

NOURISH CURRICULUM GUIDE

A middle school food literacy curriculum
guide from the Center for Eco-Literacy.

What's the story of your food?

A Middle School Curriculum Guide

Companion to the film **Nourish: Food + Community**



nourish
food + community



Developed by the Center for Ecoliteracy

Published by WorldLink



What's the story of your food?

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DEAR EDUCATOR,

We use stories to tell ourselves who we are, where we come from, and what matters to us. The *Nourish* video and middle school curriculum remind us to pay attention to the stories behind every bite of food we take. We offer them as positive, hopeful resources for understanding food and community.

Middle school is an ideal time to engage students in the story of food. Students are increasingly making their own decisions about the food they eat and becoming aware of the influence of marketing on their choices and those of their friends. They recognize how many concerns about personal and planetary health relate to food. They are yearning for more control over their lives and seeking ways to make a positive difference in the world.

As an educator, you challenge your students to think critically and to grapple with complex questions. You inspire them to become engaged citizens and help them gain the knowledge and skills to make informed, responsible decisions. We hope that you will find *Nourish* and the resources, discussion questions, and activities in this curriculum to be valuable tools for exploring the story of food and the consequences of our daily choices and actions.

The Center for Ecoliteracy and WorldLink are proud to bring you this guide. Through such programs as its Smart by Nature™ and Rethinking School Lunch initiatives, the Center supports schooling for sustainability, from designing curricula to examining how schools use energy and procure food regionally. WorldLink designs media, education, and civic engagement programs that encourage active participation in creating a sustainable future. To learn more about our work, we invite you to consult our websites: www.ecoliteracy.org and www.goworldlink.org.

Thank you for all that you do to educate students about creating sustainable communities.

Warmly,

Zenobia Barlow
Co-Founder and Executive Director, Center for Ecoliteracy

Kirk Bergstrom
Founder and Executive Director, WorldLink



ACKNOWLEDGMENTS

A national initiative of WorldLink, Nourish is designed to open a meaningful conversation about food and sustainability. At the heart of the initiative is a public television special, *Nourish: Food + Community*, which provided the inspiration and framework for this curriculum.

The *Nourish Curriculum Guide* was developed by the Center for Ecoliteracy under the direction of Zenobia Barlow, executive director. The curriculum was developed by Carolie Sly, director of education programs, and written by Leslie Comnes, consultant to the Center. The guide was designed by Karen Brown, creative director. The project was managed by Jim Koulias, deputy director, with editorial assistance from Michael K. Stone, senior editor, and Alice Lee Tebo, administrative and communications coordinator.

Together with LuAnn Dahlman, former *Nourish* curriculum lead, WorldLink provided original ideas and concepts for the project. WorldLink staff, advisors, and a network of educators brought expert feedback to the development of the guide.

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NOURISH: FOOD + COMMUNITY

INTRODUCTION

The goal of this curriculum is to actively engage middle school students in a meaningful conversation about food and food systems. The activities give students opportunities to reflect on current food practices, to explore more sustainable ones, and to link their learning to relevant action.

NOURISH VIDEO RESOURCES

The curriculum is supported by a rich set of video resources found on the *Nourish* DVD. This includes a thought-provoking 26-minute public television special and a collection of 2- to 3-minute short films. A synopsis of the half-hour program can be found in the Nourish Viewing Guide on page 8. The Nourish website at www.nourishlife.org offers additional media and education tools.

Do you ever stop
and wonder:

**What's the story
of my food?**

Where did it come
from, and how did
it get to me?

USING THE CURRICULUM

This curriculum includes a viewing guide, six classroom activities for exploring the video topics more deeply, and suggestions for planning and carrying out a culminating action project. It is designed to be flexible and may be used in middle school Social Science, Science, Health, or English classes or in self-contained classrooms. (See page 77 for standards correlations for these subjects.)

All elements of the curriculum can either stand alone or be taught together as a unit. Depending on the course objectives and the time available, the teacher may show selected content from the video and engage students in a discussion about the topics, conduct one or more of the activities, facilitate students in planning an action project, or all of these. Of course, the more students can explore the issues, the more thoughtful they are likely to be about food and sustainability in the future.

OBJECTIVES

The *Nourish* video resources, discussion questions, and activities suggested in this curriculum will help students:

- Examine the story behind their food.
- Evaluate the effect of their food choices on people and the environment.
- Consider ways that food can nourish individuals, families, and society.
- Take action to address food-related issues at home, at school, and in the community.



NOURISH: FOOD + COMMUNITY

NOURISH VIEWING GUIDE

SYNOPSIS OF NOURISH FILM

Nourish opens with the question, “What’s the story of your food?” Responses to this question are woven throughout the video as it shows our food’s connections to a global community, the path our food takes from seed to table, and how our food choices can affect our health as well as people and places around the world. Through interviews with food experts such as Michael Pollan, Anna Lappé, and Bryant Terry, and with a variety of youth voices, the video suggests ways students can help create a better food system for themselves, other people, and the environment.





NOURISH VIEWING GUIDE

The video includes the following chapters:

CONNECTIONS This chapter introduces the idea that all of our food involves a story, which often reveals a connection to the global community. It shows how some of our food is grown by local farmers and how some comes from producers halfway around the world. It suggests that, depending on what we eat, our food can either support local economies and preserve open space, or cause species loss and other problems.

SEED TO TABLE This chapter follows the path of two different crops—corn and tomato—from seed to a meal. Commodity corn, which is used as animal feed and in food additives, is the largest crop in the United States. The video shows how commodity corn is grown as a monocrop and requires chemical fertilizers, pesticides, and lots of processing to become food products. An heirloom tomato is a variety whose seeds have been saved and passed down through generations. In the video, the heirloom tomato is grown organically, sold at a farmers' market close to the farm, and prepared by young people as part of a meal.

VOTE WITH YOUR FORK In this chapter, author Michael Pollan explains how the Western diet of processed foods was invented over the last 50 to 75 years and has created many health and environmental problems. He suggests that the food choices we make every day express what matters to us, and that through better choices, we can improve both our health and the environment.

BE THE DIFFERENCE This chapter offers concrete ways that individuals can help transform our food system, such as asking questions about the source of food, finding out what grows locally, checking food labels, and joining an organization working on food issues.

RUN TIME 26 minutes

SHOWING THE VIDEO

1. Introduce the video by telling students its title and asking them what they think the term “nourish” means. When something is described as “nourishing,” what comes to mind? Does nourishment always come from food? What else can provide nourishment?



NOURISH VIEWING GUIDE

2. Give students copies of the Nourish Notes student pages at the end of this Viewing Guide to complete as they watch the video. Let them know that *Nourish* is a documentary film hosted and narrated by actress Cameron Diaz.
3. Show the video. Depending on your schedule and objectives, you may show the entire video at once, stop after individual video chapters for discussion, or screen the chapters over several days.
4. In pairs, groups, or as a whole class, have students share some of their responses on the Nourish Notes page. Use the answer key on page 15 to check for accuracy and understanding.

DISCUSSION QUESTIONS

Selecting from the following questions, lead a class discussion about the video and the topics raised.

CONNECTIONS

- The video shows food connections between people in different countries. What are some of the ways our food is linked to people and places around the globe?
- If you were to eat only foods grown less than 150 miles from our town—like Café 150 in the video—what foods would you be able to eat? What foods would you be unable to eat? How would the seasons affect your diet?
- As food expert Anna Lappé points out in the video, since 1950 the world has lost 90 percent of the big fish living in the oceans—including species of tuna, cod, and halibut. What might this fact mean for people or for the health of ocean life?
- The video describes how the Norwegian government is building a seed bank to store seeds of all the world's known crops. Why are they taking on this enormous task? Are there other things you think we should consider storing for future generations?
- Do you grow any of your own food? Have you ever been to a farmers' market? Do you buy food from a CSA (community supported agriculture)? What are benefits and disadvantages of eating foods grown close to where you live?



NOURISH VIEWING GUIDE

SEED TO TABLE

- What differences were shown between the paths from seed to table for commodity corn and the heirloom tomato? Were there any similarities?
- What is a monocrop? What are the advantages and disadvantages of monocrop farming?
- In the video, Michael Pollan says that a burger, fries, and soda are the exact same food at one level. What does he mean by this?
- What are some of the health effects of eating fast foods? Will knowing these effects change what you choose to eat? Why or why not?
- Chef Bryant Terry says in the video that it might be worth spending 30 cents more for a pound of heirloom tomatoes, rather than cheaper monocrop tomatoes found in most grocery stores. Do you agree or disagree? Explain your reasoning.

VOTE WITH YOUR FORK

- Michael Pollan says that “Food is not just fuel. Food is about family, food is about community, food is about identity. And we nourish all those things when we eat well.” What does he mean? Give examples of how food nourishes family, community, and identity.
- How does the modern Western diet differ from more traditional cultures’ diets? What are the health and environmental consequences of the Western diet?
- How do both eating foods grown closer to home and eating fewer processed foods affect the health of the environment?
- What does it mean to “vote with your fork”? What kinds of things are you voting for now through what you eat? Are you willing to change your vote by changing the food you eat? Why or why not?



NOURISH VIEWING GUIDE

BE THE DIFFERENCE

- *Nourish* suggests several ways that you can be a part of a global movement for good food. What were some of the ideas? What other ideas do you have?
- The video opens with the question, “What’s the story of your food?” What might individuals do to answer this question about the things they eat? How might knowing the answer to this question make a difference?

ASSESSMENT

Show the 3-minute short film “Nourish Means...” on the *Nourish* DVD, and have students write a short paragraph about one way their own idea of nourishment has expanded from watching the video.

Name _____

Date _____

NOURISH NOTES

CONNECTIONS

Draw a line that connects a location to one of its food stories.

