

IN DEFENSE OF FOOD

CURRICULUM

A companion to the PBS documentary
based on Michael Pollan's best-selling book



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November 2015
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For after-school programs, ages 10 to 14
Adaptable for other settings and ages



IN DEFENSE OF FOOD CURRICULUM

In Defense of Food is a project of Kikim Media, LLC. The centerpiece of the project is a two-hour PBS documentary. It also includes a web site (pbs.org/indefenseoffood), materials for organizing community screenings and house parties (including a shorter version of the documentary) and Spanish-language materials. This accompanying curriculum for middle school aged students was developed in partnership with the Laurie M. Tisch Center for Food, Education & Policy, Program in Nutrition at Teachers College, Columbia University.

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pbs.org/indefenseoffood

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To the students and teachers who participated in the pilot test,
for enthusiastically and graciously sharing their lives with us.



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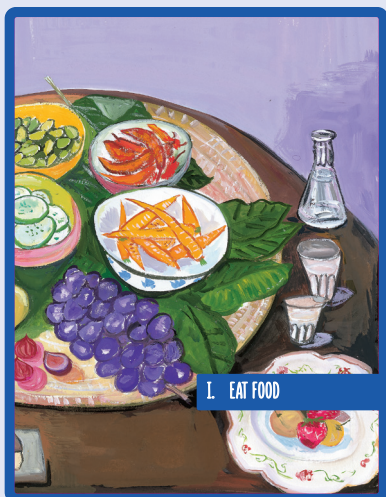
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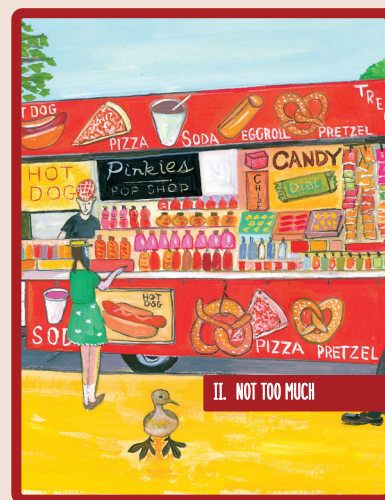


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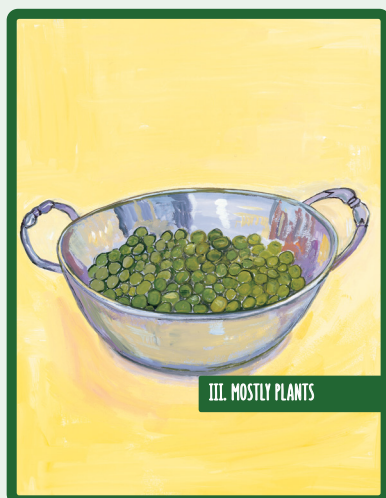


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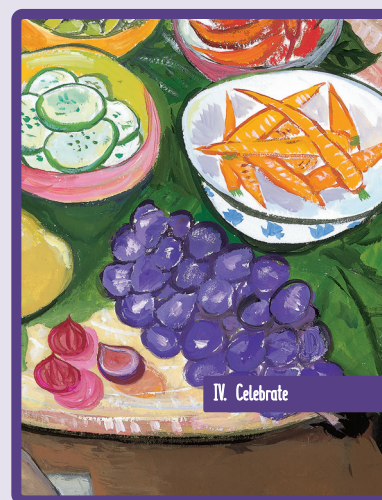
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FORWARD

I began the research for the book that would become *In Defense of Food* because so many of the readers of my earlier books on food told me that what they really wanted to know was something very practical: what they should eat to be healthy. They said they felt whipsawed and confused by the constant changes in the nutritional advice they were hearing. Once I began to understand what we really do know about food and health, I discovered, to my surprise, that the answer to their question was a lot simpler than I had thought it would be. Healthy eating does not require us to master a lot of complex biochemistry, or read stacks of scientific articles. All we have to do, I found out, can be summed up in seven words: Eat food. Not too much. Mostly plants.

But while the key to healthy eating is simple, putting it into practice, for many of us, unfortunately is not. When I say, “Eat food,” I’m talking about real food, the kind that people have been eating for tens of thousands of years. Meat. Fish. Vegetables. Fruits. Grains. But today, in the United States as well as in many other developed countries, most of what we’re sold in supermarkets or served in restaurants is not real food at all, but highly processed products made in factories. I call them “edible food-like substances.” They’re things like processed meats, sugary beverages, convenience foods, snack foods, fast foods, and junk foods.

These products have enormous appeal, because they’ve been engineered to be tasty and cheap. But they are not good for our health. As our consumption of them has gone up, especially over the past three decades, so have our rates of diet-related diseases. Children and teenagers are especially vulnerable to unhealthy processed food. They are the targets of billions of dollars of advertising for candy, fast foods, sugary beverages and sugary breakfast cereals. A generation ago, it was exceedingly rare for a child or teenager to have type 2 diabetes. Now, tragically, it has become increasingly common.

But all of us, working together, can take simple, practical steps that can help our children and teenagers to take control of their own diets, and move away from “edible food-like substances” and toward real food. We are offering one of those steps here. We have developed a curriculum, based on the book and film versions of *In Defense of Food*, to help teach kids about healthier eating, and encourage them to make changes in their own lives. We have worked hard with our colleagues at Teachers College, Columbia University to make this curriculum not only informative and effective, but also a great deal of fun, with lots of imaginative, enjoyable exercises and recipes for real food dishes for kids to make themselves.

I am delighted to see my work give rise to this exciting new project. I think it can really make a difference in young people’s lives.



Michael Pollan





WELCOME

Dear Educator,

Welcome to the *In Defense of Food (IDOF) Curriculum*. It is designed to help adolescents develop something valuable: practical tools for healthier eating. Even though scientists know a lot about food and health, the messages that reach adolescents about healthy eating have become increasingly complex and contradictory. And at an age where they are gaining independence to make their own food choices, they are barraged with advertising that urges them to consume more and more highly processed food products—soda, chips, junk food and fast food—that can put their health at risk. In recent years, there has been an alarming increase in diet-related diseases among adolescents, such as type 2 diabetes.

The *IDOF Curriculum* can do a lot to help. It helps students learn why it is important to eat healthfully, investigate how food companies influence their food choices, and create action plans for changing their eating habits. They become motivated to eat real food, and excited to share what they’ve learned with their family, friends, and community. The *IDOF Curriculum* has three guiding principles:

1. **Challenge students’ perceptions of what “food” is.** The overall framework of the curriculum is Eat food. Not too much. Mostly plants. The seven words that comprise Michael Pollan’s answer to the question, “What should I eat to be healthy?” Students explore what Pollan means by food, which is real food, that comes from nature, as opposed to the highly processed products that surround them.
2. **Connect with the everyday experiences of middle schoolers** by combining activities that have “shock appeal,” such as unveiling cunning marketing strategies, along with preparing and eating tasty plant-based dishes to make these foods fun and cool.
3. **Apply research-based strategies** that motivate young people to make healthy food choices, and teach skills to help them navigate today’s challenging food environment.

The *IDOF Curriculum* is comprised of 10 sequential, two-hour lessons. Lessons 1–3 (Eat Food) explore the differences between real food and the highly processed products we have termed “dud foods.” These are what Pollan calls edible food-like substances. At the same time, students increase their desire to Eat Food. Lessons 4–6 (Not Too Much) explore the health consequences of eating too much—especially too much dud food—and encourage students to create plans to make changes in their own lives and in their community. In Lessons 7–9 (Mostly Plants), students look at what it means to eat mostly plants, and get to cook and eat tasty plant-based meals and snacks. Finally, Lesson 10 brings together everything that students have learned and encourages discussion of how they are going to continue to eat foods instead of dud foods in the future.

We hope you and your students enjoy the *In Defense of Food Curriculum*. We wish you success on the path to Eat food. Not too much. Mostly plants.

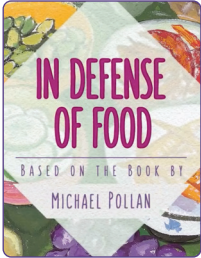
Warmly,

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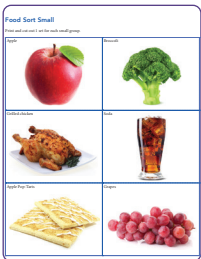
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GETTING STARTED

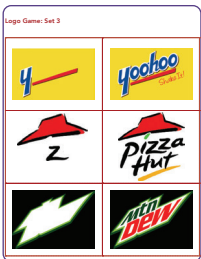
This curriculum was created for middle school after-school programs. After-school programs provide a great setting for two-hour sessions with a variety of lively and hands-on activities. But we also believe that this curriculum can be adapted for students from age 10 through adulthood in a wide range of settings. We encourage you to teach the lessons sequentially and do all 10 of them. If you have limited time, or just want to try out some activities, we recommend that you:



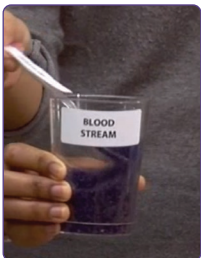
Watch any of the *In Defense of Food* film clips that go with these lessons. See www.pbslearningmedia.org/collection/in-defense-of-food/. Have a discussion after the clip, ask the discussion questions that are in the procedure section of the lessons.



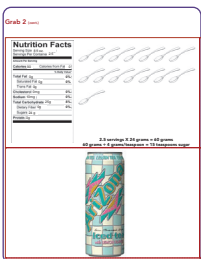
Try out the **Food Sort** activity in Lesson 1. See the *Food Sort* guide sheet p. 33, *Food Sort Small* cards p. 35 and *Food Sort Large* cards p. 37. This activity will help students become aware that some foods help us do what we want to do (e.g., play sports, write poems, sing, dance) while others do not.



Play the **Logo** game in Lesson 4. See Lesson 4, procedure #3 p. 117 and the *Logo* and *Logo Game* cards, p. 121 and p. 124 respectively. In this activity students see cards with a partial food logo and try to guess the brand. Then the full logo is revealed. After completing all cards, ask students if it was easy or hard to recognize the logos and why. Then ask them, “Does seeing the logos make you want the foods? Why do you think so many of us can recognize these logos so quickly?”



Conduct the **Investigating Blood Sugar** activity in Lesson 6. See the *Investigating Blood Sugar* guide sheet p. 186. Students learn how type 2 diabetes develops and what they can do to prevent it.



Do the **Grab 2** activity in Lesson 6. See Lesson 6, procedure # 5 p. 180 and the *Grab 2* cards p. 188. Have students choose a snack and beverage card and add up the total teaspoons of sugar. Students then compare this total to the recommendation of no more than 12.5 teaspoons of sugar a day. Ask students to guess why snacks and beverages have such high levels of sugar.



OVERVIEW

The *In Defense of Food Curriculum* investigates the reasons why it's hard to eat well, celebrates the many benefits and pleasures of healthier eating, and teaches practical steps for how to Eat food. Not too much. Mostly plants.

Lessons	Aims	Food Rules	Film Clip
<i>Eat Food</i>			
1: Where are the Soda Trees?	Introduce <i>In Defense of Food Curriculum</i> and the concept of foods vs. dud foods.*	Eat what you can picture growing in nature.	Meet Anthony Scavotto
2: Chemical Cuisine	Increase awareness of the benefits of eating more foods and fewer dud foods.*	Eat foods with ingredients that a third grader could pronounce.	Salt, Sugar, Fat
3: The Claim Game	Explore how companies use marketing strategies on food packaging to get us to buy products.	Avoid products that make health claims.	Dud Food Phads
<i>Not Too Much</i>			
4: Don't Be Phooled	Examine how food advertising and marketing influence us, often on a subconscious level.	Avoid foods you see advertised on television.	Marketing Low-Fat
5: Supersized	Increase awareness that our environment influences when, what, and how much we eat.	Choose smaller plates and cups.	Serve More, Eat More
6: Dia-beat It!	Understand that eating dud foods instead of foods increases our risk of getting sick.	Make water your beverage of choice. Sweeten and salt your food yourself.	Sugar Flood Diabetes: An Epidemic
<i>Mostly Plants</i>			
7: Rooting for Plants	Increase familiarity with and excitement about eating plant-based foods.	If it came from a plant eat it; if it was made in a plant don't.	Going Farming!
8: Color Your World	Build confidence and desire to eat Mostly Plants.	Eat your colors.	Vegetable Surprise
9: Lettuce Turnip the Beet	Create practical strategies to keep following the Food Rules...most of the time.	Eat more like the French do.	Secrets of the French
<i>Celebrate</i>			
10: Eat food. Not too much. Mostly plants.	Celebrate and share what students have learned throughout <i>In Defense of Food</i> .	Break the rules once in a while.	Join the Movement

* This is our term for what Michael Pollan calls "edible food-like substances."



