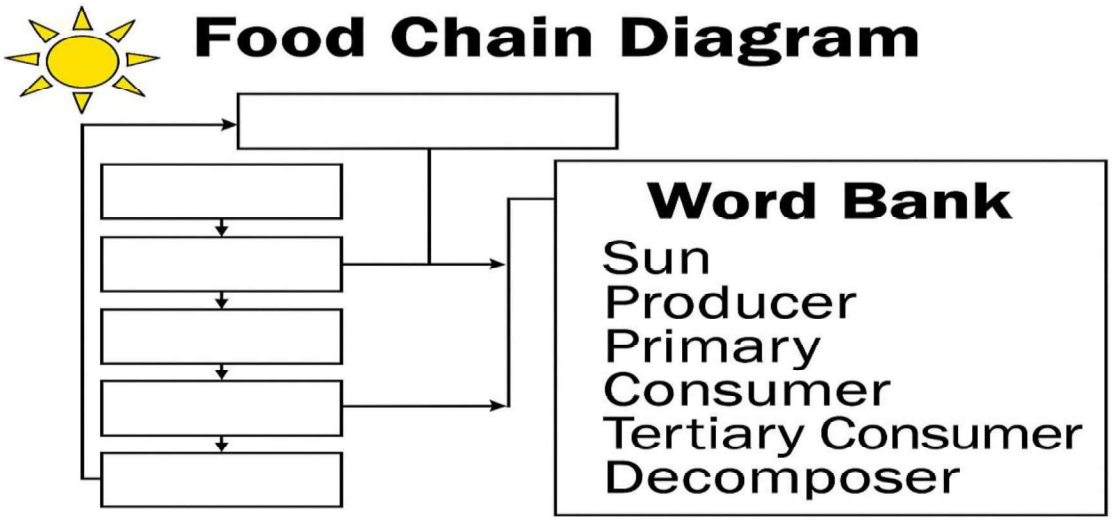
Across

4. What do all living things need that comes from the sun and moves through the food web? (6)
5. What do we call organisms, like green plants and algae, that make their own food using sunlight? (8)
6. What organisms break down dead plants, dead animals, and waste materials, returning nutrients to the soil? (10)
7. An animal in the example food chain that eats grass and may later be eaten by a frog. (11)
8. A community of living things interacting with each other and with their nonliving surroundings. (9)

Down

1. The main source of energy for all life on Earth. (3)
2. A network of many connected food chains that shows different paths energy can take through an ecosystem. (7)
3. Organisms, such as herbivores, carnivores, and omnivores, that cannot make their own food and must eat other organisms. (8)
4. Substances returned to the soil by decomposers that help plants grow again. (9)
5. The part of the environment where decomposers return nutrients, and where plants get what they need to grow. (4)

Use the article to **best** label the process of the flow of matter in a food chain in this diagram.



Write a paragraph explaining the process of the flow of matter in a food chain in your own words using the diagram.