NORWAY

CHICAGO

TOKYO

BROOKLYN (NEW YORK)

GHANA

CALIFORNIA

URBAN FARMING

FAIR TRADE COCOA

SEED BANK

FOOD FROM 150-MILE RADIUS

INTERNATIONAL FRUIT SALAD

THREATENED FISH

SEED TO TABLE

Jot down words for each crop—commodity corn and heirloom tomato—that describe how it is grown.



COMMODITY CORN



HEIRLOOM TOMATO

VOTE WITH YOUR FORK

What does each of the following statistics represent?

a. 50 to 75 years _____

b. 4 out of 10 leading killers _____

c. 300 calories _____

d. 3 times per day _____

BE THE DIFFERENCE

jot down examples of ways that people can help change our food system so that we all have good food:

a. Teach and Learn _____

b. Grow Your Own _____

c. Create Community _____

d. Change the Menu _____

e. Shop Wisely _____

f. Take a Stand _____



NOURISH VIEWING GUIDE

NOURISH NOTES—ANSWER KEY

CONNECTIONS

Norway—Seed bank; Chicago—International fruit salad; Tokyo—Threatened fish; Brooklyn (New York)—Urban farming; Ghana—Fair trade cocoa; California—Food from 150-mile radius

SEED TO TABLE

Possible answers: Commodity corn—industrial farm, monocrop, pests, pesticides, chemical fertilizers, runoff. Heirloom tomato—organic, manure, close to customers

VOTE WITH YOUR FORK

a. How long ago the so-called Western diet was invented; b. Number of chronic diseases linked to food; c. How many more calories per day people eat today compared to pre-1980; d. Number of times per day we can “vote” to change the food system.

BE THE DIFFERENCE

- a. Ask questions about your food, find out what grows in your area, or talk to family about food choices.
- b. Start a garden, or grow herbs or vegetables at home.
- c. Make a meal with others, or meet the people who grow your food.
- d. Ask for more local and organic options, or eat more vegetables, grains, and fruits.
- e. Select organic or fair trade products, or check ingredients of foods.
- f. Join an organization working on food issues, or learn how government policies affect food.



ACTIVITY ONE

THE STORY OF FOOD

The story of food traces a path from farm to fork.

ACTIVITY OVERVIEW

Students examine food labels and conduct research to trace food paths from the original plant or animal source. They then make posters describing the story of a particular food.





THE STORY OF FOOD

ESSENTIAL QUESTION

How does the way food is raised, processed, transported, and eaten impact both people and the environment?

BACKGROUND

All of our food has a story to tell. Each story includes when, where, why, and how a certain food gets from the farm to your plate and who is involved in getting it there.

As portrayed in the *Nourish* DVD chapter “Seed to Table,” the story of commodity corn is very different from that of an heirloom tomato. While each crop is a part of a food system that involves growing, processing, transporting, retailing, and eating food, their two stories vary dramatically in their social, environmental, and economic impacts.

One story—the commodity corn’s—is typical of processed foods in an industrial food chain. This story starts with a corporate agribusiness growing miles of corn in monocrop fields. It includes chemical fertilizers, processing plants, long-distance transportation, and mega-retailers.

The industrial food chain is very efficient and has given us a wide variety of cheap food. But these things come at a cost to the environment, people’s health, and even to the farmer. Industrially produced food uses lots of energy, emits a variety of pollutants, and pays farmers an average of just 9 cents of every food dollar spent.

The other story—the heirloom tomato—exemplifies an unprocessed food in a local or ecological food cycle. This story starts on a mixed crop farm, where the farmer uses organic pest control and composting to avoid chemical pesticides and fertilizers. It includes short-distance transportation and face-to-face interaction with the customer at a farmers’ market. In this story, the majority of every food dollar spent goes to the local farmer, who can then reinvest it in the local community.

By becoming more aware of the food system that produces our food, we can be better equipped to make conscious choices about what and who we support. Labels are a good place to begin investigating the story behind a food, but the full story may require further research or conjecture.



THE STORY OF FOOD

MATERIALS

Labels from a variety of different foods (see Preparation)
Copies of Food System and Food Story Clues student pages
Dictionary
Atlas
Access to Internet
Poster board and colored pens, or presentation software

ESTIMATED TIME

Two 50-minute class periods, plus time for any additional research

VOCABULARY

composting, environment, food system, industrial food system, local food system, processed food, unprocessed food, whole food

PREPARATION

- Make copies of the student pages.
- Collect labels and packaging from different foods, and bring them or photocopies of them to class. Try to include a range from both unprocessed and processed foods, for example:
 - Stickers from fresh produce
 - Packages from uncooked rice, dried beans, flour, corn meal, and other minimally processed foods
 - Containers from canned or frozen fruits or vegetables
 - Cartons from eggs, yogurt, milk, or other dairy products
 - Boxes, jars, cans, or bags from processed foods like spaghetti sauce, cereals, soups, breads, cookies, frozen entrees, and so on.



THE STORY OF FOOD

ACTIVITY

1. Remind students how *Nourish* showed corn and tomato seeds taking different paths from farm to table. Ask them what steps the corn went through from its original source to eating or disposal (they may want to refer to their notes on the Nourish Notes student page on page 14.) Record their ideas on the board. Ask them what steps the tomato went through, and record them next to the corn's steps. How do the two paths compare?
2. Explain that these steps, as well as the many people and processes involved in each of the steps, make up what we call a "food system." What else might be included in a food system? What can looking at a food system tell us about the story of our food?
3. Distribute copies of the Food System student pages and give students a few minutes to examine the two different systems. Discuss:
 - How do these food systems compare to the corn and tomato stories from *Nourish*?
 - What is the same and different about these two systems?
 - Which steps does every food go through?
 - When we say a food is processed, what do we mean by that?
 - What people are involved in bringing food to your plate? What roles do they play at each step in the two systems?
 - How do different steps in the systems affect the environment?
4. Divide the class into pairs or small groups, and give each an assortment of labels and copies of the Food Story Clues student page. Direct them to determine what they can about each food's path in the food system, using the Food Story Clues student page as a guide.
5. Have each student choose one of their group's foods from step 4. Explain that they will create posters showing the story of that food from farm to fork. As much as possible, their story should contain where, how,



THE STORY OF FOOD

and by whom the food is (1) raised, (2) processed, (3) transported, and (4) eaten, and what happens with any waste. They may need to do additional research to supplement the information they gleaned from the labels.

6. Students may use poster board and pens or presentation software to make their posters. To make the projects more equal, you might require students choosing whole foods (like an orange or oats) to show the stories of two different foods.
7. After presenting their posters to the class, lead a discussion about the stories of different foods:
 - How are the stories of processed foods different from those of whole foods?
 - How might the story of a food impact people or the environment? Which parts of the story have the greatest impacts?
 - Which parts of the story can individuals change?

ASSESSMENT

Use students' posters to assess their understanding of the story behind a particular food and the interrelated elements of the food system.

EXTENSIONS

- Find out what portion of the money people spend on food actually goes to the farmers who grow and raise it. First, check out the statistics presented on the National Farmers Union website (<http://nfu.org>) or at www.envirovore.com. Then, talk with local farmers about how much they earn per dollar spent on their farm products.
- Using information from your state department of agriculture or the U.S. Department of Agriculture, have students map your state's top crops by county.



THE STORY OF FOOD

- Watch the short film “Wake Up!” on the *Nourish* DVD, in which pediatrician Nadine Burke describes health issues related to foods high in sugar and fat. Have students look at the labels from the activity to compare serving sizes, servings per package, and sugar and fat contents of various foods. Have them devise a way to compile and display their findings.
- Show the short film “Why Eat Local?” on the *Nourish* DVD, in which Michael Pollan explores the benefits of a local food system. Discuss advantages and disadvantages of a diet composed of only local foods.
- Point out that people often mean different things when they use the term “processed foods.” Have students ask parents, friends, and other students for their definitions of the term, and then compare and contrast the definitions.

INDUSTRIAL FOOD SYSTEM



GROWING

Growers use heavy equipment to prepare soil, and plant and maintain crops on huge farms of single “monocrops.”



HARVESTING

Farm workers gather the ripened crop from the field using large machinery, harvesting great quantities at once.



TRANSPORTING

Transportation workers move the food by air, truck, train, ship, or barge. Transporting may happen at many steps and for very long hauls.



PROCESSING

Food processors use factory equipment to chop, grind, dry, boil, can, or freeze food to preserve it or to make it more convenient. Processed food is often greatly altered from its natural state.



PACKAGING

Workers operate machinery to put food into cans, bags, boxes, or other containers for sale. The packaging protects food and helps sell it.



WHOLESALE

Wholesalers sell and distribute large quantities of foods to stores.



RETAILING

Retailers sell foods to customers, usually in supermarkets, grocery stores, or other stores.



EATING

People buy, prepare, and eat the food.



DISPOSING

People discard leftover food and packaging. While most is recyclable or compostable, much of it ends up in landfills.



LOCAL FOOD SYSTEM



ACTIVITY ONE

FOOD STORY CLUES

Name _____

Date _____

Every food has a story, but for many foods that story is a mystery. Labels and packaging are good places to start investigating the story behind food. Select a label and answer the following questions.

1. Name of food: _____

2. Is this a whole food or processed food? _____

3. How many ingredients are listed on the label? _____

4. What are the top 3 ingredients (besides water)?

a. _____ b. _____ c. _____

5. What plants or animals is each of these 3 ingredients made from?

HINT: If you can't tell from the label, check a dictionary or the Internet.

a. _____

b. _____

c. _____

6. Where might each ingredient or the whole food have originated?

HINT: If you can't tell from the label, use an atlas or the Internet to find out the three U.S. states or world countries where that plant or animal is most commonly raised.

Origin of whole food: _____

Or, origin of the 3 top ingredients:

a. _____ b. _____ c. _____

7. Where might this food have been processed?

HINT: Look on the label for clues such as “A product of _____” or distributor information. For dairy products, find the five-digit code next to the expiration date and type it in at this website: <http://whereismymilkfrom.com>.