KEY FEATURES

Our current food environment makes it hard for our children to follow Pollan's Food Rules. To help them, the *In Defense of Food Curriculum* includes several key features.

Watch Film Clips from *In Defense of Food*

In Defense of Food sheds new light on the challenges we face every time we sit down to eat. Incorporating two- to five-minute film clips within each lesson generates curiosity, stimulates thinking, and synthesizes what students learn through the lesson activities. Students see how uncertain and incomplete science has shaped what food is available and how Americans eat. They view the real life struggles to eat healthfully that some of their peers face and learn how they are overcoming those obstacles. They witness the momentum and excitement of the growing food movement in the United States. Each film clip is accompanied by thought-provoking questions to encourage conversation. Every lesson includes links to the film clips on the PBS website.

Learn Food Rules

Every lesson incorporates one or two of Michael Pollan's practical, memorable Food Rules to help students put what they have learned into action. Students discuss ways the Food Rules can help them navigate our complex food environment. They receive an activity sheet with the Food Rule to share with their families and are encouraged to watch the *IDOF* film clip(s) together.

Prepare and Eat Food

Most lessons provide an opportunity to eat real food. Preparing and eating food with their peers is a powerful way to motivate students and build their confidence about eating real foods. As students eat together they are encouraged to try everything, especially new foods. They learn that we often have to taste new foods several times before deciding if we like them. And they learn to respect each other's varied tastes and cultural preferences.

Conduct Card Activities

The lesson activities are interactive and support peer-to-peer discussions. Many lessons use cards as visual prompts that support critical thinking.

Create *Capture It* Pieces

A few times during the curriculum, students are asked to take a photograph or draw a picture of a food and a dud food that play a role in their lives. They also write a few sentences about their images. These *Capture It* pieces allow students to bring what they are learning out of the classroom and reflect on how the world around them impacts their food choices and health. They share their *Capture It* pieces as they go through the curriculum and at Lesson 10's culminating celebration.

Make Action Plans

Even after we are motivated to eat more healthfully, it can still be hard to make lasting changes. To help students do so, they create action plans throughout the course of curriculum that specify the changes they would like to make. Students then report on their progress. They are encouraged to support each other and brainstorm creative solutions to overcome challenges they face. In Lesson 9, students review all of their action plans and consider how to transform their changes into habits.

Complete and Share Culminating Projects

Throughout the curriculum, students work independently or in groups on projects that will be displayed and shared during Lesson 10. These include their *Capture It* pieces, spoken word poems, skits, and an ad for a plant-based food. Culminating projects give students an opportunity to reflect on their progress.



GATHERING MATERIALS

Basic Materials

Almost everything you need to teach this curriculum is included in this guide. Some of materials need to be printed and copied and some of the lessons will also require various kinds of food that needs to be purchased. We anticipate that preparation for each lesson will take about two hours. The materials and food for a class of 10–15 students will cost about \$250 for all 10 lessons. Specific materials for each lesson are provided with each lesson plan.

General materials you will need for many lessons are:

- Audiovisual (AV) equipment to stream the *IDOF* film clips, which are available at www.pbslearningmedia.org/collection/in-defense-of-food/.
If you do not have Internet access, email eatfood@kikim.com to get a DVD of the film clips.
- Board or chart paper
- Pencils
- Paper
- Markers
- Tape
- Scissors
- Tasting cups
- Napkins

Food for Tastings and Food Preparation

Many of the lessons provide students opportunities to taste and prepare food. Some of them will give you choices about what kinds of food to purchase. The **Preparation Sheets** review the options. If you can, try to get some foods that are familiar to your students and some that are new. Most importantly, purchase the foods from a source in the community where you teach, so that students can get the foods again with their families.

If there is a farmers market in the community where you teach, purchase foods from there whenever you can. Talk to the farmers since most will be delighted that you are using the food for a youth education program. Tell students about the farmers who grew the food they are eating. You could also consider taking a field trip to the farmers market. Some offer visits designed specifically for youth.

Gymnema Tea for Lesson 2

In Lesson 2, students conduct an activity with Gymnema tea. This is a special tea that blunts our ability to taste sweetness for about 30 minutes. Select a loose leaf variety. You'll need about 14g (½ an ounce, or ½ cup of loose tea leaves) for a class of 10–15 students. You may find Gymnema tea in a health food store. You can also order it online. Try the following website searches:

- All Life Service Gymnema tea
- Diabe Tea Gymnema tea
- Starwest Botanicals Gymnema tea

HOW TO USE THIS CURRICULUM

All lessons are structured in a similar way to be clear and easy to use. Lessons may include: 1) First Bite, 2) Lesson Opener, 3) Before You Begin, 4) Preparation Sheet, 5) Procedure, 6) Activity Sheet, 7) Cards, 8) Guide Sheet, 9) Lesson Resource, 10) Family Sheets, and 11) Recipes.

1. First Bite



The **First Bite** provides the big picture of why this lesson is important. These also have evidence from research that supports the content of the lesson. First Bites may be appropriate to share with school administrators and parents.

2. Lesson Opener



The **Lesson Opener** provides an overview of the lesson and a list of materials needed. This page includes:

Aim The broad goal of the lesson.

Food Rule A catchy rule that helps students apply what they learn to their lives. Food rules are from the *IDOF* film and from Michael Pollan's book *Food Rules*.

Film Clip A two- to five-minute clip from *IDOF* that helps to set up activities or synthesize the content of the lesson.

Objectives What the students will think, feel, and be able to do differently as a result of this lesson.

Overview: Description of what happens during the lesson.

Materials — In this guide: Lists resources that are supplied in this curriculum. These resources are always ***bold-italic***, with the page number specified.

Materials — Other materials: This is what you will need to gather for this lesson. Sometimes this list will refer you to another sheet in the curriculum for an activity that has specific materials.

HOW TO USE THIS CURRICULUM (CONT.)

3. Before You Begin

Before You Begin: Total prep time: approximately two hours

Within a few days before lesson

1. Select, purchase, and prepare seeds for the tasting activity. See *Choosing Seeds for Tasting* preparation sheet p. 21 for options and for how to prepare the seeds.
2. Review the entire lesson.

Within a day before lesson

3. Print and cut out cards:
 - *Food Sort Small cards* p. 25, one set for each group of 3-4 students.
 - *Food Sort Large cards* p. 27, one set.
 - *Salsa Trees cards* p. 43, one set.
4. Print one copy per student of each activity sheet:
 - *Getting to Know Your Range* activity sheet p. 32
 - *Food Rules Lesson 1* activity sheet p. 42
5. Range and salsas activities: Identify an area of the room in which students will have space to move around.
6. Strengths and hopes activity: Draw a tree showing the roots and leaves on board or chart paper with markers.
7. Food and activity: Identify a wall to tape up a sheet of chart paper on which to draw a chart with two columns.
8. Viewing IDOF film clip:
 - Set up AV equipment and space for film viewing.
 - Find IDOF film clip 1: Meet Anthony Scavotto at www.phlearningmedia.org/resources/in-defense-of-food/meet-anthony-scavotto/.
9. Seed tasting: Prepare seeds for the tasting activity. See the *Tasting Seeds* lesson resource p. 46 for details.

LESSON 1: WHERE ARE THE SEEDS TRELLIS? 22 EAT FOOD

Before You Begin details what you need to do to prepare for each lesson. We anticipate that the lessons will each take approximately two hours of preparation time.

The list of tasks always has a colored background--blue in the Eat Food section, red in the Not Too Much section, and green in the Mostly Plants section--for a visual cue that this is the **Before You Begin** page.

Within a few days before lesson: Activities, often related to cooking, that will require shopping or other preparation that might take some time.

Within a day before lesson: Preparing materials provided in the curriculum, such as copying pages for students and cutting out cards for various activities, as well as other preparation activities.

4. Preparation Sheet

Preparation Sheet

Fun Fruit

There are so many unique and interesting fruits. Some are star shaped, look like a Morfisch, or have spikes. Exploring fruits with students is a great way to get them excited about different foods. Listed below are some interesting and unusual fruits from around the globe. Select two or three fruits for students to taste. Some may be harder to find than others. See what you can find in your local grocery store or farmers market.

Note: Wash all fruit before cutting and serving.

Give each student a toothpick, spoon, and napkin. Have students serve themselves pieces of the fruit with toothpick or spoon as appropriate.

Dragon fruit

Dragon Fruit is the fruit of a cactus plant. The outside is usually red and green and the inside is either white or red with little black crunchy seeds. It is often compared to jello with a very mild flavor.

To prepare for tasting: Cut the fruit in half. Use a spoon to scoop out the flesh and place on a plate.

Horned melon

Horned melon is a fruit in the cucumber and melon family. It has horn-like spines on the outside, hence the name. Inside the fruit is lime green and jelly-like with a tart flavor.

To prepare for tasting: Cut the fruit in half. Use a spoon to scoop out the soft flesh inside. Place in a bowl.

Lychee fruit

Lychee fruit comes encased in pink-red rough textured skin, which is inedible. Peel the skin and you'll find a sweet white fruit inside with a floral flavor.

To prepare for tasting: Place in bowl. Student can take one lychee fruit and peel it themselves to taste. Warn them not to swallow the pit inside.

Star fruit

Can you guess where this fruit gets its name? The entire fruit is edible. It is a sweet fruit that has the texture of a grape.

To prepare for tasting: Slice the fruit laterally into star shaped pieces and place them on a plate.

LESSON 4: THE CUCUMBER CACTUS 23 EAT FOOD

The **Preparation Sheet** provides you with extra information to get ready for the lesson. Usually they are for the cooking portion of the lesson and explain the ingredients and recipes you will be preparing.

The **Preparation Sheet** always has a gray background. If there is a **Preparation Sheet** in a lesson, it comes directly after the **Before You Begin** page.

5. Procedure

Procedure (cont.)

Part 2 (60 min.)

5. Taste Why So Many Ingredients are Added (30 min.)

Often, ingredients are added to make products taste irresistible so people purchase them again and again. Salt, sugar, and fat are common ingredients in diet foods. Other ingredients are added to keep products from setting for days, weeks, months, and even years! Ingredients can also change how products look and feel in your mouth. For example, sugar can mask otherwise unappealing flavors.

Lead a tasting that allows students to see what some common diet foods would really taste like without all the added sugar. Have them wash or sanitize their hands, and join you in the designated tasting area. Be sure each student has a tasting cup with tea, two halves of a Starburst candy, a sugar packet, and a napkin.

Tell students this experiment has a specific order and not to drink or eat anything until you say so. Have students eat ONE HALF of the Starburst. Have students take a mouthful of tea and swirl it around. After 30 seconds students can swallow the tea.

Have students eat the SECOND HALF of the Starburst. This will allow them to taste the candy without the sweet flavor. Students can examine the wrapper from the Starburst to see the ingredients that are in them besides sugar. Have students open the sugar packet and pour the sugar into their mouth. The sugar will have no flavor.

Ask students, how did the candy taste different after drinking the tea? How does this make you feel differently about eating diet foods?

6. Watch IDOF Film Clip 2: Salt, Sugar, Fat (20 min.)

Now that students have an understanding of what is in diet foods, have them join you in an area of the room set up for video viewing. Play the IDOF film clip 2: Salt, Sugar, Fat to explore why diet foods have many irresponsible ingredients and why so much fat, sugar, and salt are added. Following the film clip, have a discussion with students.

The Western Diet, as Pollan calls it, is what most of us eat. What does it include? Lots of meat, lots of sugar, and lot of oils, and few fruits and vegetables. What type of foods and diet foods are included in the Western Diet? Do you think a Western Diet helps us reach our goals? Why or why not?

LESSON 5: CUCUMBER CACTUS 24 EAT FOOD

The **Procedure** provides step-by-step instructions for teaching the lesson. In some sections of the procedure you will be referred to related resources: **activity sheets**, **cards**, **guide sheets**, and **lesson resources** that are described below.

Additionally, within the procedures there are two icons:



Indicates that the *In Defense of Food* film clip will be watched in this section.



Indicates that students will prepare food and eat in this section.

HOW TO USE THIS CURRICULUM (CONT.)



6. Activity Sheets

Activity Sheet

Name _____ Date _____

Getting to Know You Bingo

Begin by writing your name in the center Bingo box. Then, find a person in your class who has done the following things and write his or her name in the box. You can only use each person a maximum of two times to fill in a box. The first person to complete a row of boxes wins.

