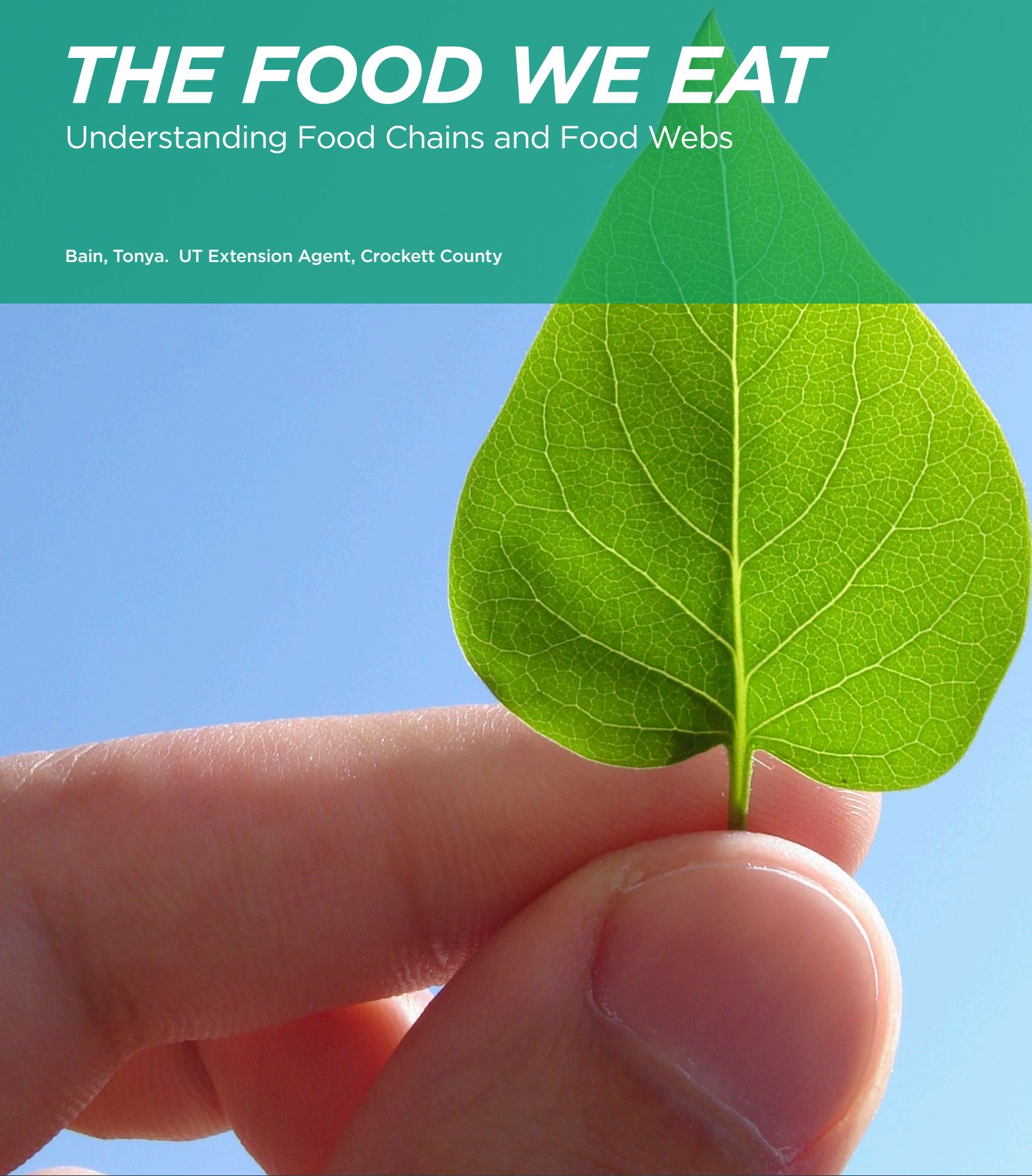


THE FOOD WE EAT

Understanding Food Chains and Food Webs

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Tennessee 4-H Youth Development

The Food We Eat

Understanding Food Chains and Food Webs

Skill Level

Beginner

Learner Outcomes

The learner will be able to:

- Understand the difference between a food chain and food web
- Differentiate between consumers and producers
- Explain the role green plants play in food supplies

Educational Standard(s) Supported

4.LS2

Success Indicator

Learners will be successful if they:

- Use pictures and strings to construct a food web

Time Needed

45 Minutes- One Hour

Materials List

Student handouts
Pictures for food chain/food web
A ball of yarn

Introduction to Content

Students will explore producers, first-, second-, and third-level consumers and the roles those organisms play in an environment. Students will also learn how all these organisms fit together to form a food web made up of smaller food chains.

Introduction to Methodology

This lesson begins by breaking students into teams and allowing them to read about consumers, producers, food chains, and food webs. Students then share with the class what they have learned from reading. After completing the reading activity, students work to construct small food chains, and then apply what they have learned to construct a food web with the entire class.