8. What clues does the package label give about disposal?

HINT: Look to see if the package is recyclable or compostable.

9. What else can you tell about this food's story from the label or package?

10. What people are included in this food's story?

11. How does this food's story affect the health of the environment?



ACTIVITY TWO

SEASONAL, LOCAL FOOD

The story of food includes where it is grown and how far it travels.

ACTIVITY OVERVIEW

In this activity, students research what produce grows in their area and in what season, and learn about the advantages and disadvantages of eating locally grown food. They create a seasonal circle and a resource booklet for obtaining local produce to share with their families.





SEASONAL, LOCAL FOOD

ESSENTIAL QUESTION

How does eating locally grown and seasonal food benefit the health of people and the environment?

BACKGROUND

When we consider the story of our food, one important dimension is how far it travels to get to us. In the past, people grew their own food or gathered it from the local area. Today, our food may come from halfway around the world.

When fruits and vegetables are shipped, flown, or trucked long distances, they must be picked before they are ripe so that they can survive the journey. As a result, this produce is often less nutritious and less tasty, uses more fuel, and causes more pollution than locally grown produce.

There are many benefits to eating locally grown foods in season. Doing so supports the local economy, reduces the amount of pollution caused by transportation and storage, and provides fresher, tastier, and more nutrient-rich foods.

While eating locally grown foods has many benefits, it is not always practical to eat just those foods. In many regions, there is a limited variety of foods available at certain times of the year. A healthful and balanced diet may require whole, nutritious foods grown elsewhere.

MATERIALS

Copies of Seasonal Circle and Local Food Resources student pages

Food samples (see Preparation)

Toothpicks and napkins

Copies of a local or regional map (see Preparation)

Geometry compasses

Paste or glue

Colored pens or markers

Scissors



SEASONAL, LOCAL FOOD

MATERIALS (CONT.)

Paper brad fasteners
Stapler (optional)

ESTIMATED TIME

One 50-minute class period, plus time for research

VOCABULARY

in season, local, radius, foodshed, community supported agriculture (CSA)

PREPARATION

- Bring in two different food items to show students: one that is in season locally, and one that is not in season and has traveled a great distance to your local market. If there are currently no food items in season where you live, use a local stored food such as a potato, an onion, or an apple.
- (Optional) Prepare samples of a local, seasonal food for students to taste, such as wedges of apples and honey, fresh strawberries and cream, slices of carrots, or whole sugar snap peas.
- For each food item you bring in, find out from the Internet or a farmer how it is grown, whether it is grown locally or elsewhere, and when it is in season.
- Get a state or regional map that encompasses an area at least 150 miles in all directions from your school or town. Make copies of the map for students, including the legend or mileage scale. If possible, size the copies so that the 150-mile circle is smaller than the circles on the Seasonal Circle student pages.
- Make a copy of the two Seasonal Circle student pages for each student and several copies of the Local Food Resources student page for each team in step 6.



SEASONAL, LOCAL FOOD

ACTIVITY

1. Ask students to define what it means when we say a food is “in season.” Show students the foods you brought in (see Preparation) and ask them where they grow and what time of year they are in season. Discuss where and how each food is grown, when it is in peak season, and the differences between in-season and out-of-season produce.
2. If you have brought samples to taste, have students wash their hands and then use a clean toothpick to take a sample. Ask them to come up with as many adjectives as they can to describe the food's taste and texture.
3. Remind students of the Café 150 described in the film, and ask them what might be included in an area 150 miles around your town. Give students a copy of the map (see Preparation), and have them use a compass to draw a circle with a 150-mile radius around their town or neighborhood. Use the map to talk about what we mean by “local.”
 - Explain the concept of a foodshed. Is “150 miles” a good definition of a foodshed? Why or why not?
 - What towns, agricultural areas, waterways, or other landmarks are included within the 150-mile circle?
 - What factors might influence what and when things grow there?
 - What would be the benefits and challenges of eating locally grown food?
 - How might time and distance from farm to market affect the taste and nutritional value of food?
4. Explain to students that they will make two different resources to help them and their families find local, seasonal food in your community. One will be a seasonal circle that shows what is in season locally, and the other will be a resource book that describes the importance of eating locally grown, seasonal foods and lists community sources for local food.
5. For the seasonal circle, hand out copies of the Seasonal Circle student pages. Challenge students to find out what crops and other farm products (like honey, milk, or eggs) grow locally in your area and when they



SEASONAL, LOCAL FOOD

are in season. They might start with the Eat Local (www.simplesteps.org/eat-local) or Field to Plate (www.fieldtoplate.com/guide.php) websites, both of which link to seasonal calendars by state.

For each crop or product they find, have students draw and label it on the circle in the months or seasons it is available. They may also cut out the 150-mile map from step 3, and glue it onto the back of the bottom circle. Instruct them to assemble the circles by inserting a paper brad fastener as indicated on the student page. Excellent examples of local food wheels can be found at Local Foods Wheel (www.localfoodswheel.com).

6. For the local food resources booklet, ask students to think of general categories of places where people could get local, seasonal food (like farmers' markets, community gardens, CSAs, stores, or restaurants). Divide the class into teams, with each team researching nearby places in one of the categories. Teams may check out the Local Harvest (www.localharvest.org) or Eat Well Guide (www.eatwellguide.org) websites.

Give teams copies of the Local Food Resources student page to list the best resources they find. Ask for volunteers to draft 2–3 paragraphs on the importance of eating local and seasonal foods. Assemble the completed student pages into one booklet. Make stapled copies of the booklet for students to take home, or post it on your school or class webpage.

ASSESSMENT

Use students' Seasonal Circles and their Local Food Resources booklet to assess their understanding of what is local and seasonal. Did they find foods available in your area and place them in the appropriate months or seasons? Did they sufficiently identify sources of local food in your area?

EXTENSIONS

- Invite students to find a recipe that appeals to them using a local, seasonal food. Encourage them to try out the recipe at home or at school and then share their experience and a tasting with classmates.



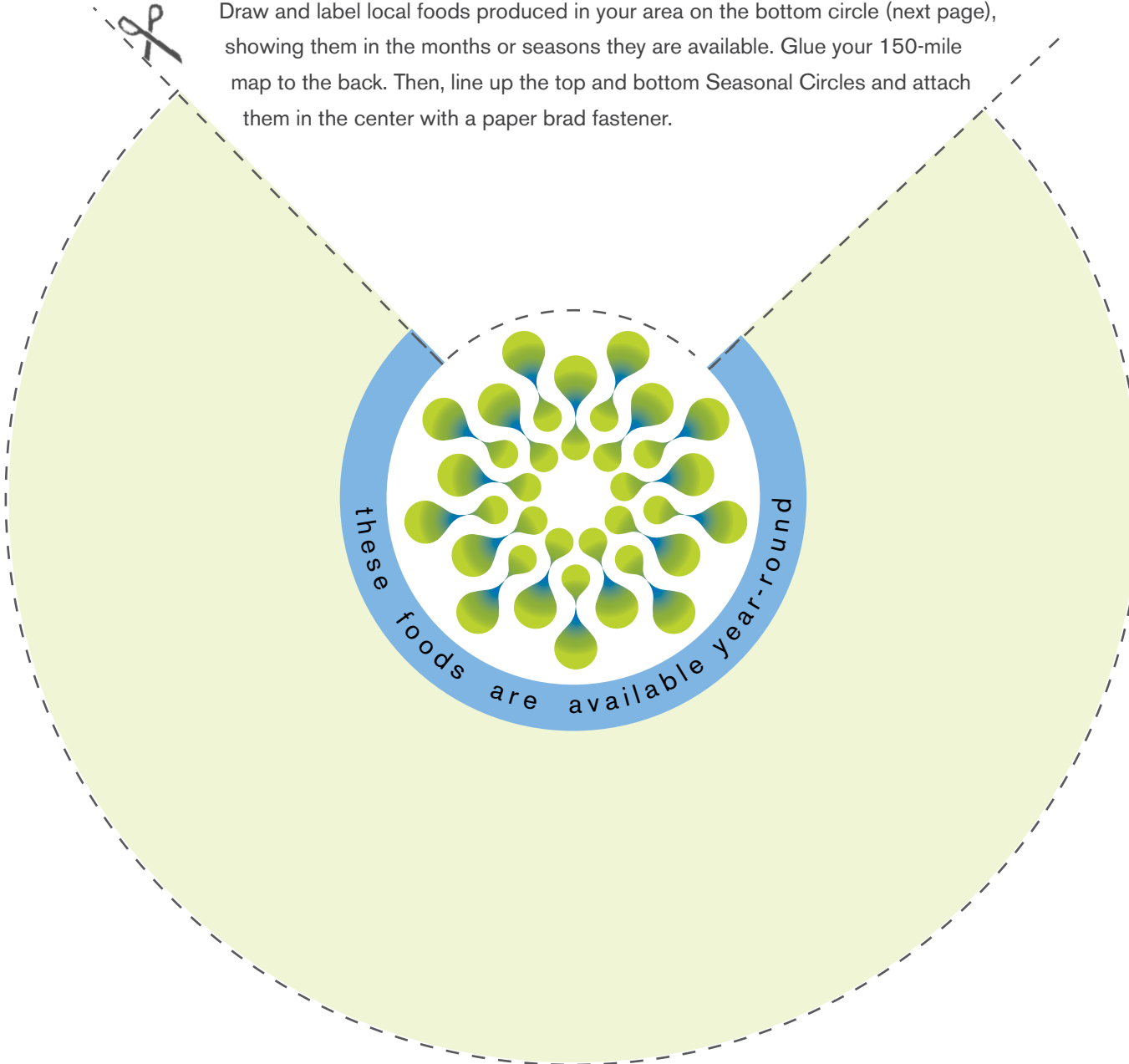
SEASONAL, LOCAL FOOD

- Using the Seasonal Circle for inspiration, have students plan and (if possible) prepare a 150-mile meal like Café 150 in the film, or create a lunch menu using one or more locally available foods.
- Challenge students to draw a garden plan using plants suitable for the current season. They would research the growing requirements of different vegetables and fruits, and then use this information to sketch a map of the garden area, showing the location of each plant.
- Use Google Earth or Google Maps to see how much land in your area is developed, undeveloped, and farmed.
- Visit a local farm or farmers' market to talk to growers about how local foods travel from farm to customer.