Find someone who...				
Can name this plant part	Has watched a food documentary	Has thought about how food helps them	Can name a fruit that grows on a tree	Has talked to a family member about a family recipe
Has written a poem	Can name a vegetable that grows from the ground	Has eaten a flower	Can tell you 3 ingredients in a chocolate chip cookie	Knows what this is 
Has made up a commercial	Can tell you what diabetes is	I _____ am a Food Defender	Has made homemade soda	Has given advice to someone on how to be healthy
Has ordered a small instead of a large at a restaurant	Knows how many spoonfuls of sugar are in a 20 ounce soda	Can name an edible plant part	Knows what plant popcorn comes from	Has eaten a seed before
Can name this fruit 	Has set a goal for something they want to accomplish	Has acted in a play or did	Drank water today	Has heard of high-fructose corn syrup

LESSON 1: MEET AND THE SOON TRUSTY - 92 - EAT FOOD

Activity sheets are for students to complete during activities in the lessons. Make a copy of activity sheets for each student.

7. Cards

Cards

Food Sort Large (cont.)

Corn



Cheetos



LESSON 1: MEET AND THE SOON TRUSTY - 93 - EAT FOOD

Cards are used during activities in the lessons. The instructions for how many copies and any preparation of the cards are on the top of the sheet and also in **Before You Begin**.

8. Guide Sheet

Guide Sheet

Food Sort

The purpose of this card sorting activity is to help students recognize that eating certain types of food can help them to achieve their hopes and goals, while others might hinder them.

Materials

- Board or chart paper
- Tape

For Each Group

- Green and red marker

Set up

1. On board or chart paper, draw the chart in Image A on next page.
2. Have one set of **Food Sort Large** cards, 27 and tape handy in the front of the room.
3. Prepare one set of the **Food Sort Small** cards, 28 and a red and green marker for each group of three to four students.

Procedure

1. Divide students into small groups of 3-4 and give each group one set of the **Food Sort Small** cards and a pencil.
2. Tell them to think about what they already know about food and sort the cards into two categories: a) **HELP**, those that will help them achieve the hopes they identified earlier and b) **DON'T HELP**, those that will not help them achieve their hopes.
3. Give the groups a few minutes to sort their cards. If a group finishes before the rest of the groups, ask them to discuss among themselves why they placed the foods in the categories that they did.
4. Once all groups are done sorting, hold up one of the **Food Sort Large** cards and ask the groups which category they put this food in. Discuss the food item until consensus is reached, then tape the food sort card to the appropriate column in the chart. Image B, on next page, shows the foods how we intended them to be sorted. Review the rest of the **Food Sort Large** cards like this. If there is a food for which consensus cannot be reached, place this food between the categories.
5. As you discuss each food, have groups move their cards so that all groups have the same foods in **HELP** and **DON'T HELP** piles on their charts in the front of the room.
6. Tell the groups to look at all the foods. Put a green dot by the foods that they can picture growing in **NATURE**. Put a red dot by those they can't picture growing in nature. (e.g. socks, Pop-tarts, or Cheetos). If a group finishes early, ask them to discuss what they think are some differences between the foods that they can and can't picture growing in nature. Place the dots on your chart, as in Image C on next page.
7. Point out that the foods that **HELP** are those we can picture growing in nature, and foods that **DON'T HELP** we can't picture growing in nature.

LESSON 1: MEET AND THE SOON TRUSTY - 94 - EAT FOOD

The **Guide Sheet** gives detailed instructions for an activity that needs more description than is in the **Procedure**. **Guide Sheets** always have 4 sections: 1) materials, 2) set up, 3) procedure, and 4) discussion questions.

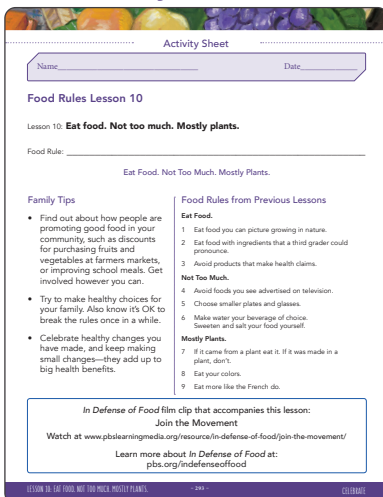
HOW TO USE THIS CURRICULUM (CONT.)

9. Lesson Resource



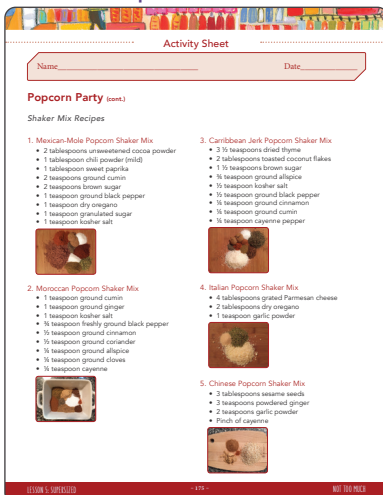
The **Lesson Resource** provides you with extra information you can use during the lesson.

10. Family Sheets



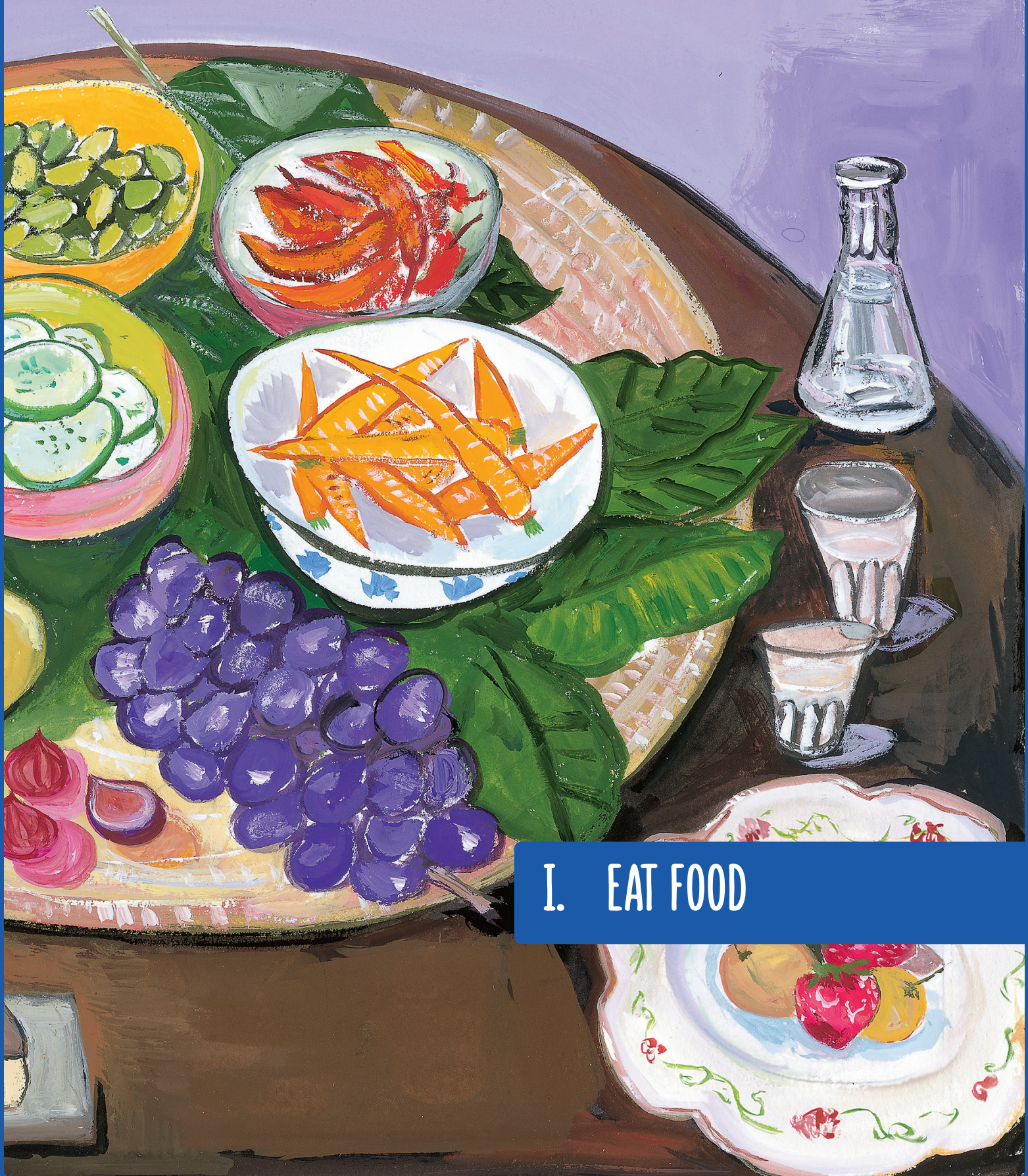
Each lesson has a take home sheet. Students write in the Food Rule. The sheet also have family tips that are practical ideas for how to follow the Food Rule.

11. Recipes



Students are provided with copies of the recipes they prepare during the lessons to share with their families.





I. EAT FOOD



LESSON 1:

WHERE ARE THE SODA TREES?

First Bite

Just as plants need sun, soil, and water to grow strong and develop, humans need food. Food provides essential energy and nutrients that allow us to survive and grow. However, food is much more complex than that, as we'll see through the course of the *IDOF Curriculum*. Some foods keep us healthy, active, strong, smart, and energized. Other foods tend to do the opposite and promote illness, weight gain, and lethargy. If the purpose of food is to help us thrive and grow, what do we say about foods that don't? Are they really foods? Or are they something else? Perhaps they deserve a category of their own.

Foods

In the *IDOF Curriculum*, the word food is reserved for whole foods that come from plants and animals. Lettuce, apples, eggs, beans, and steak are food. When whole foods are slightly altered, or minimally processed, they are still food. Bread, frozen chicken breasts, raisins, applesauce, canned vegetable soup, yogurt, hummus, and peanut butter are examples. The theme for Lessons 1–3 is Eat Food, which means eating mostly whole and minimally processed food.

Dud Foods

What about those items that bear little resemblance to the plants and animals they started as and contain many ingredients we can't pronounce? In the *IDOF Curriculum* we call these products “dud foods” or just “duds” (phony foods or fakes). This is our term for what Michael Pollan calls “edible food-like substances.” Others call them ultra-processed or highly processed foods. Many of the ingredients in dud foods are processed versions of corn and soy. Twinkies, Cool Whip, Oreos, and soda are dud foods. Have you ever seen a soda tree? Or a chicken nugget walking around a farm? Or a Twizzler patch

growing in a field?

Eating dud foods once in a while will not harm your health. However, because they are everywhere, tasty, inexpensive, and heavily marketed, it is easy to eat a lot of dud foods. More and more research shows eating lots of dud foods makes it difficult to maintain good health and a healthy weight^{1–4} and is a factor contributing to the high rates of childhood obesity and other diet-related diseases in the United States. Youth who are obese face a host of other problems, such as weight stigmatization, teasing, bullying, decreased participation in physical activities, distractions from schoolwork, low self-esteem, and depression.⁵ These can have long-lasting effects.

Eat Food

When young people believe that eating more food and fewer dud foods can help them reach their goals—being good at school, playing on a sports team, dancing, writing poetry, playing a musical instrument—they will understand, care about, and have the confidence to Eat Food.

References

1. Pollan, M. (2009). *In Defense of Food: An Eater's Manifesto*. New York: Penguin Books.
2. Haines, P. S., Siega-Riz, A. M., & Popkin, B. M. (1999). The Diet Quality Index revised: a measurement instrument for populations. *Journal of the American Dietetic Association*, 99(6), 697–704.
3. Alkerwi, A., Crichton, G. E., & Hébert, J. R. (2015). Consumption of ready-made meals and increased risk of obesity: findings from the Observation of Cardiovascular Risk Factors in Luxembourg (ORISCAV-LUX) study. *British Journal of Nutrition*, 113(02), 270–277.
4. Monteiro, C. A., Levy, R. B., Claro, R. M., de Castro, I. R. R., & Cannon, G. (2011). Increasing consumption of ultra-processed foods and likely impact on human health: evidence from Brazil. *Public Health Nutrition*, 14(01), 5–13.
5. Puhl, R. M., & Latner, J. D. (2007). Stigma, obesity, and the health of the nation's children. *Psychological Bulletin*, 133(4), 557.



LESSON 1:

WHERE ARE THE SODA TREES?

Aim

Introduce *In Defense of Food Curriculum* and the concept of foods vs. dud foods.

Food Rule

Eat food you can picture growing in nature.

Film Clip

Meet Anthony Scavotto

Objectives

Students will be able to:

- express increased beliefs that healthy eating will help them reach their goals;
- differentiate between food and dud food;
- state and understand the lesson's Food Rule;
- express positive attitudes towards eating plant-based snacks; and
- demonstrate increased confidence in ability to choose a healthful snack (seeds) instead of a highly processed snack.