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Terms and Concepts Introduction

Terms and concepts introduced in this lesson have been defined in the Student Handout Answers page of this lesson plan.

Setting the Stage and Opening Questions

Say to the students: **“Wouldn’t it be neat if we could make our own food from just the gases in the air and the water in the ground? How about if we could get full from just being out in sunlight? What if we had to eat the same chicken sandwich for every meal? The first two sound really cool, but the third, not so cool right?”** Allow students to respond to the questions, and then say: **“Today, we are going to be learning about producers, consumers, predators, prey, food webs and food chains. By the end of today’s lesson, I hope you can understand the difference between a food web and food chain, explain the difference between producers and consumers, and understand the role green plants play in our ecosystem.”**

Experience

Begin the experience by saying this to the students: **“In just a few moments, we are going to break into teams, and each team is going to be assigned a different passage to read. As you read the passage, make notes of important concepts that are covered, because you will have to share those with the class. You will have six minutes to read your passage and pick out the three most important facts from the passage. After everyone has finished, we will come back together and share what we found.”**

After giving the instructions, break the students into four groups and distribute one passage to each group. All the members of the group should have the same passage to read. Passages are in the four areas below:

- Producers and Consumers
- First-, Second-, and Third level consumers
- Decomposers, Carnivores, and Omnivores
- Food Webs and Food Chains.

Allow students approximately six minutes to read the passages and discuss among their groups. Students should identify three major take away points from their passage to share with the group.

Tips for Engagement

During the group activity, it is important for all students to stay engaged. If you notice students not actively involved, talk to them, ask the group specific questions while trying to generate responses from those less interested.

Share

After students have identified their major points and recorded them on their handouts, bring the class back together and ask each group to share their points with the class. After each group has shared, fill in any major points not included based on the information in the “Student Handout Answers” page of this lesson plan.

Process

Ask students to get back in their groups and identify two organisms that fall in each of the following categories: *Producer*, *Consumer*, *Decomposer*, *Carnivore* and *Omnivore*.

Ask the students to briefly share with the class some of the organisms they listed.

Generalize

Instruct the students that they are now to work in their groups to complete two food chains with four levels each from the organisms they listed. Some groups may have to add additional organisms to their list to build a complete food chain. While students are completing this activity, pass out the food web cards to the students.

Apply

After students have constructed their food chains, say the following: **“In your groups, you all made smaller food chains. We learned earlier that those food chains combine to make a food web. We’re going to demonstrate what a food web would look like by making one. Each person should have a card with an organism or object on it. We are going to start with the sun which provides energy for plants to make food. From there, we will pass the string to organisms that would eat that plant and so on until we are all connected.”**

Start the ball of yarn with the sun, and then monitor students as they pass the string to each other, forming a food web.

Life Skill(s) from TIPP for 4-H

4th Grade

Participate in 4-H club meetings by saying pledges, completing activities and being engaged. (Head)

Follow Instructions (Heart)

Communicate effectively about a given topic (Hands)

Supplemental Information

Educational Standards Met

4.LS2: 1) Support an argument with evidence that plants get the materials they need for growth and reproduction chiefly through a process in which they use carbon dioxide from the air, water, and energy from the sun to produce sugars, plant materials, and waste (oxygen); and that this process is called photosynthesis. 2) Develop models of terrestrial and aquatic food chains to describe the movement of energy among producers, herbivores, carnivores, omnivores, and decomposers. 3) Using information about the roles of organisms (producers, consumers, decomposers), evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web. 4) Develop and use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.

Student Handout Answers

Consumers and Producers

- A producer makes its own food from raw materials and energy
- Plants use sunlight to grow and produce
- A consumer gets its energy by eating food, such as other animals or plants, not producing it

First, Second, and Third Level Consumers

- First level consumers are animals that only eat plants
- First level consumers are known as herbivores
- Second level consumers eat first level consumers
- Third level consumers eat second level consumers

Decomposers, Carnivores, and Omnivores

- Decomposers break down the remains of plants and animals that aren't eaten
- Carnivores only eat other animals
- Carnivores can also be called predators and what they eat is called prey
- Omnivores eat both plants and animals

Food Webs and Food Chains

- A food chain describes how energy flows in an ecosystem
- All food chains begin with the sun
- A food web shows how food chains combine to form an ecosystem

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In the space below, write three important facts from the passage you read. As the class shares, write down three important facts from the other groups.

Consumers and Producers

- _____
- _____
- _____

First, Second and Third Level Consumers

- _____
- _____
- _____

Decomposers, Carnivores and Omnivores

- _____
- _____
- _____

Food Webs and Food Chains

- _____
- _____
- _____

In the space below, list two organisms in each category

Producer

Decomposer

Omnivore

Consumer

Carnivore

On the back of your sheet, work with your group to construct two food chains with four levels each from the organisms you listed.