SEASONAL CIRCLE

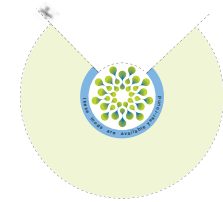
On the shaded space indicated, draw and label local foods that are available year-round in your area. Then, cut out the circle and wedge on this page as marked.

Draw and label local foods produced in your area on the bottom circle (next page), showing them in the months or seasons they are available. Glue your 150-mile map to the back. Then, line up the top and bottom Seasonal Circles and attach them in the center with a paper brad fastener.

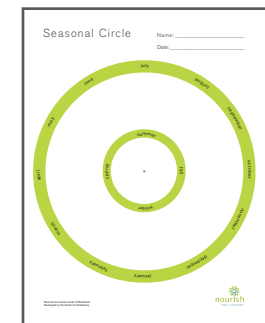


TO ASSEMBLE

1. Cut out this circle.



2. Place it on top of this circle and line it up.



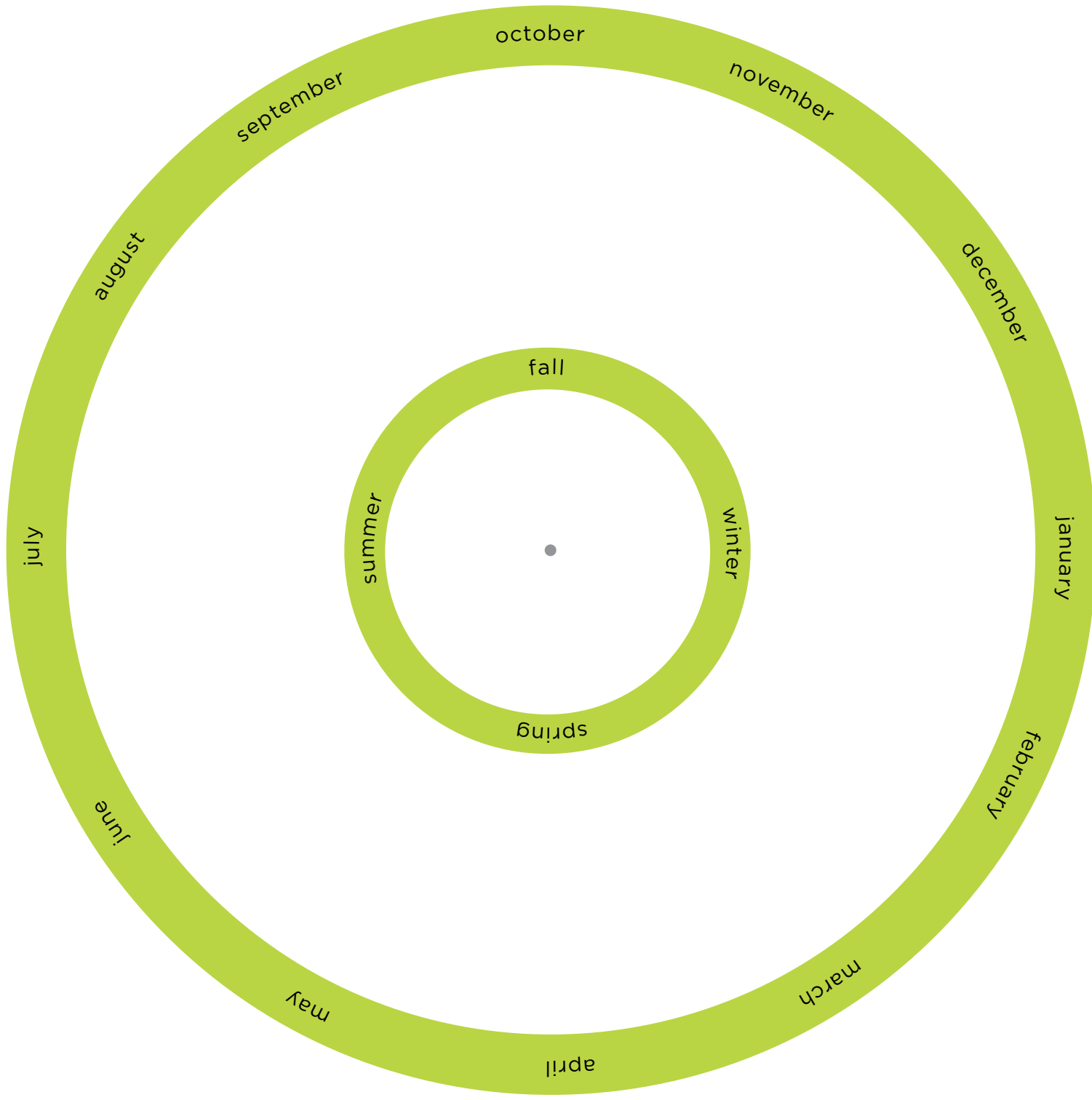
3. Fasten the two circles together with a brad fastener to make this:



Seasonal Circle

Name: _____

Date: _____



LOCAL FOOD RESOURCES

NAME:

CATEGORY:

DESCRIPTION:

ADDRESS:

PHONE NUMBER:

WEBSITE:

NOTES:

NAME:

CATEGORY:

DESCRIPTION:

ADDRESS:

PHONE NUMBER:

WEBSITE:

NOTES:

NAME:

CATEGORY:

DESCRIPTION:

ADDRESS:

PHONE NUMBER:

WEBSITE:

NOTES:

NAME:

CATEGORY:

DESCRIPTION:

ADDRESS:

PHONE NUMBER:

WEBSITE:

NOTES:





ACTIVITY THREE

FOOD TRADITIONS

The story of food is embedded in the stories of who we are and is part of our history.

ACTIVITY OVERVIEW

Students explore ways in which food nourishes families and communities by learning about one another's family food traditions.





FOOD TRADITIONS

ESSENTIAL QUESTION

What can we learn about our culture and one another through the foods we eat?

BACKGROUND

Food is much more than a tool for survival; it is also a source of pleasure, comfort, and security. And, while it nourishes our bodies, it can also nourish our families and our communities.

Food is one of the most important and persistent aspects of tradition and culture. Throughout the world, food is used to celebrate holidays, rituals, and family gatherings. For special occasions—and even for daily meals—our culture often determines what, when, and how we eat. These traditions connect us to our history, our locale, and to one another.

Food cultures also represent the wisdom gained and shared through thousands of years of experimentation and observation. For example, the grains and beans found in many food traditions have been determined to provide the perfect combination of amino acids our bodies need.

Although it may seem that kids today only eat pizza or hamburgers, your students are likely to represent a tremendous diversity of food traditions. Be sure to set the stage for an open and accepting classroom environment so that students will feel comfortable talking about their family food traditions.

MATERIALS

Copies of Family Food Tradition Interview student page

Blank paper and colored markers

ESTIMATED TIME

One 50-minute class period



FOOD TRADITIONS

VOCABULARY

culture, tradition, identity

PREPARATION

Make copies of the student page.

ACTIVITY

1. Read the following quote by author Michael Pollan from *Nourish*: “There is a lot of cultural wisdom in food. And indeed, that’s how we knew what to eat for all this time. We didn’t have scientists. We didn’t have industry, you know, hawking products at us. We had food culture.” Ask students what they think Pollan meant by this.
2. Explain to students that they will be conducting interviews to learn more about the different food cultures and traditions represented by the class. Give students copies of the Family Food Tradition Interview and have them read over the questions. Ask whether there are any other questions they would like to add.
3. Ask students for their ideas about how to be a good interviewer and a good interviewee (speaker). Read together the descriptions of these roles on the student page.
4. Divide the class into groups of three to interview one another. Group members will take turns being the interviewer, the speaker, and the recorder. Allow about 10 minutes for each role, and then have them switch.
5. After everyone has been interviewed, give each group a blank piece of paper and markers. Have groups create a Venn diagram showing specific ways their food traditions are all the same and ways that they differ. Ask volunteers to share a few observations from their Venn diagrams. Discuss whether and how much food traditions influence what people eat.
6. Read another quote by Michael Pollan from the *Nourish* DVD: “Food is not just fuel. Food is about family, food is about community, food is about identity. And we nourish all those things when we eat well.” After



FOOD TRADITIONS

defining the three terms “family,” “community,” and “identity,” have students give examples from their interviews of how food nourishes these three things.

ASSESSMENT

Read again Michael Pollan’s quote from step 1. Ask students to write a paragraph about what Pollan’s quote means to them, using examples from their interviews.

EXTENSIONS

- Use the book *Hungry Planet: What the World Eats*, by Peter Menzel and Faith D’Aluisio, to study and compare food traditions in other countries. How and why do different cultures come to value particular foods? How are food traditions influenced by place? By economic opportunity?
- Challenge students to look in their kitchens or at the grocery store for foods that come from other countries. Have them map their findings by taking a digital photo of each food to print out and place on a world map posted on the bulletin board, or create a set of placemarks in Google Maps.
- Invite an elder to class for students to interview about how American diets have changed in the last 50 to 75 years. They might ask, for example:

When you were younger, what did you typically eat for breakfast? Lunch? Dinner?

Where did your food come from?

Did you grow any of it yourself?

Did your family do anything to save or preserve food from one season to another?

- Build class community by making and eating a snack together. You might ask students to bring in pieces of fruit for a fruit salad, vegetables for a soup, or dried fruits and nuts for a trail mix, being aware of any food allergies. Have students prepare the ingredients and make the snack.