Overview

This lesson begins with a Bingo game to help students get to know each other. Then, students write down something that they are good at and something they hope to be better at in the future. Next, they explore how eating healthfully can help them to be better at those things. Sorting food picture cards into categories helps students learn the distinction between foods and dud foods. Students discover that each lesson will have a Food Rule, and that the rule for this lesson is “Eat food you can picture growing in nature.” They watch an *IDOF* film clip and are introduced to another middle schooler trying to eat well. The lesson ends with students tasting different edible seeds and learning that they can snack on seeds (a food) instead of dud foods.

Materials

In this guide

- **Choosing Seeds for Tasting** preparation sheet p. 23
- **Getting to Know You Bingo** activity sheet p. 32
- **Food Sort** guide sheet p. 33
- **Food Sort Small** cards p. 35
- **Food Sort Large** cards p. 37
- **Food Rules Lesson 1** activity sheet p. 42
- **Soda Trees** cards p. 43
- **Try This Seed** guide sheet p. 47
- **Tasting Seeds** lesson resource p. 49

Other materials

- *IDOF* film clip 1: Meet Anthony Scavotto and AV equipment
- Board or chart paper
- Black or brown marker
- Green and red markers, about 6 of each
- 3–4 selected seeds for tasting (see **Choosing Seeds for Tasting** preparation sheet p. 23 for ingredients and cooking materials)

For each student:

- Yellow and green sticky notes
- Index card or ½ sheet of paper
- Tasting spoon
- Napkin
- Pencil

To learn more about *In Defense of Food*, visit pbs.org/indefenseoffood. Funding was provided by the National Science Foundation and PBS.



Before You Begin: Total prep time: approximately two hours

Within a few days before lesson

1. Select, purchase, and prepare seeds for the tasting activity. See *Choosing Seeds for Tasting* preparation sheet p. 23 for options and for how to prepare the seeds.
2. Review the entire lesson.

Within a day before lesson

3. Print and cut out cards:
 - *Food Sort Small* cards p. 35, one set for each group of 3–4 students.
 - *Food Sort Large* cards p. 37, one set.
 - *Soda Trees* cards p. 43, one set.
4. Print one copy per student of each activity sheet:
 - *Getting to Know You Bingo* activity sheet p. 32
 - *Food Rules Lesson 1* activity sheet p. 42
5. **Bingo and skit activities:** Identify an area of the room in which students will have space to move around.
6. **Strengths and hopes activity:** Draw a tree showing the roots and leaves on board or chart paper with markers.
7. **Food card activity:** Identify a wall to tape up a sheet of chart paper on which to draw a chart with two columns.
8. **Viewing IDOF film clip:**
 - Set up AV equipment and space for film viewing.
 - Find IDOF film clip 1: Meet Anthony Scavotto at <http://bit.ly/idofclip1>
9. **Seed tasting:** Prepare seeds for the tasting activity. See the *Tasting Seeds* lesson resource p. 49 for details.

Choosing Seeds for Tasting

This page provides directions on how to prepare seeds for the tasting. You might want to try a seed that you think is new to many of your students. Choose 3–4 seeds for tasting:

- Pepitas
- Sunflower seeds
- Chia seeds
- Pomegranate seeds
- Edamame
- Hummus (chickpeas and sesame seeds) – if you choose this, also have carrot sticks for dipping

Note: have a spoon for each student if making chia pudding.



Pepitas



Preparing pepitas for tasting: Purchase deshelled and roasted pepitas (pumpkin seeds) from the grocery store, enough that each student can try a small spoonful of seeds.

OR buy raw pepitas and roast them yourself:

1. Preheat the oven to 400 degrees Fahrenheit.
2. Put 1 cup of raw pepitas into a mixing bowl.
3. Drizzle 1 tablespoon of olive oil over them. Stir to combine.
4. Spread seeds in a single layer on a baking sheet and sprinkle with 1 teaspoon salt, coarse or kosher if available.
5. Roast seeds in the preheated oven for about 10 minutes, or until seeds begin to turn golden brown. After they have been in the oven for 8 minutes, check every 2 minutes to make sure they don't burn).
6. Allow to cool and store in an airtight container in the refrigerator for up to a month.



Choosing Seeds for Tasting (cont.)

Sunflower Seeds



Preparing sunflower seeds for Tasting: Purchase deshelled and roasted sunflower seeds from the grocery store, enough that each student can try a small spoonful of seeds.

OR buy raw, deshelled sunflower seeds and roast them yourself:

1. Preheat the oven to 300 degrees Fahrenheit.
2. Put 1 cup of raw deshelled sunflower seeds into a mixing bowl.
3. Drizzle 1 tablespoon of olive oil over them. Stir to combine.
4. Spread seeds in a single layer on a baking sheet and sprinkle with 1 teaspoon of salt, coarse or kosher if available.
5. Roast seeds in the preheated oven for about 20 minutes.
6. Allow to cool and store in an airtight container in the refrigerator for up to a month.



Chia Seeds



Preparing Chia Seeds for Tasting: Purchase raw chia seeds. Reserve enough for students to try a small spoonful of seeds. Then, make chia pudding. This recipe makes enough for 10–15 students to try a small spoonful.

1. Mix $\frac{1}{4}$ cup of chia seeds with one cup of liquid (soy or almond milk are popular choices). For flavor, add a sweetener such as honey or maple syrup, and spices, such as cinnamon, nutmeg, or flavoring such as cocoa powder or vanilla extract. Or top with fruit.
2. Let seeds sit in the liquid. They will gel in about 15 minutes and the chia pudding is ready to eat.

If you feel confident, make chia pudding in front of the class.



Choosing Seeds for Tasting (cont.)

Pomegranate Seeds



Preparing pomegranate seeds for tasting: Purchase pomegranate seeds from the grocery store, enough that each student can try a small spoonful of seeds.

OR remove the seeds from the pomegranate yourself:

1. Roll the fruit on the counter or a hard surface in order to loosen the seeds.
2. Score it laterally around the middle to cut through the tough skin but not to pierce the fruit inside. Pull it open into two halves.
3. Hold each half over a bowl with the seeds facing down into the bowl and firmly tap the skin with a wooden spoon while gently squeezing the fruit to release the seeds.
4. Use your fingers to pry any remaining seeds away from the white bitter pith that encase the seeds.



If you feel confident, demonstrate removing pomegranate seeds in front of the class. Allow students to help in the final step by prying out the seeds.

BE AWARE: The red color of the pomegranate juice stains.

Edamame



Preparing edamame for tasting: Purchase frozen, deshelled edamame, enough for each student can try a small spoonful. Or, purchase frozen edamame still in the pods, enough for each student to try one pod.

1. Run edamame under warm water for 3–5 minutes to thaw.
2. Drain and sprinkle with salt.
3. Serve warm or at room temperature. To eat edamame in the pod: slide teeth along the outside of the pod pulling beans into your mouth.



Choosing Seeds for Tasting (cont.)

Hummus (Chickpeas and Sesame Seeds)

chickpeas in shell:



hummus:



sesame seeds in pod:



sesame seeds:



About hummus: Hummus is a dip that has chickpeas and sesame seed paste, called tahini, as the main ingredients.

Preparing hummus, chickpeas, and sesame seeds for tasting: Purchase a can of chickpeas, which are already cooked and ready to serve. Drain and rinse them thoroughly. Purchase sesame seeds, enough that each student can try a small spoonful of seeds. Purchase a plain hummus or make it yourself. This recipe makes enough for 10–15 students to try.

1. In a food processor, combine 15-ounces of cooked chickpeas, 3 tablespoons of olive oil, 3 tablespoons of tahini, 1 tablespoon of lemon juice, 1 small clove of garlic, and 1 teaspoon of salt.
2. Blend until smooth.
3. Purchase carrots for students to dip the hummus in, 2–3 carrots sticks per student.



Procedure

Lesson time: 120 min. (two 60-min. parts)

Part 1 (60 min.)

1. Get to Know Each Other (15 min.)

Explain to students that the lesson will begin with an activity to learn about each other. Provide each student with a ***Getting to Know You Bingo*** activity sheet p. 32 and a pencil. Direct students to write their name in the free space in the center of the page. Point out the questions in the other boxes. Explain that they will ask each other these questions to find classmates who answer ‘yes’ to the questions. For example, if the Bingo box says “ate an orange in the past week,” find a classmate who did that and write that person’s name in the box. Instruct students that they can write any one classmate’s name in only two boxes.

The goal is to fill one row of boxes with names (across, down, or diagonally) as quickly as possible.

Tell students to get up and start asking their classmates questions. Stop playing when someone calls out “Bingo!” and have everyone sit down.

Once everybody is seated, read aloud the statements from the filled row on the winning Bingo sheet one by one. Ask everyone who would answer ‘yes’ to the question to stand up. Have everyone sit down before reading the next question. Explain that all the questions on the Bingo sheet are related to what they will learn in the *IDOF Curriculum*.

2. Explore Your Strengths and Hopes (10 min.)

Tell students in this activity they are going to think about and write down one thing that they are good at now and one thing that they hope to become good at in the next year. Share a personal example with the students.

Explain that a tree has roots that keeps the tree rooted or anchored into the ground, much like the thing that they are good at roots them and helps to define who they are now. From the roots, the tree shoots up towards the sun and grows. This is analogous to them reaching for their own hopes.

Give students a pencil, one yellow sticky note, on which they will write down something that they are good at, and one green sticky note, on which they will write down something that they hope to become good at in the next year. Instruct them not to put their names down on their sticky notes. Once they are done, they can post their yellow and green sticky notes on the roots and the leaves respectively of the tree drawn on the board or chart paper.

Getting to Know You Bingo is a great activity to help students become more comfortable with each other. It also allows students to move around and get excited to be in the *IDOF Curriculum* after-school program, right from the start!

Share a personal example to foster a safe and open environment for sharing for the students. This will also increase student buy-in, and provide an example of the type of response you are looking for.



Procedure (cont.)

Roots/Strengths: something that they are good at (e.g., playing baseball, cooking, math).

Shoots/Hopes: something that they hope to become good at in the next year (e.g., playing the guitar, throwing a football, singing).

3. Link Hopes with *IDOF* Message to Eat Food (5 min.)

Have students share their hopes. Once a few students have shared, ask what they could all do to achieve their hopes (e.g., practice, get enough sleep, learn from others who do this well). Once students list some of their ideas, explain that during the *IDOF Curriculum* they will learn how what they choose to eat can also help them achieve their hopes. Ask the students to name a few of their heroes (e.g., famous athletes, performers, celebrities). Remind students that whatever their heroes are good at was once their hope as well.

Explain that celebrities who are part of ad campaigns for less healthy foods may or may not eat the foods they help to advertise. Some try to eat a healthy diet because they know it can help them be better athletes, singers, etc.

Provide students with an index card and ask students to take 1 minute to jot down an answer to the question “What is food?” onto their index card and then put it aside for later discussion. Probe students to think about what food does for them, and where it comes from.

Tell students that through the *IDOF Curriculum* they will become “food defenders.” They will learn why and how to choose foods that can help them achieve the things they hope to become good at.

4. Introduce *IDOF Curriculum* Sections (3 min.)

Explain to students that the *IDOF Curriculum* is based on a book also called *In Defense of Food* by Michael Pollan. In this book, he answers the question, “What should I eat?” in seven words. These are: Eat food. Not too much. Mostly plants. The *IDOF Curriculum* has four sections: Lessons 1–3 are Eat Food, Lessons 4–6 are Not Too Much, Lessons 7–9 are Mostly Plants, and Lesson 10 brings it all together. Explain to students they will learn what Eat Food means in the next activity.

5. Sort Food Cards (17 min.)

Divide students into small groups of three to four. Use the **Food Sort** guide sheet p. 33 and the **Food Sort Large** cards p. 37 to lead this activity. Give each group one set of **Food Sort Small** cards p. 35. Be sure to ask the students the discussion questions at the bottom of the guide sheet.

Most middle school-aged kids hope to become good at things that their heroes are good at. They tend to idolize famous athletes, celebrities, and performers. You will get better reception from students if they realize that many of their heroes make healthful food choices to be successful.

Probing questions: *What is food? What should it do for you?* (Something you eat, helps you grow, gives you strength, gives you energy, helps you concentrate.)

Where does it come from? (From a grocery store, but first from nature, e.g., the ground, a tree, the sea, a farm.)



Procedure (cont.)

6. Define Foods and Dud foods (5 min.)

Point to the Food Sorting Chart that was made in the previous activity. Explain that even though we typically call everything we eat “food,” in the *IDOF Curriculum* we are going to reserve the word food for items such as the ones in the help column.

For items that are similar to those in the don’t help column that are highly processed or really changed from how they appear in nature, we have created a new name. Write “dud food” on the board or chart paper. They may recognize that dud foods are foods that are phony or fake.

Tell students that throughout the *IDOF Curriculum* we will use the word food for whole foods that come from plants and animals. This includes lettuce and apples that appear the same as they do in nature as well as foods that are slightly changed such as apple sauce, yogurt, and peanut butter.