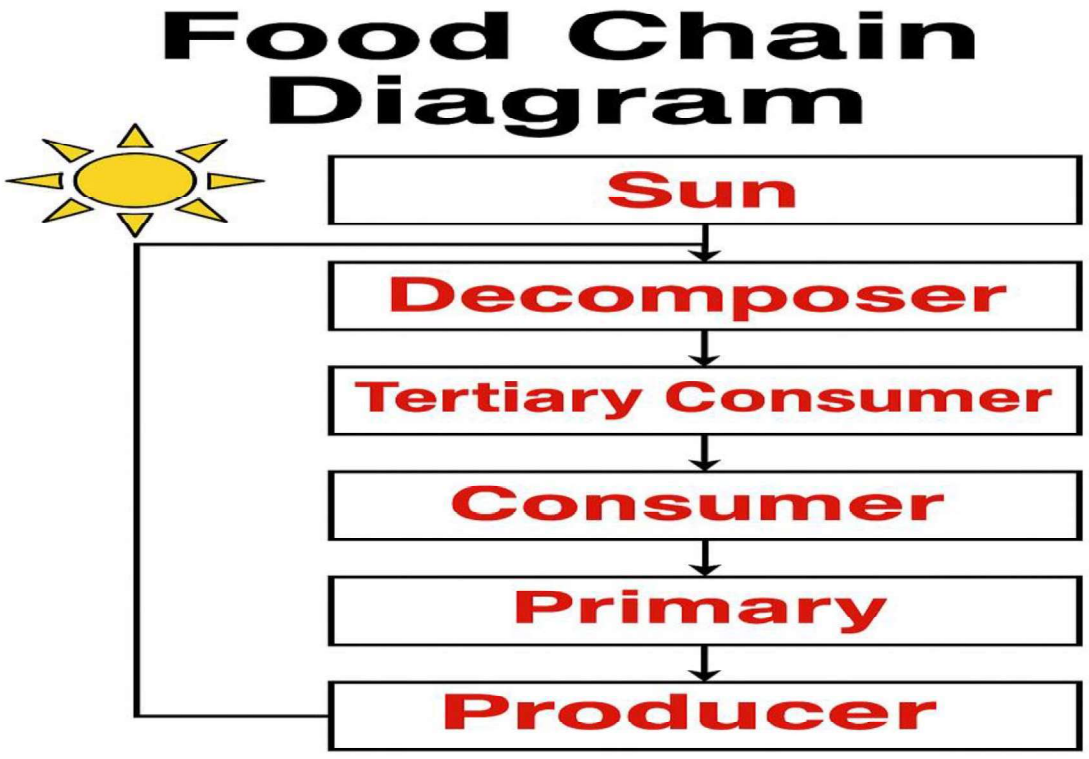
ANSWER KEY

ACTIVITY I

1. Which of the organisms is a consumer in the terrestrial food chain? Select all that apply. A. Rabbit B. Plant C. Snake D. Hawk Explain: Each one of these organisms eat other organisms.	2. Which organism in the aquatic food web makes its own food? A. Aquatic insects B. Water fleas C. Algae D. Turtles Explain: It starts the food chain and makes its own food.
3. Which organisms does the snake consume to get energy in the food web? Select all that apply. A. Spider B. Frog C. Rabbit D. Sparrows Explain: The arrows are pointing to those to organisms from the snake. That means the snake eats them.	4. Which of the organisms in the aquatic food chain is considered an herbivore? A. Algae B. Water Flea C. Small Fish D. Turtle Explain: Herbivores only eat plants.
5. What is the producer in the Aquatic food Web? A. Water Flea B. Small Fish C. Turtle D. Algae Explain: Algae starts the food chain, so it is a producer.	6. Are there any decomposers represented in the food chains or webs. A. Yes B. No Explain: Decomposers break down dead matter and put nutrients back in the soil. Examples are mushrooms, vultures, and hyenas.
7. In an energy pyramid, which organisms has the most energy? A. Herbivore B. Carnivore C. Producer D. Consumer Explain: The producers are at the bottom of the pyramid and have more energy, because there are more of them than any other species.	8. Where do producers get their energy? A. The other organisms B. The sun C. The sky D. The soil on the ground Explain: Plants need the sun to make their own food.
9. Which organism is not a consumer in the terrestrial food chain? A. Plant B. Rabbit C. Snake D. Hawk Explain: Plants are producers. They make their own food.	10. What is the main source of energy for all living things? A. Hawk B. Plants C. Sun D. Spider Explain: The sun provides plants and animals with nutrients they need to grow and be health.

ACTIVITY II

Across	Down
4. **Energy** (What all living things need that comes from the sun and moves through the food web? – 6 letters) 5. **Producer** (What do we call organisms, like green plants and algae, that make their own food using sunlight? – 8 letters) 6. **Decomposer** (What organisms break down dead plants, dead animals, and waste materials, returning nutrients to the soil? – 10 letters) 7. **Grasshopper** (An animal in the example food chain that eats grass and may later be eaten by a frog – 11 letters) 8. **Ecosystem** (A community of living things interacting with each other and with their nonliving surroundings – 9 letters)	1. **Sun** (The main source of energy for all life on Earth – 3 letters) 2. **Food Web** (A network of many connected food chains that shows different paths energy can take through an ecosystem – 7 letters) 3. **Consumer** (Organisms, such as herbivores, carnivores, and omnivores, that cannot make their own food and must eat other organisms – 8 letters) 4. **Nutrients** (Substances returned to the soil by decomposers that help plants grow again – 9 letters) 5. **Soil** (The part of the environment where decomposers return nutrients, and where plants get what they need to grow – 4 letters)



Write a paragraph explaining the process of the flow of matter in a food chain in your own words using the diagram. The flow of matter in a food chain begins with the Sun, which provides energy for all living things. This energy is captured by producers, such as plants, which make their own food. Primary consumers, like herbivores, eat the producers to gain energy. Then, consumers (secondary consumers) feed on primary consumers, and tertiary consumers eat other consumers at the top of the chain. When organisms die, decomposers break down their remains, recycling nutrients back into the soil for producers to use again. This cycle shows how energy and matter move through different levels of the ecosystem.