ACTIVITY THREE

FAMILY FOOD TRADITION INTERVIEW

Interviewer _____

Speaker _____

Recorder _____

Date _____

1. What are some special foods your family eats for holidays?
2. What food traditions does your family have for birthdays or other celebrations?
3. Does your family have any rituals, rules, or patterns for regular meals? What are they?
4. How are the foods your family eats different from the foods your friends' families eat?
5. What is your favorite family dish? Why?
6. Do any of your family's foods or traditions have family stories connected to them? What are they?
7. Are any of the foods linked to your family's cultural or ethnic heritage? Which ones?

ROLES

INTERVIEWER

- Maintain good eye contact during the interview.
- Give the speaker time to think about and answer each question thoroughly.
- Be respectful, and do not interrupt while the speaker is talking.
- Follow the questions on the sheet, but you may also ask follow-up questions to expand on them.

SPEAKER

- Listen carefully to the questions.
- Answer each question as thoroughly and honestly as you can.

RECORDER

- Record the speaker's responses. You may summarize, but be sure to include important details.
- Be respectful, and do not interrupt during the interview.
- After the interview is complete, have the speaker check that what you wrote is accurate.



ACTIVITY FOUR

FOOD AND ECOSYSTEMS

The story of our food is intimately connected to ecosystems.

ACTIVITY OVERVIEW

Students explore a garden to find evidence of ecosystem components and interactions involved in the creation of our food.





FOOD AND ECOSYSTEMS

ESSENTIAL QUESTION

In what ways do we depend on ecosystems for our food?

BACKGROUND

It is easy to forget that food is a product of ecosystems. We usually purchase it in supermarkets and restaurants, where it bears little resemblance to the original plant or animal. Yet, without sunlight, soil, water, plants, and animals interacting in an ecosystem, we would have no food.

Food gives us the energy we need to stay alive, grow, and reproduce, and we can get this energy only from other organisms. Although the sun emits enormous quantities of radiant energy every day, our bodies cannot use it directly. Instead, we rely on plants to convert it to chemical energy (food) through photosynthesis. This energy may then pass through a food chain to us. Photosynthesis, pollination, predation, decomposition, the cycling of nutrients, and water are all involved in creating our food.

Although farms and gardens depend on ecosystem processes, they are different from natural ecosystems. Natural ecosystems contain plant and animal populations interacting in balance with one another and nonliving things, and can sustain themselves over time. In farms and gardens, people plant seeds, add water, amend the soil, weed, and remove pests to increase production, all of which can affect both balance and sustainability.

As seen in *Nourish*, these human impacts are often far-reaching, especially with industrial agriculture. For example, pesticides and fertilizers applied to industrial farms in the Midwest have created a dead zone—where almost nothing can live—thousands of miles away in the Gulf of Mexico.

MATERIALS

Copies of Ecosystem Hunt student page

Pencils or clipboards

Index cards and rings

Reference materials on ecosystems



FOOD AND ECOSYSTEMS

ESTIMATED TIME

Two 50-minute class periods

VOCABULARY

carnivore, consumer, decomposer, ecosystem, evidence, herbivore, organic matter, nutrient, photosynthesis, pollination, producer, system

PREPARATION

- Find a suitable location for the ecosystem hunt. If possible, choose a place that grows food, such as a school garden, a community garden, or a nearby farm. Alternatives include a park, wild area, or the school landscaping. Make any necessary arrangements to take the class there.
- Gather reference materials on ecosystems and garden plants and animals for students.

ACTIVITY

1. Introduce the activity by asking students what they think the term “ecosystem” means and having them share their ideas. If students haven’t mentioned it, point out that “ecosystem” contains the root “system.” Ask students what a system is and have them give examples. (They might name mechanical systems like a car, biological systems like the respiratory system, or social systems like a school.) Using the examples, help students understand that a system is a collection of parts or components that interact with one another to function as a whole.
2. Ask students to name the components that might make up an ecosystem and the kinds of interactions that might occur in an ecosystem, listing their ideas on the board. Explore the concept that these components—sunlight, rain, plants, animals, for example—interact to make our food. Would it be possible for us to have food without at least some of these ecosystem parts and interactions? If so, how? If not, which are most vital to us?
3. Explain to students that they will be looking in the garden (or other location) for evidence of ecosystem components and interactions. Give students copies of the Ecosystem Hunt student page. Review the terms



FOOD AND ECOSYSTEMS

and have students provide some possible examples for each. Also review expected behavior for working outside.

4. Take the class to the garden (or other location). Have students work in pairs to conduct the hunt. As they are working, circulate among them to check in on their findings and to answer any questions.
5. Bring the group together, and ask pairs to share some of the evidence they have collected. Discuss what they learned from the hunt:
 - What evidence did you find for the various ecosystem components and interactions?
 - In what ways do garden plants—and people—depend on each of these elements?
 - Considering the evidence, how healthy would you say this garden ecosystem is?
 - How is the garden ecosystem different from a natural ecosystem?
 - How do growing food and raising livestock affect the surrounding ecosystem?
 - If we were to conduct the same hunt on an industrial farm, what differences might we observe?
6. Explain to students that they will use their evidence from the hunt to create an illustrated, self-guided tour of the garden for visitors, emphasizing its similarities to a natural ecosystem. The tour may consist of cards on a ring or a booklet, with each card or page focusing on one of the ecosystem components. You may choose to have students work in groups or individually.
7. Make clear that for each component, students should include the name of the component or interaction, add a brief description of what it is and where it can be found in the garden, and illustrate it with a garden example. The first card or page should also provide a brief overview of the garden as an ecosystem. Have reference materials on hand so that students can refer to them as they create their tours.



FOOD AND ECOSYSTEMS

8. After they have completed their tours, give students an opportunity to share them with other students in the class or school.

ASSESSMENT

Use students' self-guided tour to assess the various ecosystem components and interactions in the garden. As an alternative assessment, students could create posters showing the components and processes of the ecosystem as a whole.

EXTENSIONS

- Start a composting program at school or home, or a worm composting (vermiculture) bin in the classroom. Visit a school district, college, or community composting facility to see composting on a large scale. In what ways does composting help to promote healthy ecosystems?
- Show the short film "Urban Farms" on the *Nourish* DVD, in which Bryant Terry talks about farming in urban centers, or "Edible Education," in which Alice Waters discusses the value of school gardens. Create an indoor classroom herb garden or plan a vegetable garden bed outside.
- Use Flickr to compile photos of organic farms or gardens and create a slide show. What ecological principles do you observe in these photos?
- Conduct a monocrop scavenger hunt using Google Earth or Google Maps. Look for examples of monocrops visible from space, including corn and soybean agriculture and palm oil plantations. Explore how these crops affect the surrounding environment.

ACTIVITY FOUR

ECOSYSTEM HUNT

Look for two examples or pieces of evidence for each of the ecosystem components below. Describe what you observed and where you observed it.

	EXAMPLE 1	EXAMPLE 2
LIVING COMPONENTS		
Producers Organisms that get energy by changing light into chemical energy, producing food		
Primary Consumers (Herbivores) Organisms that get energy and nutrients by eating parts of plants		
Secondary Consumers (Carnivores) Organisms that get energy and nutrients by eating parts of animals		
Decomposers Organisms that get energy by breaking down dead organic material, which is then recycled into the soil as nutrients		
NON-LIVING COMPONENTS		
Energy Sources of energy for living organisms		
Soil Substrate or source of nutrients for living organisms		
Organic Matter Dead plant or animal material that is now leaf litter or soil particles		

PROCESSES

Photosynthesis

Chlorophyll in green plants turning light energy into chemical energy to make food

Cycle of Nutrients

Nutrients passing from one organism to another through eating, decomposition, or through plant roots

Decomposition

Rotting or decaying once-living things, which release nutrients into the soil

Web of Life

Energy and nutrients passing from one organism to another through the food chain or predator-prey relationships

Pollination

Transferring of pollen from one plant flower to another by organisms (bees, birds, etc.) or wind



ACTIVITY FIVE

ANALYZING FOOD ADS

The way the story of food is told can affect the choices we make.

ACTIVITY OVERVIEW

Students analyze ads to see what messages they convey about food.





ANALYZING FOOD ADS

ESSENTIAL QUESTION

How do marketing techniques influence what we eat?

BACKGROUND

Each year, food companies in the United States spend billions of dollars promoting their products. They use a variety of advertising and marketing techniques to influence our food choices, encouraging us to switch brands or to simply buy and eat more.

The majority of food advertising is for highly processed foods, including fast foods, convenience foods, candy, sweetened cereals, snack foods, and soft drinks. With the heavy promotion of these products and with the added fat, sugar, and salt they contain, Americans eat about 25 percent more calories today than they did in 1980.

Food companies use aggressive and sophisticated marketing techniques to influence our food choices. More and more, these techniques are being aimed at children, who receive a constant barrage of food advertising through television, magazines, websites, clothing, and even school.

According to a report by the Center for Science in the Public Interest, one of the most important factors in rising childhood obesity and poor diets is food marketing. As it states, “While they are not intentionally trying to undermine children’s health, there is no disputing that the goal of food marketing aimed at children is to influence their food choices.”¹

Today’s middle school students must navigate a world filled with advertising and consumer marketing. By learning to examine this profusion of messages with a critical eye, they will be better able to make healthful and responsible food choices.

¹ “Pestering Parents: How Food Companies Market Obesity to Children” (Part 1, p. 1). Center for Science in the Public Interest. 2003. http://cspinet.org/new/pdf/pages_from_pestering_parents_final_pt_1.pdf



ANALYZING FOOD ADS

MATERIALS

Food ads from magazines or the Internet

Copies of Food Marketing Techniques and Analyzing Food Ads student pages

Art paper and pens, video equipment, publishing software, or other materials for creating ads

ESTIMATED TIME

One or two 50-minute class periods, plus time to create ads

VOCABULARY

advertising, brand loyalty, hard-wired, marketing, spoof, technique

PREPARATION

- Collect a variety of food ads from magazines or the Internet. Consider inviting students to bring in ads or digital photos of billboards that advertise food. If possible, find specific examples of two or three of the food marketing techniques described on the student page.
- Find a couple of sample “spoof” ads from the Adbusters website, www.adbusters.org, or other source.