The dud foods (or you can just say duds if desired) will be used for products that have been significantly changed from how they appear in nature. This includes items such as chicken nuggets, soda, and gummy candies. Encourage students to discuss the difference between foods and dud foods with their families and friends.

7. Learn the Food Rule (5 min.)

Explain that in the *IDOF Curriculum*, each lesson has a “Food Rule” that is a quick and easy way to use what they learn when choosing what to eat. Distribute the **Food Rules Lesson 1** activity sheet p. 42 and a pencil to students. Write the Food Rule for this lesson on the board or chart paper: “Eat foods you can picture growing in nature.” Have students write this on their sheets. Ask for examples of how they could use this rule (e.g., I can take the salad bar offered at lunch to get more vegetables; I can have an apple after school instead of chips). Encourage students to take home the sheet and share the Food Rule with their families.

Part 2 (60 min.)

8. Practice Differentiating Foods and Dud Foods (15 min.)

Designate one side of the room for foods and the opposite side for dud foods. Explain that you will hold up a **Soda Trees** cards p. 43 with a photo of a food or dud food. If they think it is a food, move to the food side; if they think it is a dud food, move to the dud food side. If they are unsure they can stay in the middle or a little closer to the side that they think best represents the item on the card. Start with something easy (e.g., the apple). Once the class has moved to the appropriate side of the room, bring them back to gather in the middle before holding up the next



Procedure (cont.)

Soda Tree card. If there are any foods or dud foods that students seem confused about, discuss these. Continue until you have reviewed all the **Soda Trees** cards.

Ask a student to come and stand in front of the group and take on the facilitator's role for a round, and call out a food or dud food. Have the rest of the students move to the appropriate side of the room. Ask another student to call out a food or dud food and continue for a few more rounds.

For any food or dud food item that is introduced which seems uncertain or difficult to determine (such as hamburgers, pizza, tacos), allow a quick discussion to ensure that students can deliberate and discuss with each other. Allow them to come to their own conclusions, but indicate that you will start a list for those that are confusing and can continue to revisit this list as the program continues.

You will get better student engagement if you participate with the rest of the class during student-led facilitation.

9. Watch *IDOF* Film Clip 1: Meet Anthony Scavotto (10 min.)



Tell the students the *In Defense of Food* film features Michael Pollan, who wrote the book. In every lesson, they will watch part of this film. Have them join you in an area of the room set up for video viewing. Play *IDOF* film clip 1: Meet Anthony Scavotto. This clip introduces an adolescent who is trying to figure out what foods to eat to reach his goals.

Following the film clip, have a discussion with students about trying to reach their goals. *Why is Anthony Scavotto upset?* (Anthony is upset because he wants to run and jump and play sports like his friends.) *Have you ever wanted to do something that you couldn't? How did it make you feel? Why? What do you think has gotten in the way of Anthony reaching his goals?* (He gets tired, he gained a lot of weight, which makes it hard for him to run and play sports like his friends. Also, he is trying to eat healthily, but it doesn't seem to be working.) *What message would you give Anthony, knowing what you know now?* (Try and eat foods you can picture growing in nature.)

10. Don't Yuck My Yum (3 min.)

Tell students that some of them may have more experience with certain foods than others in the group. This is a time and place for everyone to learn and help support each other. When describing a food they are trying, they should describe the taste, smell, texture, and sound that it makes. Saying something is "gross" or "good" does not give enough information. When something tastes good, students need to think about why it tastes good in order to describe it. When something doesn't taste good, they must also carefully think about why. It can also be helpful

Adolescents are aware of their social environments and are impressionable to the opinions of their peers. We want to ensure that their interactions with foods and each other are respectful.



Procedure (cont.)

to think about what would make it taste better. Tell students not to say things taste “bad” or “nasty.” Teach students the phrase, “don’t yuck my yum,” which means that it’s impolite to say something tastes bad when others may be enjoying it.

Before joining you at the tasting station have students thoroughly clean their hands, either by using hand sanitizer or washing them with soap and warm water for 20 seconds.

11. Recognize We Eat Seeds (2 min.)

Explain that now they are going to try some seeds. Remind students that when we plant seeds they grow into new plants. Ask students to name some seeds people eat (e.g., sunflower seeds, pumpkin seeds, seeds in fruits such as kiwis and strawberries). Name some fruits that have seeds that we do not typically eat (e.g., apples, grapes, oranges).

12. Taste Seeds (15 min.)



Remind students that foods, like seeds, can help them to achieve their hopes. Use the **Try This Seed** guide sheet p. 47 and **Tasting Seeds** lesson resource 49 to lead students through the tasting. Be sure to ask students the discussion questions on the bottom of the **Try This Seed** guide sheet.

13. Create a Dud Food Pharm Skit (15 min.)

Ask students *Where are the Soda Trees? Have you ever seen one? Why do you think that this lesson is called ‘Where are the Soda Trees?’* Suggest that if there was a soda tree, it would come from a dud food pharm (since it is not like a real farm growing real food we call it a pharm instead of farm)! Ask students to imagine working on a dud food pharm. What ridiculous things could they find? Have students work in small groups to come up with a dud food pharm crop (like a soda tree, Twizzler patch, or chicken nugget-laying chickens). Ask them to consider how it would grow (from a tree, the ground, an animal, etc.), how they would harvest it, how they would feed and care for it. Tell them to come up with a short 1–3 minute skit that they can act out to tell the story of their dud food pharm crop and its harvest. Give the groups 10 minutes to come up with their skits. Have a few groups perform their skits.

To build comfort levels of the students, have only groups who are eager and willing perform their skit.

Activity Sheet




Name _____

Date _____

Getting to Know You Bingo

Begin by writing your name in the center Bingo box. Then, find a person in your class who has done the following things and write his or her name in the box. You can only use each person a maximum of two times to fill in a box. The first person to complete a row of boxes wins.

Find someone who...

<p>Can name this plant part:</p> 	Has watched a food documentary	Has thought about how food helps them	Can name a fruit that grows on a tree	Has talked to a family member about a family recipe
Has written a poem	Can name a vegetable that grows from the ground	Has eaten a flower	Can tell you 5 ingredients in a chocolate chip cookie	Knows what this is: 
Has made up a commercial	Can tell you what diabetes is	<p>I _____ (WRITE YOUR NAME HERE)</p> <p>am a Food Defender</p> <p>FREE SPACE</p>	Has made homemade soda	Has given advice to someone on how to be healthy
Has ordered a small instead of a large at a restaurant	Knows how many spoonfuls of sugar are in a 20 ounce soda	Can name an edible plant part	Knows what plant popcorn comes from	Has eaten a seed before
<p>Can name this fruit</p> 	Has set a goal for something they want to accomplish	Has acted in a play or skit	Drank water today	Has heard of high-fructose corn syrup

Food Sort

The purpose of this card sorting activity is to help students recognize that eating certain types of food can help them to achieve their hopes and goals, while others might hinder them.

Materials

- Board or chart paper
- Tape

For Each Group:

- Green and red marker

Set up

1. On board or chart paper, draw the chart in Image A on next page.
2. Have one set of **Food Sort Large** cards p. 37 and tape handy in the front of the room.
3. Prepare one set of the **Food Sort Small** cards p. 35 and a red and green marker for each group of three to four students.

Procedure

1. Divide students into small groups of 3-4 and give each group one set of the **Food Sort Small** cards and a pencil.
2. Tell them to think about what they already know about food and sort the cards into two categories: a) **HELP**: those that will help them achieve the hopes they identified earlier and b) **DON'T HELP**: those that will not help them achieve their hopes.
3. Give the groups a few minutes to sort their cards. If a group finishes before the rest of the groups, ask them to discuss among themselves why they placed the foods in the categories that they did.
4. Once all groups are done sorting, hold up one of the **Food Sort Large** cards and ask the groups which category they put this food in. Discuss the food item until consensus is reached, then tape the food sort card to the appropriate column in the chart. Image B, on next page, shows the foods how we intended them to be sorted. Review the rest of the **Food Sort Large** cards like this. If there is a food for which consensus cannot be reached, place this food between the categories.
5. As you discuss each food, have groups move their cards so that all groups have the same foods in **HELP** and **DON'T HELP** piles on their tables as on your chart in the front of the room.
6. Tell the groups to look at all the foods. Put a green dot by the foods that they can picture growing in **NATURE**. Put a red dot by those they can't picture growing in nature, (e.g., soda, Pop-tarts, or Doritos). If a group finishes early, ask them to discuss what they think are some differences between the foods that they can and can't picture growing in nature. Place the dots on your chart, as in Image C on next page.
7. Point out that the foods that **HELP** are those we can picture growing in nature, and foods that **DON'T HELP** we can't picture growing in nature.

Food Sort (cont.)

Discussion Questions

1. Do you see soda growing on trees? What would happen if you planted a Dorito in the ground?
2. What do you notice about foods that grow in nature? (They help us achieve our hopes.) What do you notice about the foods that don't grow in nature? (They don't help us achieve our hopes.)
3. Where are some places you can find foods in the *HELP* column? (In grocery stores, farmer's markets, school lunch, etc.)

Image A

Help	Don't Help











This is what to write on the board or chart paper before you start the lesson.

Image B

Help	Don't Help
	
	
	
	
	

This is what it will look like after you sort the cards into those that *HELP* us reach our goals and those that *DON'T HELP* reach our goals.

Image C

Help	Don't Help
 G	 R
 G	 R
 G	 R
 G	 R
 G	 R

This is what it will look like with green dots for *NATURE* and red dots for *NOT NATURE*.

Food Sort Small

Print and cut out 1 set for each small group.

Apple



Broccoli



Grilled chicken



Soda



Apple Pop-Tarts



Grapes



Food Sort Small (cont.)

Chicken nuggets



Grape drink



Corn



Cheetos



Food Sort Large

Print and cut out 1 set for you.

Apple



Broccoli



Food Sort Large (cont.)

Grilled chicken



Soda



Food Sort Large (cont.)

Apple Pop-Tarts



Grapes



Food Sort Large (cont.)

Chicken nuggets



Grape drink



Food Sort Large (cont.)

Corn



Cheetos



Name _____

Date _____

Food Rules Lesson 1

Lesson 1: **Where are the Soda Trees?**

Food Rule: _____

Eat food. Not too much. Mostly plants.

Family Tips

- Cooking food from scratch even once a week, like a roast chicken or a bean chili, helps us eat food we can picture growing in nature.
- Packing a piece of fruit or a container of nuts or seeds to snack on is an easy way to eat a food when we might otherwise choose a dud food.
- Growing some food, from a garden to a potted herb on the windowsill, is a fun and tasty reminder that food comes from nature.

Foods and “Dud Foods”

In the *IDOF Curriculum* the word **food** is reserved for whole foods that come from plants and animals. Lettuce, apples, eggs, beans, and steak are food. When whole foods are slightly altered, or minimally processed, they are still food. Bread, frozen chicken breasts, raisins, applesauce, canned vegetable soup, yogurt, hummus, and peanut butter are examples.

In the *IDOF Curriculum* the word **dud food** (phony food or fake) is used for products that have significantly changed from how they appear in nature. This is our term for what Michael Pollan calls “edible food-like substances.” Many of the ingredients in dud foods are processed versions of corn and soy. Twinkies, Cool Whip, Oreos, and soda are dud foods.

In Defense of Food film clip that accompanies this lesson:

Meet Antony Scavotto

Watch at <http://bit.ly/idofclip1>

Learn more about *In Defense of Food* at:

pbs.org/indefenseoffood

Soda Tree

Print and cut out 1 set for you.

Sunflower seeds



Eggs



Soda Tree (cont.)

Chocolate sandwich cookies



Orange soda



Soda Tree (cont.)

Sports drink



Steamed rice



Soda Tree (cont.)

Carrots



Fruit flavored cereal



Try This Seed

It is important to recognize that food that comes from a plant starts as a seed. In this activity, students explore a variety of edible and tasty seeds in different forms. Encourage them to use different senses to describe how the seeds look, feel in their mouths, sound when they chew on them, and taste.

Materials

- Seeds for tasting

For each student:

- Napkin
- Spoon (if having chia pudding)

Set up

1. Designate an area of the room to be the tasting station.
2. Set up small containers for each of the selected seeds and put one spoon in each container.
3. Put out napkins and spoons.
4. If you are tasting hummus, put 2-3 baby carrots on each student's napkin for dipping hummus.