ACTIVITY

1. Remind students how *Nourish* points out that we are “hard-wired” to crave sweet, fatty, and caloric foods. Ask, “What do you think that means? How do food companies use this fact to get us to eat more of their foods? Why might they want us to eat more? What other techniques do they use to encourage us to buy more? What other factors influence our food choices?”
2. Give students copies of the Food Marketing Techniques student page and read it over as a class. For each technique, ask students to think of an ad or product they have seen that uses it. Show the magazine ads you have identified as examples (see Preparation). Which of the techniques make food seem more appealing? Which are less obvious about their intention?



ANALYZING FOOD ADS

3. Point out how ads usually show just one side of the story and ignore or downplay any negative aspects of a product. What are some of the negative sides of food products that you don't see in ads? (Examples include unhealthy effects, bad taste, and environmental effects.)
4. Divide students into groups, giving each a set of ads and a copy of the Analyzing Food Ads student page. Give students time to examine and analyze the ads using the student page as a guide.
5. Ask a spokesperson from each group to share a couple of things they observed. Discuss:
 - Which of the marketing techniques were apparent in the ads?
 - How do the ads make food seem more appealing?
 - How do they get us to eat more, more often, or in more places?
 - What else are the ads selling besides food?
 - Which of the ads are aimed at kids and teens? How is the message directed to this audience?
 - Do you think you have been influenced by these ads? Why or why not?
6. Challenge groups to create an ad for a healthy food or one that spoofs an advertising technique. Show a couple of sample “spoofs” and discuss how they often twist or say the opposite of a real ad’s words. Encourage students to:
 - Decide on a product.
 - Think about the message they want to convey and how they will convey it.
 - Use one or more of the marketing techniques from the student page.
 - Decide on a medium. It may be video, slide show, print, radio, or other format.



ANALYZING FOOD ADS

- Sketch or block out their ideas, considering the images, words, colors, and product placement.
- Make the final ad.

7. Allow time for groups to present their ads to the class.

ASSESSMENT

Use each group's ad to assess student understanding of ways marketing influences our food choices. How effective is it in conveying its message? How clearly thought out is the ad? How well executed is it? Did all students in the group contribute to the effort?

EXTENSIONS

- Have students work with your school's nutrition staff or food services manager to develop a promotional campaign encouraging healthy lunch choices like fresh fruits and vegetables.
- Invite a representative from a local advertising agency to talk with your class about the different strategies he or she uses to promote clients' products or to increase sales.
- Watch the short film "Supermarket Secrets," on the *Nourish* DVD, in which Michael Pollan gives tips for shopping wisely. Take a trip to your local grocery store and have students create a map or brochure showing where produce, dairy items, whole grains, and other healthy foods can be found.

ACTIVITY FIVE

ANALYZING FOOD ADS

Name _____

Date _____

Food ads use a variety of techniques to encourage us to buy and eat more. Choose an ad to analyze, and then answer the following questions.

1. What product is the ad selling?

2. What is pictured in the ad?

3. What does the ad highlight? (Circle all that apply.)

Quality Taste Price Health Environment Other: _____

4. Who is the target audience? (Circle all that apply.)

Kids Teens Adults Parents Other: _____

5. What marketing techniques does the ad use?

6. How does the ad encourage people to buy or eat more of the product?

7. What else is the ad selling besides the product?

8. How effective is the ad?

ACTIVITY FIVE

FOOD MARKETING TECHNIQUES

Food companies are in the business of selling food. They use many different techniques to encourage people to buy and eat more of their products.

ADVERTISING

ADS EVERYWHERE

Ads are put in many places—magazines, websites, buses, billboards, movies, displays, packaging, and clothing—to constantly remind us about the food product.

LOOKING GOOD

The food in ads often looks better than real life. Extreme close-ups trigger our senses of taste and smell, making us crave that food.

CELEBRITIES

Ads with celebrities put a familiar face on the product. For kids, the “celebrity” may be a cartoon, movie, or TV character.

HEALTH CLAIMS

Many ads claim or imply that the product is good for you. While they may convince you to buy, these claims are often unclear or inaccurate.

CLAIMS ABOUT TASTE OR POPULARITY

Many ads describe the food’s deliciousness or popularity to sell the product. These claims are often exaggerated or unsupported.

OVERDOING IT

Ads may show big portion sizes or people who can’t stop eating the product, both of which encourage you to eat a lot.

OTHER APPROACHES

In addition to advertising, companies use many less obvious approaches to get you to buy more:

COUPONS

With money-saving coupons, companies entice people to buy their brand over another.

MOVIES AND TV

Companies pay a lot of money to have their products prominently placed in movies and TV shows, which helps create an emotional connection.

CONTESTS, GAMES, OR GEAR GIVEAWAYS

Contests, games, and giveaways encourage people to buy food products for reasons other than the food.

DONATIONS

Companies donate money or equipment to schools and charities for each box top or label you collect, which encourages you to buy more and creates brand loyalty.

MANY POINTS OF SALE

Companies sell food everywhere they can—gas stations, malls, sporting events, theaters, schools—because we eat more when food is handy.

SHELF POSITION

Companies pay expensive fees to grocery stores to place their products on the most visible shelves—like candy at children's height—so we are more likely to buy them.



ACTIVITY SIX

SCHOOL LUNCH SURVEY

A story of food is being created at our schools.

ACTIVITY OVERVIEW

Students develop a questionnaire to survey their peers about the food in the cafeteria (or other lunch option). They analyze the data, and develop and present recommendations based on their findings.





SCHOOL LUNCH SURVEY

ESSENTIAL QUESTION

In what ways might we improve the food at our school?

BACKGROUND

Visit the lunchroom in many schools across the United States and you'll see something similar: calorie-laden, pre-processed and packaged heat-and-serve food that has been shipped from miles away. These lunches are often unappetizing and generally wasteful, and may have questionable nutritional value. Many of these practices can be traced to our National School Lunch Program, which has historically been managed for hunger relief and farm support. With its focus on pounds of food and numbers of bodies served, the program tends to be about quantity, not quality.

Today, an alarming number of youth in the United States are poorly nourished. School-age children also face an escalation of diet-related illness, including diabetes and obesity. School lunches that support healthful food choices and sustainable practices can have a tremendous impact, not only on student health and well-being, but also on the school and the larger community.

Students may not have the power to effect big changes in the lunch offerings, but even small changes can make a difference. In Oregon, for example, schools offer one locally grown fruit or vegetable a month, which has resulted in kids enjoying and eating more fresh foods. An increasing number of schools across the country now offer salad bars stocked with fresh greens and other fresh fruits and vegetables.

MATERIALS

Copies of School Lunch Questionnaire student page
Colored pencils, pens, and poster board, or presentation software

ESTIMATED TIME

Two or three 50-minute class periods, plus time to distribute the questionnaire



SCHOOL LUNCH SURVEY

VOCABULARY

biased, poll, survey, sustainable, organic

PREPARATION

- Make copies of the School Lunch Questionnaire to use as an example. If you prefer, you may have students use this questionnaire as an alternative to developing their own.
- Arrange with other teachers for your students to distribute questionnaires in their classes.
- Plan for students to present their findings and recommendations to other classes, the principal, the food services manager, the school board, or other appropriate audience.

ACTIVITY

1. Introduce the activity by reminding students how *Nourish* talks about voting three times a day through food choices. Ask them whether they think their lunch choices reflect the things they are concerned about. How might we improve the lunch offered in the cafeteria (or other school location) so that it is more sustainable or more healthful?
2. Explain that the class will develop a questionnaire to find out what students think of the school's cafeteria food (or other school location) so that they can recommend improvements. Ask them what information or opinions they might want to learn from their fellow students. Begin a class list of ideas on the board.
3. Using the School Lunch Questionnaire as a guide, discuss and compare different forms of questions, such as yes/no, multiple choice, or open-ended questions. You might point out that multiple choice questions can be easier to tally and analyze, but that open-ended questions often give more interesting and unexpected responses. In either case, the questions should not be biased.
4. Divide the class into teams of about four students. Have each team brainstorm a list of possible questions, and then choose their two or three best ones. Direct teams to swap these questions with another team to test them out, and then revise the questions as necessary.



SCHOOL LUNCH SURVEY

5. List the teams' questions on the board. Discuss:
 - Will these questions provide the information we want?
 - Are there any duplicates or other questions we can eliminate?
 - Are there any questions we should add?
 - Does the questionnaire have enough questions to provide the information we want, without being too long?
 - Are the questions clear, concise, and unbiased?
 - What order of questions would be best?
6. Based on the discussion, make a draft questionnaire. Have students test it out by completing it themselves. Are there any other changes that would make it better? Have them revise the questionnaire or individual questions as necessary.
7. Make copies of the final questionnaire to use with other students in the school. Depending on what you have arranged with other teachers, students might take copies of the questionnaire to different classes to complete.
8. After all the questionnaires have been collected, have students compile the responses. For example, for questions that have a rating scale (like questions 3 and 6 on the School Lunch Questionnaire), they might tally and average the answers. Discuss their findings:
 - What do students think of the cafeteria food (or other option)?
 - Did any of their responses surprise you? How?
 - Based on our questionnaire, what recommendations could we make for improving the cafeteria's offerings (or other option)?
 - How might we use our results to support these recommendations?