Procedure

1. Have students wash their hands and join you at the tasting station.
2. Tell them that they will try a variety of seeds. You want them to pay attention to the way that the seeds look, feel in their mouths, sound when they chew on them, and taste.
3. Remind students that saying seeds are gross or good doesn't say much. They should describe in more detail.
4. Introduce the first seed. Use the *Tasting Seeds* lesson resource p. 49 to show students a photo of the seed and to share some background about the seed.
5. Scoop a small spoonful of the first seed into each student's hand. Ask them to wait to taste until everyone in the group has some but to look at the seed to consider how they would describe the way that it looks.
6. Ask the class to come up with some words to describe how it looks (color, shape, texture); then ask them to feel the seed in their mouths and think about how it feels for a second or two. Then ask them to chew and swallow and consider how they would describe the taste and if it makes any sounds when in their mouths.
7. Repeat steps 4–7 for the rest of the seeds.

Try This Seed (cont.)

Discussion Questions

1. *Which was your favorite seed to try? Why? Does it remind you of anything else you have tried? What?*
2. *Which seeds have you tried before? Which seeds did you try for the first time?*
3. *How will you describe the seeds that you tried here to others?*
4. *Can you find seeds like these in your neighborhood? In your grocery store, corner store, bodega, or gas station?*
5. *Do any foods that you normally eat contain these seeds?*
6. *Which seeds would make a good snack? What food could they replace?*

Tasting Seeds

Use this sheet during the seed tasting to show students photos of the different seeds and to tell the students about the seeds.



A handful or two of seeds can make a great crunchy snack, be added to other foods for texture or flavor, or be ground up into pastes, dips, and spreads to dip veggies into.

Pepitas (Pumpkin Seeds)



If you carved a pumpkin for Halloween when you were young, you may have also had the experience of roasting pumpkin seeds. “Pepita” is the Spanish word for “little squash seed.”

Sunflower Seeds



Have you ever noticed that sunflowers will face the sun? That is where their name comes from. They produce little tear-dropped seeds that have a black and white hull and a delicious edible kernel, or seed, inside. One sunflower head can actually produce about 1,000 seeds.

Chia Seeds



Chia seeds were popularized as the fur that grew on Chia Pets, toy terracotta figurines. Long before that, they were a staple of the Mayan and Aztec diet.

Tasting Seeds (cont.)

Pomegranate Seeds



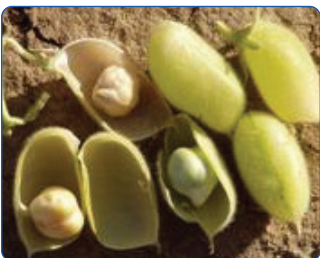
The name pomegranate is derived from Latin, meaning “apple with many seeds.” In Ancient Greek mythology, the pomegranate was also known as the “fruit of the dead,” because it was believed that anyone who ate it in the underworld would be stuck there forever (the unfortunate fate of Persephone, daughter of Zeus).

Edamame



The word “edamame” means “beans on branches” because the pods grow on bushy branches.

Hummus Chickpeas



If you were dining with one of the most famous queens in history, Cleopatra, you would have likely eaten this ancient bean, which is actually a seed! In ancient Egypt chickpeas were very common.

Sesame Seeds



The magic formula “open sesame” from the tale of Ali Baba and the 40 thieves, refers not to the small seed that you may be familiar with, but actually to the fruit in which the seeds are found. If you crack open a mature sesame fruit, you’ll magically find many aromatic sesame seeds.

Hummus



This dip made from chickpeas and sesame seeds began in the Middle East. Hummus is now popular all around the world. People typically dip vegetables, bread, and crackers into hummus. You can make it at home or buy it in the grocery store.



LESSON 2:

CHEMICAL CUISINE

First Bite

Humans have been adding ingredients to food for millenia. Our ancestors used salt or fat to preserve meat and fish, sugar to preserve fruit, and herbs and spices to make food taste better. However, the list of ingredients added to today's dud foods go beyond basic preservation or adding a little flavor. Dud foods contain excessive sugar, salt, and fat, along with a huge number of highly engineered ingredients that give dud foods just the right flavor, texture, color, and sound. Although dud foods may stop short of being physiologically addictive, they are engineered to make us crave more and more.¹

Additives Cover Dud Food Phyness

When we really stop and think about how dud foods are made and what is in them, we realize how different they are from foods.

Sodas, iced teas, fruit-based drinks, sports drinks and other common beverages use artificial colorings and flavors, along with a lot of added sugar, to create their specific flavor and color profiles. Beverages that claim to be fruit-based can make us think they are healthy when they are not. "Tropicana Twister Cherry Berry Blast," despite its name, has no cherry or berry juice in it. Its attractive dark red color comes from Red 40, a controversial food dye.²

Chicken nuggets, deli meats, and sausages use parts of the animal we typically do not eat, such as bones, cartilage, and tendons. These are ground up, processed, and listed on the label as "mechanically separated meat." Companies add colorings, flavoring, fat, and thickening agents to these products to provide a more appealing flavor and appearance than what could come from the animal parts they contain.

Many breakfast cereals, baked goods, candy, and yogurts contain various additives, including a lot of sugar, dyes, and flavorings.

For some food products, processing has stripped away so many nutrients that they need to be "enriched" to add back essential nutrients. For example, white flour is made from wheat seeds that have had the bran and germ removed. These are the nutrient-rich parts of the wheat seed. As a result, white flour is enriched to add back many of the vitamins and minerals removed during processing.

What Dud Foods Do to Our Health

In general, studies show that when our diet consists primarily of dud foods, we eat more sugar, salt, and fat, and fewer of the whole and minimally processed foods that have the nutrients we need.³ Often we don't realize what is in these dud foods because ingredients lists are confusing. High-fructose corn syrup, ethyl maltol, brown sugar syrup, and golden syrup are all forms of sugar. Fat is commonly seen as hydrolyzed oils, or soy and palm derivatives on ingredients lists. Salt appears as monosodium glutamate (MSG) and disodium phosphate. These ingredients, eaten in excess, can make us sick.³ Health professionals are concerned because rates of diet-related diseases like diabetes, heart disease, and certain cancers are climbing in the United States and appearing in people at younger and younger ages.

References

1. Moss, Michael. (2013). *Salt Sugar Fat*. New York: Random House.
2. Center for Science in the Public Interest. (2008). *Foods with Color Additives Deceive Consumers, Says CSPI*. Accessed on June 10th, 2015 from <http://cspinet.org/new/201112081.html>
3. Poti, J. M., Mendez, M. A., Ng, S. W., & Popkin, B. M. (2015). Is the degree of food processing and convenience linked with the nutritional quality of foods purchased by US households? *American Journal of Clinical Nutrition*, 101(6), 1251-1262.



LESSON 2: CHEMICAL CUISINE

Aim

Increase awareness of the benefits of eating more foods and fewer dud foods.

Food Rule

Eat foods with ingredients that a third grader could pronounce.

Film Clip

Salt, Sugar, Fat

Objectives

Students will be able to:

- define ingredients and identify the ingredient listings on packaged foods;
- recognize dud foods as those with long and hard-to-pronounce ingredient lists;
- state and understand the lesson's Food Rule;
- recognize that dud foods are highly engineered to taste appealing and mask undesirable flavors; and
- express how their attitudes towards dud foods are changing.

Overview

This lesson begins by exploring the ingredients in a homemade chocolate chip cookie. Next, students examine the ingredient lists of various foods and dud foods to see how they are different. Students learn and discuss the Food Rule “Eat foods with ingredients that a third grader could pronounce.” A tasting activity gives them first-hand experience of how dud foods are engineered to taste irresistible. The lesson closes with an *IDOF* film clip that reinforces what they have learned.

Materials

In this guide

- *Bake Race* guide sheet p. 58
- *Cookie* cards p. 61
- *Chocolate Chip Cookie Relay Race* activity sheet p. 63
- *What Are These Ingredients?* activity sheet p. 64
- *Ingredient List* cards p. 65
- *Surprise It's A ...* cards p. 71
- *Introducing Ingredients* lesson resource p. 74
- *Food Rules Lesson 2* activity sheet p. 76
- *Onion Ball* cards p. 77

Other materials

- *IDOF* film clip 2: Salt, Sugar, Fat and AV equipment
- Tape
- 16 envelopes

Other materials (cont.)

- 1/2 cup loose leaf *Gymnema* (order online at least two weeks ahead, see p. 13 for details)
- 2 loose leaf tea bags

For each group of three to four students:

- Large bowl
- Spatula
- Highlighter

For each student:

- 20 slips of paper
- Pencil (and 2 for you)
- Tasting cup (for 1 oz of liquid)
- Packet of sugar
- Starburst candy
- Napkin

Chemical Cuisine from: Center for Science in the Public Interest. Chemical Cuisine. Learn about Food Additives. 2014. Retrieved from <http://www.cspinet.org/reportschemcuisine.htm>

To learn more about *In Defense of Food*, visit pbs.org/indefenseoffood. Funding was provided by the National Science Foundation and PBS.



Before You Begin: Total prep time: approximately two hours

Two weeks or more before lesson:

1. Order Gymnema tea online. See p. 13 for details.

Within a few days before lesson

2. Review the entire lesson.

Within a day before lesson

3. Print and cut out cards:
 - **Cookie** cards p. 61, one set for each group of three to four students.
 - **Ingredient List** cards p. 65, one set.
 - **Surprise It's A...** cards p. 71, one set.
 - **Onion Ball** cards p. 77, one set.
4. Print one copy per student of each activity sheet:
 - **Chocolate Chip Cookie Relay Race** activity sheet p. 63
 - **What Are These Ingredients?** activity sheet p. 64
 - **Food Rules Lesson 2** activity sheet p. 76
5. **Cookie relay race activity:** Identify an area to set up as a “baking station,” and place a set of **Cookie** cards p. 61 and a large bowl at each station for each small group.
6. **Ingredient list activity:** Identify places to hang up **Ingredient List** cards p. 65 and tape one envelope under each card so students can easily slip their guesses into it.
7. **Gymnema tea preparation:** Prepare Gymnema tea by placing $\frac{1}{4}$ cup loose tea in each loose leaf tea bag. Boil 1 quart water and remove from stove. Steep both bags in the water for 20 minutes, then remove tea bags. Let cool to room temperature.
8. **Gymnema tea and Starburst experiment:** Pour about 1 oz. tea into a tasting cup for each student. Cut the Starbursts in half. Save the wrapper so students can view during the tasting.
9. **Viewing IDOF film clip:**
 - Set up AV equipment and space for film viewing.
 - Find IDOF film clip 2: Salt, Sugar, Fat at <http://bit.ly/idofclip2>
10. **Onion ball activity:** Take card 1 and crumple the paper into a ball so that the question is folded into the center of the ball. Wrap card 2 around the card 1 ball and crumple the paper, again with the question on the inside. Repeat for cards 3 to 16 until you have formed a ball of layered questions.



Procedure

Lesson time: 120 min. (two 60-min. parts)

Part 1 (60 min.)

1. Conduct Cookie Relay Race (15 min.)

Remind students that in Lesson 1 they learned about foods and dud foods. In this lesson they are going to compare and contrast the differences between the ingredients used in foods and dud foods. *Where have you seen the word 'ingredient' before?* (Recipes, food packages.)

Explain that they are going to participate in an activity about the ingredients in homemade chocolate chip cookies. Divide the class into small teams of three to four students. Use the **Bake Race** guide sheet p. 58 and **Cookie** cards p. 61 to facilitate this activity. Distribute **Chocolate Chip Cookie Relay Race** activity sheet p. 63 and a pencil to each student. Congratulate the winning team. Facilitate a brief discussion using the discussion questions on the bottom of the **Bake Race** guide sheet.

2. Explore Food Package Ingredient Lists (5 min.)

Ask students, *do you think store bought cookies would have the same ingredients? If not, how do you think they would be different?* Tell students when you buy something in a package or in a box it has an ingredient list. Distribute the **What are These Ingredients?** activity sheet p. 64 and point out the ingredient list. Tell students to continue to work in the same small groups. Distribute a highlighter to each group. Tell students to look at the ingredient list and highlight those ingredients that they just identified in the cookie relay race. After a few minutes, ask students how the two ingredient lists compare.

Ask a few volunteers to try and read a line of the ingredient list out loud. Write partially hydrogenated [hi•dra•jen•a•ted] and thiamine mononitrate [thi•a•min mono•ni•trayt] on the board or chart paper. Ask for volunteers to try to read these words out loud and guess what they might be. Partially hydrogenated refers to oil that has been treated with hydrogen to make it solid at room temperature. Thiamine mononitrate is a B vitamin.

3. Learn about Ingredient Lists (30 min.)

Tell students in this activity they will look at an ingredient list and try to guess the item. Point out all the **Ingredient List** cards p. 65 posted around the room. Tell students that each ingredient list corresponds to either a food or a dud food. Point out the envelopes taped below each **Ingredient List** card. Explain that they are about to play a guessing game by reviewing each ingredient list and then guessing which food or dud

Probing questions:

Do you think these ingredients make Chips Ahoy! cookies a food or a dud food? Why? (Applying Lesson 1's Food Rule, it is hard to determine the animal or plant many of the ingredients come from. This is a good sign that it is a dud food.)