SCHOOL LUNCH SURVEY

- How could you communicate your findings visually?
9. Have students develop a presentation of their results and recommendations using poster board, presentation software, or other means. Divide different tasks among teams so that everyone contributes to the process.
 10. Give students an opportunity to share their presentation with other classes, the principal, the food services manager, the school board, or other audience you have arranged.

ASSESSMENT

The presentation will provide insight into students' ability to create and analyze a survey tool and to develop recommendations based on it. For individual assessment of these tasks, ask students to write a paragraph summarizing the project, identifying specific ways they contributed to it, and what they gained from it.

EXTENSIONS

- Watch the short films "Twinkie vs. Carrot" and "No Free Lunch" on the *Nourish* DVD, in which Michael Pollan explains how government subsidies of some crops impact food cost and quality. Invite the school's food services manager to talk to the class about what factors go into making lunch menus. How much of a factor are cost, nutrition, and student appeal?
- Invite students to compare their lunch to school lunches from around the world (see <http://whatsforschoollunch.blogspot.com>). Which lunch is the most interesting to you? Which is the most appealing? What components are the same or different from your typical school lunch? What might these meals say about the country or school they come from? As an alternative, you might have students compare their lunch to school lunches described as "disgusting" by one blogger (see www.holytaco.com/2008/08/18/the-most-disgusting-school-lunches).
- Design an alternative school lunch menu for a day or week, taking into account such factors as taste, seasonality, and whether the food is local or organic.

ACTIVITY SIX

SCHOOL LUNCH QUESTIONNAIRE

Circle your best answer.

1. Do you ever eat in the cafeteria?

- a. Yes
- b. No

2. If you do not eat in the cafeteria, what is the reason?

- a. Too expensive
- b. Don't like the food
- c. Too crowded

d. Other: _____

If you do not eat in the cafeteria, please skip to **question 6.**

3. If you eat in the cafeteria, how would you rate the taste of the cafeteria food?

- 3. Delicious
- 2. Okay
- 1. Terrible

4. If you eat in the cafeteria, what is your favorite food there? _____

5. If you eat in the cafeteria, what is your least favorite food there? _____

6. How healthy do you think the cafeteria food is?

3. Healthy

2. Somewhat healthy

1. Unhealthy

7. Foods that are sustainable minimize negative effects on the environment. How sustainable do you think the cafeteria food is?

3. Sustainable

2. Somewhat sustainable

1. Not sustainable

8. Some schools have cafeteria food made with organic or locally grown fruits and vegetables. If the cafeteria offered healthier or more sustainable foods, would you be willing to try them?

3. Yes

2. Maybe

1. No

9. What is one thing you would suggest to improve the cafeteria or its food?



NOURISH ACTION PROJECTS

Nourish raises many issues involving our food, the environment, social systems, and more. It also suggests ways that students can take action on these issues and make a difference at home, at school, and in the community.

Action projects are more effective—and more fun—if they are done together as a group. Use the following suggestions to guide students in choosing, planning, and carrying out group action projects related to *Nourish* and to food.



BRAINSTORMING PROJECTS

- On the board, write the following six action categories from the *Nourish* DVD, leaving space under each: Teach and Learn, Grow Your Own, Create Community, Change the Menu, Shop Wisely, and Take a Stand.



NOURISH ACTION PROJECTS

- Ask students if they can recall any of the actions that were suggested in the film (you might have them refer to their Nourish Notes, from the Viewing Guide, and record them under the appropriate category on the board. For a complete list, see “Ideas for Action from *Nourish*” on page 68.
- Give students a couple of minutes to think of and add any other ideas that would fit under each category.
- Have students jot down on a piece of paper the six action categories and ideas for actions that they would like to take. They don’t need an idea for each category, but should have at least one idea for a minimum of three categories.
- Ask them to prioritize their ideas by writing a “1” next to the idea they are most interested in pursuing, a “2” next to their second choice, and a “3” next to their third choice.

FORMING GROUPS

- Label areas of the room with the six action categories.
- Form six student groups, each focusing on one of the action categories. First, ask students whose first choice was under the Teach and Learn category to sit in that designated area. Then, repeat this process with the other five categories. If the groups are very uneven in size, move students according to their second or third choice category.
- Distribute chart paper and marking pens to each group and a copy of the Action Plan student page to each student. Ask groups to choose a facilitator, a recorder, and a timekeeper.
- Explain that each group will select one action to take together, plan the action, carry out the plan, and then report to the class. For example, the “Change the Menu” group might plan simple sack lunch menus using whole grains, vegetables, and fruit to share with the class, or the “Take a Stand” group might identify local organizations that work on food issues and add their links to the school website.



NOURISH ACTION PROJECTS

CHOOSING PROJECTS

- Meeting in their group, the facilitator asks group members to share their action ideas, while the recorder writes them down on the chart paper. The facilitator should allow students to elaborate on their ideas, if they wish.
- After everyone's ideas are recorded, give groups a 10-minute period in which individual members can advocate for or against any of the ideas. A student can take up to one minute advocating, with the group's timekeeper watching the time. After students speak, they cannot advocate again until at least one other student has advocated.
- Following the 10-minute period, each group should select one action to carry out, either by voting or by consensus. (If there is strong resistance to an idea, a group could split into two groups with two different action ideas.)

PLANNING PROJECTS

- Once a group has decided on an action, they should follow the steps on the Action Plan student page to plan the project. Each individual should complete their own student page as the group develops its plans.
- After the plans are written, have each group paper-clip their sheets together and submit them to you for review and advice.
- Confer with each group about how and when they will carry out their action plans. Help them collect any resources they will need.

IMPLEMENTING PROJECTS

- When the plans are complete, students can get started on the project.
- Depending on the specific projects, allow daily or weekly class time for groups to meet and assess their progress.



NOURISH ACTION PROJECTS

- Check in periodically with groups to see how the projects are going. Are groups making progress on their planned steps and timeline? Have they run into any roadblocks? If so, is there a way that they could adjust their plan?

REFLECTING ON PROJECTS

- After the groups have carried out their actions, have them meet again to prepare an oral report to the class. Reports should include what the group did, what impact or benefit their action had, and any unforeseen challenges they met.
- Allow time for all the groups to present their reports. Discuss with students what they learned from the experience. Ask, “How did it feel to do something for our school or community? What did you like about doing the action projects? What was difficult? Would you like to continue the action your group started or is there something else you would like to try? Is there anything we could do as a class?”

NOURISH ACTION PROJECTS

ACTION PLAN

Name _____

Other Group Members _____

Date _____

1. Describe the action your group plans to take.

2. Who else *should* be involved? (Parents, siblings, classmates, friends, and so on.) Who else would you *like* to involve?

3. List the steps you will need to do to carry out this action.

4. What resources, equipment, or other things will you need?

5. How much time will it take for your group to carry out this action project? Make a timeline to map out the steps you will take.

6. What will be your role in carrying out this action project? (This should be completed by each person in the group.)



IDEAS FOR ACTION FROM NOURISH

TEACH AND LEARN

Ask questions. Exercise your right to know the story of food.

Find out what produce grows in your area and what is in season.

Have a conversation about your family's food choices.

GROW YOUR OWN

Start an urban or school garden. You can even grow some vegetables and herbs at home.



IDEAS FOR ACTION FROM NOURISH

CREATE COMMUNITY

Make a meal with others and begin your own tradition of good food.

Meet the people who grow your food. Support local farmers and food artisans.

CHANGE THE MENU

Ask for more local and organic options in schools, restaurants, and workplaces.

Request seafood that is good for the oceans and for you.

Eat more vegetables, grains, and fruit. You'll feel better and live longer. And stay active. Eat well and play hard.

SHOP WISELY

Select certified organic foods that are grown without harmful chemicals.

Choose fair trade certified products. You'll improve the lives of farmers and farm workers around the world.

Understand what's in processed food. Check out the ingredients: fewer is usually better.

TAKE A STAND

Amplify your voice by joining an organization working on food issues.

Become an informed citizen. Learn how your government's policies affect the food you eat.

Insist on healthy food for all.



RESOURCES

The following resources offer additional information on the topics raised by *Nourish*. Please note that this is a select list of our favorites, and there may be many other excellent resources for both students and teachers on these topics.

FOR STUDENTS

Adbusters. www.adbusters.org. Magazine and website dedicated to anti-consumerist activism.

Discovering Careers for Your Future: Food. New York: Ferguson, 2005. An exploration of many different jobs related to the production of food.



RESOURCES

Eat Local. Natural Resources Defense Council. www.simplesteps.org/eat-local. Online tool for learning what is fresh in your state at a given time of year.

Field to Plate. www.fieldtoplate.com/guide.php. Web links to seasonal calendars by state.

Homegrown. <http://urbanhomestead.org>. Film profiling a family in Pasadena, California, who grow their own food.

Local Harvest. www.localharvest.org. Online tool for finding farmers' markets, family farms, CSAs, restaurants, and other sources of locally grown food in your area.

Menzel, Peter, and Faith D'Aluisio. *Hungry Planet: What the World Eats*. Material World, 2005. A photographic study of families from around the world showing what they eat during the course of a week.

Morris, Neil. *Do You Know Where Your Food Comes From?* (Making Healthy Food Choices series). Chicago: Heinemann-Raintree, 2007. An illustrated introduction to how and where food is produced.

Pollan, Michael. *The Omnivore's Dilemma for Kids: The Secrets Behind What You Eat*. New York: Dial, 2009. Based on Pollan's best-selling adult book of the same title, a slightly shortened version exploring the sources of our food.

Seafood Watch. Monterey Bay Aquarium. www.montereybayaquarium.com/cr/seafoodwatch.aspx. Pocket guides that suggest ocean-friendly seafood choices.

Wilson, Charles, and Eric Schlosser. *Chew On This: Everything You Don't Want to Know About Fast Food*. London: Sandpiper, 2007. A behind-the-scenes look at the fast-food industry.

FOR TEACHERS

Big Ideas: Linking Food, Culture, Health, and the Environment. Berkeley, CA: Center for Ecoliteracy, 2008. A K–12 conceptual framework for integrated learning related to food.