Procedure (cont.)

food it belongs to. They write their guesses onto slips of paper and then put their slip of paper into the envelope below the ingredient list. Divide students into small groups and give each student slips of paper and a pencil. Distribute small groups across stations so that they don't all start at one station. Once they have made all their guesses, use the **Surprise It's A...** cards p. 71 to unveil the foods and dud foods.

Ask students these questions: *What do you notice about the ingredient lists for the foods?* (They have ingredients that are easy to pronounce; are things that we can picture growing in nature; they were shorter lists).

What do you notice about the ingredient lists for the dud foods? (The lists are long. They have ingredients that are difficult to pronounce and that we can't picture coming from nature.) *Which ingredient lists were the most surprising? Why?*

Students may have a lot of questions about ingredients. The **Introducing Ingredients** lesson resource p. 74 can help you understand ingredient lists in more depth to field possible questions that may arise. You do not need to discuss everything on the **Introducing Ingredients** lesson resource with students. Ingredient lists are complicated so it is fine to tell your students that you do not know all the answers.

4. Learn the Food Rule (10 min.)

Distribute the **Food Rules Lesson 2** activity sheet p. 76 to each student. Review the Food Rule from Lesson 1, "Eat food you can picture growing in nature." Ask students, *from what we learned today, what do you think would be a good Food Rule to use when choosing what to eat based on ingredient lists?* Write the Food Rule, "Eat foods with ingredients that a third grader could pronounce" on the board or chart paper. Have students write the Food Rule on the sheet. Encourage students to tell their families the Food Rule and discuss how they can use it at home.

If there were any items in Lesson 1 that students couldn't classify as food or dud food, pull out the list and have the students apply this Food Rule. Ask students to share some specific examples of how they will apply this rule in their daily lives (e.g., when choosing an after school snack, they will look at the ingredient list and choose foods with pronounceable ingredients at least two days in the next week.)

Try and draw from the previous activity to help the students determine this week's Food Rules on their own first, before you reveal the week's Food Rules.



Procedure (cont.)

Part 2 (60 min.)

5. Taste Why So Many Ingredients are Added (30 min.)



Often, ingredients are added to make products taste irresistible so people purchase them again and again. Salt, sugar, and fat are common ingredients in dud foods. Other ingredients are added to keep products from rotting for days, weeks, months, and even years! Ingredients can also change how products look and feel in your mouth. For example, sugar can mask otherwise unappetizing flavors.

Lead a tasting that allows students to see what some common dud foods would really taste like without all the added sugar. Have them wash or sanitize their hands, and join you in the designated tasting area. Be sure each student has: a tasting cup with tea, two halves of a Starburst candy, a sugar packet, and a napkin.

Tell students this experiment has a specific order and not to drink or eat anything until you say so. Have students eat ONE HALF of the Starburst.

Have students take a mouthful of tea and swish it around. After 30 seconds students can swallow the tea.

Have students eat the SECOND HALF of the Starburst. This will allow them to taste the candy without the sweet flavor. Students can examine the wrapper from the Starburst to see the ingredients that are in them besides sugar. Have students open the sugar packet and pour the sugar into their mouth. The sugar will have no flavor.

Ask students, *how did the candy taste different after drinking the tea? How does this make you feel differently about eating dud foods?*

6. Watch IDOF Film Clip 2: Salt, Sugar, Fat (20 min.)



Now that students have an understanding of what is in dud foods, have them join you in an area of the room set up for video viewing. Play the IDOF film clip 2: Salt, Sugar, Fat to explore why dud foods have many unpronounceable ingredients and why so much fat, sugar, and salt are added. Following the film clip, have a discussion with students.

The Western Diet, as Pollan calls it, is what most of us eat. What does it include? (Lots of meat, lots of sugar, and lot of oils, and few fruits and vegetables.) What types of foods and dud foods are included in the Western Diet? Do you think a Western Diet helps us reach our goals? Why or why not?



Procedure (cont.)

What are some reasons revealed in the film for why we eat this way? (It's cheap, convenient, and processed to taste really good.) What does the film reveal that the food industry does to products to make them taste really good? (Manipulate them to have just the right texture, color, smell, etc.) What are the impacts of these “engineered” foods? (They make you want more and more, they make you miss them when you don't have them, and they make you eat lots of them.) Is the film referring to dud foods or foods as products that are engineered to taste really good? (Dud foods.)

Can you think of dud foods that you crave? What are they? Now that you know that dud foods will not help you reach your goals, what ideas do you have for how to eat less of them?

7. Review the Lesson's Key Points (10 min.)

Have students join you seated in a circle to review the key points of the lesson and have the ball you made with the **Onion Ball** cards p. 77. Ask students *what does an onion looks like?* (It is round, it has layers that can be peeled back). Explain that you have an “onion ball” made up of sheets of paper with questions written on them.

Peel the first sheet of paper (the outer layer of the onion ball) and read the question written on the paper out loud. Students can stand up if they know the answer. Throw the ball to one student, who can call out the answer. Have the student peel off the next layer and read out the question. He or she tosses the onion ball to the first person to stand up. Continue until the ball is gone.

There are SOCIAL activities embedded in the onion ball. When a student peels a SOCIAL layer, the entire group participates (e.g., SOCIAL: Everyone run on the spot for 20 seconds).

Bake Race

The purpose of the cookie relay race is to introduce students to ingredients. Students work in teams to guess the food ingredients in a chocolate chip cookie using the ***Chocolate Chip Cookie Relay Race*** activity sheet. In teams, they execute each step of the recipe on the activity sheet using cookware, the ***Cookie*** cards, and by performing actions at a designated “baking station” in a relay race. The first team to complete all the steps on the activity sheet wins.

Materials

- ***Cookie*** cards, p. 61
- ***Chocolate Chip Cookie Relay Race*** activity sheets, p. 63
- Pencils (2 per team)
- Large bowls
- Spatula

Set up

1. Prepare one set of ***Cookie*** cards, a ***Chocolate Chip Cookie Relay Race*** activity sheet, and a couple of pencils for each team.
2. Designate an area to set up as a “baking station” for each team. Ensure that the baking stations are set up side by side in a space that allows for each team to form a line a few feet away and run up to the station.
3. Put out a bowl, and a set of ***Cookie*** cards at each baking station. Spread the ***Cookie*** cards out so that they are in no particular order.

Procedure

1. Divide the class into small teams of three to four students and provide each team with a ***Chocolate Chip Cookie Relay Race*** activity sheet and pencil.
2. Explain that students have five minutes to review the activity sheet and to determine the ingredients in homemade chocolate chips cookies and then record their answers in the appropriate blank spaces on the activity sheet.
3. After five minutes, have each team line up a few strides back from their designated baking station.
4. Designate one person from each team to go first and hand that person the spatula to act as the baton in the relay race.

Bake Race (cont.)

Procedure (cont.)

5. The first person will approach the team's baking station and select the **Cookie** card that matches the first ingredient answer on their activity sheet. He or she can bring a **Chocolate Chip Cookie Relay Race** activity sheet up to the baking station as a guide. Then the first team member acts out the first step. (e.g., if the team wrote down 'sugar' in the first blank "Put the SUGAR in the bowl," then the first team member will put the **Cookie** card with the sugar image into the bowl.) If their team wrote down an ingredient that is incorrect they will have to go back to their team and determine the correct answer, write it onto their activity sheet, and go back to the baking station to select the correct corresponding **Cookie** card.
6. Once the first person has completed the first step on the recipe, he or she will hand off the spatula and activity sheet to the next team member in line, who will go up to the baking station to execute the second step.
7. Once everyone on the team has participated, cycle back through the members until all the steps have been completed.
8. The first team to complete all the steps correctly wins. Crown the winning team the Chocolate Chip Cookie Experts!
9. Bring the group back together for a quick discussion using the discussion questions below.

Discussion Questions

1. *Did anything surprise you about this activity?*
2. *Were the ingredients what you expected? Do you think these ingredients are food or dud food ingredients? Why?*

Bake Race (cont.)

Chocolate Chip Cookie Relay race activity sheet answers:

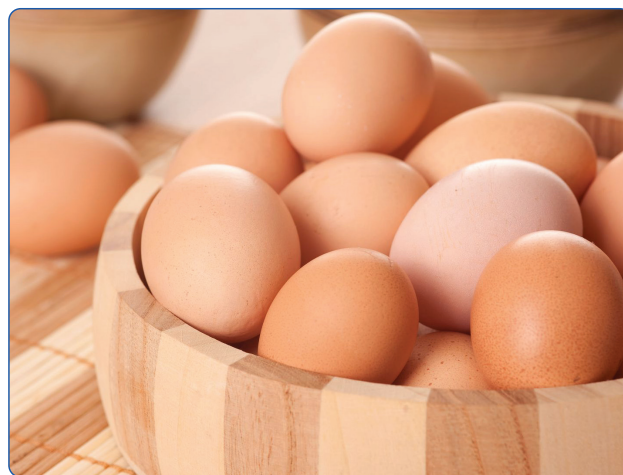
<u>BUTTER</u>	CLUE: I am made from milk. You can spread me on toast.
<u>CHOCOLATE CHIPS</u>	CLUE: I come in small delicious morsels, this recipe couldn't exist without me.
<u>EGG</u>	CLUE: I come from a chicken. Crack me, but don't get my shells in the mixture.
<u>SUGAR</u>	CLUE: I am sweet. I am white.
<u>BAKING SODA</u>	CLUE: When you add me to baked goods, I help them rise.
<u>FLOUR</u>	CLUE: I am a white powder that is made from ground up wheat.
<u>SALT</u>	CLUE: I am white. I look like sugar but taste very different.

Use the ingredients above to complete the steps for how to make chocolate chip cookies.

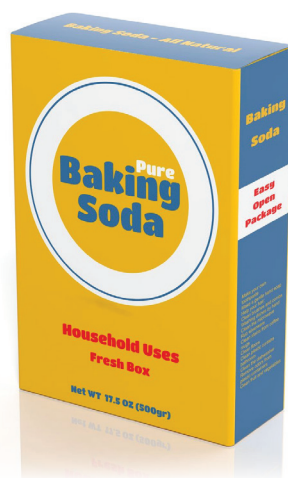
1. Place a stick of BUTTER in a bowl. Make sure it is soft.
2. Add the SUGAR to the bowl which will add sweetness to your cookies.
3. Crack the EGG into the bowl. Make sure not to get any of the shell in the mixture! Use the spatula to mix until you have a creamy yellow mixture.
4. Now add the dry ingredients. Let's start with the FLOUR since we will use the most of this dry ingredient.
5. Then add another dry ingredient, BAKING SODA. This one will help your cookies rise. You only need to add a small amount. Stir everything together.
6. Add the SALT, make sure you don't confuse this with sugar since they look so similar.
7. Now we have the ingredients for a basic cookie. Make it this special type of cookie by adding the CHOCOLATE CHIPS. Stir to mix everything together.
8. Scoop out small spoonfuls of the mixture onto a baking sheet.
9. Put the baking sheet in the oven.
10. Bake the cookies until they are nice and golden brown in color.

Cookie Cards

Print and cut out one set for each small group.



Cookie Cards (cont.)





Activity Sheet

Name _____

Date _____

Chocolate Chip Cookie Relay Race

As a team, work together to fill in Part 1, "Ingredients in a Homemade Chocolate Chip Cookie." The clues below can help you decide what all the possible ingredients are. Then complete Part 2, "How to Make Chocolate Chip Cookies." There is one correct answer for each blank space. You have about five minutes to complete this activity sheet.

Part 1: Ingredients in a Homemade Chocolate Chip Cookie

Fill in the ingredients typically used in a homemade chocolate chip cookie, using the clues below.

- _____ CLUE: I am made from milk. You can spread me on toast.
- _____ CLUE: I come in small delicious morsels, this recipe couldn't exist without me.
- _____ CLUE: I come from a chicken. Crack me, but don't get my shells in the mixture.
- _____ CLUE: I am sweet. I am white.
- _____ CLUE: When you add me to baked goods, I help them rise.
- _____ CLUE: I am a white powder that is made from ground up wheat.
- _____ CLUE: I am white. I look like sugar but taste very different.

Part 2: How to Make Chocolate Chip Cookies

Use the ingredients above to complete the steps for how to make chocolate chip cookies.