Cornell University Food and Brand Lab. <http://foodpsychology.cornell.edu/>. Research findings and teaching tips on a variety of topics related to the psychology of why, what, when, and how much we eat.



Lappé, Anna. *Diet for a Hot Planet: The Climate Crisis at the End of Your Fork and What You Can Do About It*. New York: Bloomsbury, 2010. A critique of industrial farming and a proposal for a more climate-friendly food system.

Pollan, Michael. *In Defense of Food: An Eater's Manifesto*. New York: Penguin, 2009. An analysis of the American diet and industrial food system, including suggestions for how to change the system and eat better.

RESOURCES



GLOSSARY

ADVERTISING: giving information about something for sale

BIASED: favoring one person or thing over another

BIOREGION: a land area that shares similar plant and animal species, water, climate, soils, and human culture

BRAND LOYALTY: preferring one brand of a product over others

CARNIVORE: organism that eats animals or animal parts to survive



GLOSSARY

COMMUNITY SUPPORTED AGRICULTURE (CSA): a farm that has community members pay an annual or quarterly fee in exchange for a weekly share of produce or other farm products

COMPOSTING: the process of decomposing food waste

CONSUMER: (1) organism that eats other organisms to survive; (2) someone who buys and uses products or services

CULTURE: a set of shared traditions, customs, and values of a group of people

ECOSYSTEM: a community of plants and animals interacting with their environment

ENVIRONMENT: the natural world, including plants, animals, and the physical landscape

EVIDENCE: information that tends to prove or disprove something

FOOD SYSTEM: the interdependent people and processes that provide food to a community

FOODSHED: a defined area from which food is grown, processed, purchased, and eaten

HARD-WIRED: born with, not learned

HERBIVORE: organism that eats plants or plant parts to survive

INDUSTRIAL FOOD SYSTEM: a system of large-scale, mechanized food production focused on efficiency and profit

LOCAL: from the nearby area

LOCAL FOOD SYSTEM: a system of small-scale food production focused on growing and selling food locally, sustaining local economies and ecosystems



GLOSSARY

MARKETING: promoting goods or services

MONOCROP: growing a single crop over a large area

NUTRIENT: something needed by living things to promote growth

ORGANIC FOOD: food that is grown without the use of artificial fertilizers and chemical pesticides

ORGANIC MATTER: dead plant or animal material

PHOTOSYNTHESIS: process of chlorophyll in green plants turning light energy into chemical energy to make food

POLL: get people's opinions (verb)

POLLINATION: the transferring of pollen from one plant flower to another by organisms or wind

PROCESSED FOOD: food that has been altered from its natural state by drying, freezing, boiling, canning, or other procedures

PRODUCER: an organism that can change light into chemical energy, producing food

QUESTIONNAIRE: a list of questions used to get information or people's opinions

RADIUS: a line segment from the center of a circle to its edge

SEASONALITY: the time of year when a fruit or vegetable would naturally ripen

SPOOF: to imitate a piece of work in a way that makes fun of the original

SURVEY: a study of what people think about something



SUSTAINABLE: meeting current environmental, economic, and social needs without compromising the well-being of future generations

SYSTEM: a collection of parts or components that interact with one another to function as a whole

TECHNIQUE: a method of doing something

TRADITION: a custom or belief that is handed down from one generation to the next

WHOLE FOOD: food in its natural state

GLOSSARY

NATIONAL STANDARDS

This curriculum addresses the following national curriculum standards and benchmarks:

ACTIVITY	1	2	3	4	5	6	ACTION PROJECTS
NATIONAL SOCIAL STUDIES STANDARDS¹							
Standard Ia: Compare similarities and differences in the ways groups, societies, and cultures meet human needs and concerns. (Culture, Middle Grades)	●		●			●	
Standard IVb: Describe personal connections to place—as associated with community, nation, and world. (Individual Development and Identity, Middle Grades)		●	●				
Standard IVh: Work independently and cooperatively to accomplish goals. (Individual Development and Identity, Middle Grades)							●
Standard Xc: Locate, access, analyze, organize, and apply information about selected public issues—recognizing and explaining multiple points of view. (Civic Ideals and Practices, Middle Grades)					●	●	●

¹ National Council for the Social Studies. *Curriculum Standards for Social Studies*. Washington, DC: National Council for Social Studies, 1994.

ACTIVITY	1	2	3	4	5	6	ACTION PROJECTS
NATIONAL SCIENCE EDUCATION STANDARDS²							
Content Standard C: Develop understanding of structure and function in living systems, reproduction and heredity, regulation and behavior, populations and ecosystems, and diversity and adaptations of organisms. (Life Science, Grades 5–8)		●		●			●
Content Standard C: Develop understanding of personal health; populations, resources, and environments; natural hazards; risks and benefits; and science and technology in society. (Science in Personal and Social Perspectives, Grades 5–8)	●	●		●			●
BENCHMARKS FOR SCIENCE LITERACY³							
Benchmark 5E/1: Food provides molecules that serve as fuel and building material for all organisms. Plants use the energy from light to make sugars from carbon dioxide and water. (Flow of Matter and Energy, Grades 6–8)				●			
Benchmark 5E/3: Almost all food energy comes originally from sunlight. (Flow of Matter and Energy, Grades 6–8)				●			

² National Research Council. *National Science Education Standards*. Washington, DC: National Academy Press, 1996.

³ American Association for the Advancement of Science. *Benchmarks for Science Literacy*. New York: Oxford University Press, 1993.

ACTIVITY	1	2	3	4	5	6	ACTION PROJECTS
BENCHMARKS FOR SCIENCE LITERACY (CONT.)							
Benchmark 6E/2: Toxic substances, some dietary habits, and some personal behaviors may be bad for one's health. Some effects show up right away, others years later. Avoiding toxic substances, such as tobacco, and changing dietary habits increase the chance of living longer. (Physical Health, Grades 6–8)	●				●	●	●
Benchmark 8A/3: In agriculture, as in all technologies, there are always trade-offs to be made. Getting food from many different places makes people less dependent on weather in any one place, yet more dependent on transportation and communication among far-flung markets. (Agriculture, Grades 6–8)	●	●				●	●
NATIONAL HEALTH EDUCATION STANDARDS⁴							
Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.	●		●		●	●	
Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.							●
Standard 8: Students will demonstrate the ability to advocate for personal, family, and community health.					●	●	●

⁴ The Joint Committee on National Health Education Standards. *National Health Education Standards: Achieving Excellence* (2nd Edition). Atlanta: American Cancer Society, 2007.

ACTIVITY	1	2	3	4	5	6	ACTION PROJECTS
COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS⁵							
Conduct short research projects to answer a question, drawing on several sources. (Writing: Research to Build and Present Knowledge, Grades 6–8)		●		●		●	
Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade [level] topics, texts, and issues, building on others' ideas and expressing their own clearly. (Speaking and Listening: Comprehension and Collaboration, Grades 6–8)	●	●	●	●	●	●	●
Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation. (Speaking and Listening: Presentation of Knowledge and Ideas, Grades 6–8)	●		●			●	●
Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest. (Speaking and Listening: Presentation of Knowledge and Ideas, Grades 6–8)	●	●			●	●	

⁵ The National Governors Association Center for Best Practices and the Council of Chief State School Officers. *Common Core State Standards for English Language Arts and Literacy in History/Social Studies & Science*. June 2010.



IMAGE CREDITS

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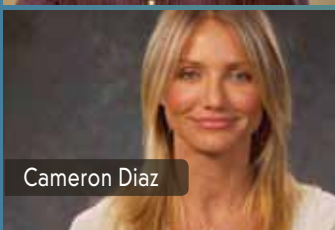
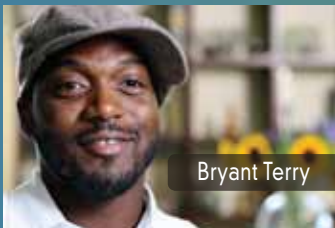
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ABOUT THE CENTER FOR ECOLITERACY

The Center for Ecoliteracy is dedicated to education for sustainable living. Through its initiative Smart by Nature™, the Center offers expertise, inspiration, and resources to the sustainability movement in K–12 education, including the book *Smart by Nature: Schooling for Sustainability*, which showcases inspiring stories about school communities across the nation. The Center offers a seminar program, consulting services, curriculum development, and a publishing imprint that produces *Big Ideas: Linking Food, Culture, Health, and the Environment*, a conceptual framework for integrated learning, and the Rethinking School Lunch Guide, a downloadable planning framework that offers creative solutions. Learn more at www.ecoliteracy.org

ABOUT WORLDLINK

WorldLink is an Emmy Award-winning media and design group dedicated to education for sustainability. WorldLink produces PBS television programming, digital media, museum exhibitions, curriculum resources, professional development seminars, and youth summits to engage and inspire a new generation of change agents. Recent national initiatives include Power Shift: Energy + Sustainability and Nourish: Food + Community. The purpose of Nourish is to open a meaningful conversation about our food system that moves people from understanding to action. Learn more at www.goworldlink.org and www.nourishlife.org



Be part of the food revolution.

Do you ever stop and wonder: *What's the story of my food?* Where did it come from, and how did it get to me? Food connects us to some of the most important questions of our time. The food choices we make—individually and as a society—create a ripple that is felt around the world.

This middle school curriculum guide provides background, lessons, and student handouts to actively engage middle school students in a meaningful conversation about food and food systems. Used together with the film *Nourish: Food + Community*, it gives students opportunities to reflect on current food practices, explore more sustainable ones, and link their learning to relevant action.

The Center for Ecoliteracy is a nonprofit foundation dedicated to education for sustainable living. Learn more at www.ecoliteracy.org

An initiative of WorldLink, Nourish inspires new understandings about food and sustainability. Learn more at www.nourishlife.org

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