1. Place a stick of _____ in a bowl. Make sure it is soft.
2. Add the _____ to the bowl which will add sweetness to your cookies.
3. Crack the _____ into the bowl. Make sure not to get any of the shell in the mixture! Use the spatula to mix until you have a creamy yellow mixture.
4. Now add the dry ingredients. Let's start with the _____ since we will use the most of this dry ingredient.
5. Then add another dry ingredient, _____. This one will help your cookies rise. You only need to add a small amount. Stir everything together.
6. Add the _____, make sure you don't confuse this with sugar since they look so similar.
7. Now we have the ingredients for a basic cookie. Make it this special type of cookie by adding the _____. Stir to mix everything together.
8. Scoop out small spoonfuls of the mixture onto a baking sheet.
9. Put the baking sheet in the oven.
10. Bake the cookies until they are nice and golden brown in color.

Activity sheet

Name _____

Date _____

What Are These Ingredients?



BLEACHED ENRICHED FLOUR (WHEAT FLOUR, NIACIN, REDUCED IRON, THIAMINE MONONITRATE [VITAMIN B1], RIBOFLAVIN [VITAMIN B2], FOLIC ACID), SEMISWEET CHOCOLATE CHUNKS (SUGAR, CHOCOLATE, DEXTROSE, COCOA BUTTER, MILK, SOY LECITHIN), SUGAR, SOYBEAN OIL, SEMISWEET CHOCOLATE CHIPS (SUGAR, CHOCOLATE, COCOA BUTTER, DEXTROSE, MILK, SOY LECITHIN). PARTIALLY HYDROGENATED COTTONSEED OIL, BAKING SODA, AMMONIUM PHOSPHATE, SALT, MOLASSES, HIGH FRUCTOSE CORN SYRUP, WHEY, SOY LECITHIN, CARAMEL COLOR, ARTIFICIAL FLAVOR.

Ingredient List Cards

Print and cut out 1 for the whole class.

1. **INGREDIENTS:** DRY ROASTED PEANUTS, PEANUT OIL, SALT
2. **INGREDIENTS:** ENRICHED FLOUR (WHEAT FLOUR, NIACIN, REDUCED IRON, THIAMIN MONONITRATE, RIBOFLAVIN, FOLIC ACID), CORN SYRUP, HIGH FRUCTOSE CORN SYRUP, DEXTROSE, SUGAR, SOYBEAN OIL, PALM OIL (WITH TBHQ), CRACKER MEAL, WHEAT STARCH, SALT, DRIED STRAWBERRIES, DRIED PEAR, DRIED APPLES, BAKING SODA, SODIUM ACID PYROPHOSPHATE, MONOCALCIUM PHOSPHATE, CITRIC ACID, GELATIN, WILDBERRY FLAVOR, XANTHAN GUM, CARAMEL COLOR, SOY LECITHIN, MODIFIED WHEAT STARCH, BLUE 2 LAKE, CARMINE COLOR, VITAMIN A PALMITATE, RED 40, RED 40 LAKE, BLUE 1 LAKE, NIACINAMIDE, REDUCED IRON, PYRIDOXINE HYDROCHLORIDE, BLUE 2, YELLOW 5 LAKE, RIBOFLAVIN, THIAMIN HYDROCHLORIDE, YELLOW 6.
3. **INGREDIENTS:** CARBONATED WATER, HIGH FRUCTOSE CORN SYRUP, NATURAL FLAVORS, TARTARIC ACID, POTASSIUM SORBATE, SODIUM BENSOATE, CITRIC ACID, RED 40, BLUE 1
4. **INGREDIENTS:** CORN SYRUP, SUGAR, APPLE JUICE FROM CONCENTRATE, GELATIN, FOOD STARCH-MODIFIED, CITRIC ACID, LESS THAN 1.5% - PECTIN, NATURAL AND ARTIFICIAL FLAVORS, COLORING (RED 40, YELLOW 5)

Ingredient List Cards (cont.)

- | | |
|-----|--|
| 5. | INGREDIENTS: COOKED CHICKPEAS, WATER, GROUND SESAME SEEDS, SUNFLOWER OIL, OLIVE OIL, GARLIC, LEMON JUICE, CUMIN, SALT. |
| 6. | INGREDIENTS: APPLES |
| 7. | INGREDIENTS: TOMATOES, ONIONS, GARLIC, OLIVE OIL, OREGANO, SALT, BLACK PEPPER |
| 8. | INGREDIENTS: SUGAR, UNBLEACHED ENRICHED FLOUR (WHEAT FLOUR, NIACIN, REDUCED IRON, THIAMIN MONONITRATE, RIBOFLAVIN, FOLIC ACID), HIGH OLEIC CANOLA AND/OR PALM OIL AND/OR CANOLA OIL, COCOA, HIGH FRUCTOSE CORN SYRUP, CORNSTARCH, BAKING SODA AND/OR CALCIUM PHOSPHATE, SALT, SOY LECITHIN, ARTIFICIAL FLAVOR, CHOCOLATE |
| 9. | INGREDIENTS: 100% WHOLE WHEAT FLOUR, WATER, YEAST, SALT, SUGAR |
| 10. | INGREDIENTS: ORGANIC WHOLE MILK, ORGANIC MAPLE SYRUP, ORGANIC VANILLA, LIVING YOGURT CULTURES |
| 11. | INGREDIENTS: PORK LIVERS, PORK, BACON (CURED WITH WATER, SALT, SUGAR, SODIUM PHOSPHATES, SODIUM ASCORBATE, AND/OR SODIUM ERYTHORBATE, SODIUM NITRITE), POTASSIUM LACTATE, WATER, SALT, SPICES, DEHYDRATED ONIONS, SODIUM DIACETATE, SODIUM ASCORBATE, SUGAR, SODIUM NITRITE |

Ingredient List Cards (cont.)

12. INGREDIENTS: SUGAR, CORN FLOUR BLEND (WHOLE GRAIN YELLOW CORN FLOUR, DEGERMINATED YELLOW CORN FLOUR), WHEAT FLOUR, WHOLE GRAIN OAT FLOUR, OAT FIBER, SOLUBLE CORN FIBER, VEGETABLE OIL (COCONUT, SOYBEAN, AND/OR COTTONSEED), SALT, RED 40, NATURAL FLAVOR, BLUE 2, TURMERIC COLOR, YELLOW 6, ANNATTO COLOR, BLUE 1, BHT, SODIUM ASCORBATE AND ASCORBIC ACID, NIACINAMIDE, REDUCED IRON, ZINC OXIDE, PYRIDOXINE HYDROCHLORIDE, RIBOFLAVIN, THIAMIN HYDROCHLORIDE, VITAMIN A PALMITATE, FOLIC ACID, VITAMIN D, VITAMIN B12.

Ingredient List Cards (cont.)

13. INGREDIENTS: FILTERED WATER, SUGAR, PEAR AND GRAPE JUICE CONCENTRATES, CITRIC ACIDE, ORANGE, APPLE, AND PINEAPPLE JUICE CONCENTRATES, NATURAL FLAVOR WHITE TURKEY, WATER, POTASSIUM LACTATE, MODIFIED CORNSTARCH, DEXTROSE, CARRAGEENAN, SALT, SODIUM PHOSPHATES, POTASSIUM CHLORIDE, SODIUM DIACETATE, FLAVOR, SODIUM ASCORBATE, SMOKE FLAVOR, SODIUM NITRITE, NATURAL AND ARTIFICIAL FLAVOR

SUGAR, CORN SYRUP, MALTODEXTRIN, DEXTROSE, MODIFIED FOOD STARCH, PARTIALLY HYDROGENATED SOYBEAN OIL, CITRIC ACID, WATER, ARTIFICIAL FLAVORS, ARTIFICIAL COLORS, RED 40, BLUE 1, YELLOW 6, YELLOW 5.

PASTEURIZED PART-SKIM MILK, SKIM MILK, MILKFAT, SALT, SODIUM CITRATE, MILK, LACTIC ACID, CHEESE CULTURE, SORBIC ACID, SODIUM PHOSPHATE, ENZYMES, APOCAROTENAL, VITAMIN A PALMITATE,

ENRICHED FLOUR (WHEAT FLOUR, NIACIN, REDUCED IRON, THIAMINE MONONITRATE, RIBOFLAVIN, FOLIC ACID), PALM OIL, SUGAR, SALT, BAKING SODA, WHEY, SOY LECITHIN, NATURAL FLAVOR

Ingredient List Cards (cont.)

14. INGREDIENTS PART 1: RECONSTITUTED POTATOES (MONO & DIGLYCERIDES, SODIUM ACID PYROPHOSPHATE, CITRIC ACID) MARGARINE (PARTIALLY HYDROGENATED SOYBEAN OIL WITH TBHQ & CITRIC ACID, WATER, MONO & DIGLYCERIDES (BHT, CITRIC ACID) BETACAROTENE FOR COLOR (CORN OIL, TOCOPHEROL), VITAMIN A PALMITATE, DRIED DAIRY BLEND (WHEY, CALCIUM CASEINATE), SALT, WATER

PART 2: BEEF, PORK, WATER, SEASONING, BREAD CRUMBS (ENRICHED BLEACHED WHEAT FLOUR (NIACIN, REDUCED IRON, THIAMINE MONONITRATE, RIBOFLAVIN, FOLIC ACID), SALT, DURUM FLOUR, VEGETABLE OIL SHORTENING (SOYBEAN), SODIUM BICARBONATE, SODIUM ACID PYROPHOSPHATE, MONOCALCIUM PHOSPHATE, DEXTROSE, YEAST, SPICE EXTRACTIVE, MALTODEXTRIN, DEHYDRATED ONION, NATURAL FLAVOR (WITH HYDROLYZED SOY PROTEIN, HYDROLYZED CORN PROTEIN, DEXTROSE, AUTOLYZED YEAST EXTRACT), TOMATO POWDER, SALT, WORCESTERSHIRE

PART 3: MOLASSES, VINEGAR, CORN SYRUP, SALT, CARAMEL COLOR, GARLIC, SUGAR, SPICE, TAMARIND, NATURAL FLAVOR), SPICES, GREEN BELL PEPPER POWDER, GARLIC POWDER, ONION POWDER, DRIED BEEF STOCK, YELLOW CORN FLOUR, LACTIC ACID, CHILI PEPPER, CALCIUM LACTATE, DEHYDRATED PARSLEY,

#14 CONTINUES
ON NEXT PAGE

Ingredient List Cards (cont.)

SECOND HALF OF #14

GUANYLATE & DISODIUM INOSINATE, DRIED JALAPENO PUREE, DRIED MUSHROOM, BELL PEPPER JUICE SOLIDS, CARROT JUICE SOLIDS, VINEGAR SOLIDS, SOY LECITHIN, GRILL FLAVOR (FROM PARTIALLY HYDROGENATED SOYBEAN & COTTONSEED OIL), ASCORBIC ACID, SMOKE FLAVOR, EGG YOLK POWDER), MODIFIED FOOD STARCH, HIGH FRUCTOSE CORN SYRUP, TOMATO PUREE (WATER, TOMATO PASTE), ENRICHED FLOUR (WHEAT FLOUR (NIACIN, REDUCED IRON, THIAMINE MONONITRATE, RIBOFLAVIN, FOLIC ACID), SALT, SEASONING (CORN SYRUP, WATER, HYDROLYZED CORN PROTEIN, AUTOLYZED YEAST EXTRACT, SUGAR, SALT, BEEF STOCK, ONION POWDER, PROPYLENE GLYCOL, NATURAL FLAVORS, MONOSODIUM GLUTAMATE, BEEF FAT, CARROT JUICE CONCENTRATE, HYDROLYZED SOY PROTEIN, HYDROLYZED WHEAT GLUTEN, CELERY JUICE CONCENTRATE, ONION BROTH, THIAMINE HYDROCHLORIDE, TOMATO POWDER, SPICES, GARLIC POWDER, SUCCINIC ACID, PARTIALLY HYDROGENATED SOY PROTEIN CONCENTRATE WITH CARAMEL, SOYBEAN & COTTONSEED OIL, SOY LECITHIN, CARAMEL COLOR, POTASSIUM SORBATE), WORCESTERSHIRE SAUCE CONCENTRATE WITHOUT ANCHOVIES (VINEGAR, MOLASSES, CORN SYRUP, WATER, SALT, CARAMEL COLOR, GARLIC POWDER, SUGAR, SPICES, TAMARIND, NATURAL FLAVOR, SULFITING AGENT), BEEF TALLOW FLAVOR (BEEF FAT, FLAVORS), PARSLEY

PART 4: CARROTS, CORN, CUT GREEN BEANS

Cards

Surprise It's A...

Print and cut out one for the class.

1

Peanut Butter



2

Frosted Wild! Berry Pop Tarts



3

Grape Fanta



4

Starburst



5

Hummus



6

Apple Sauce



Cards

Surprise it's a... (cont.)

Print and cut out one for the class.

7

Tomato sauce



8

Double Stuf Oreo



9

Bread



10

Maple Vanilla Whole Milk Yogurt



11

Liverwurst



12

Froot Loops



Cards

Surprise it's a... (cont.)

Print and cut out one for the class.

13

Lunchables



14

Hungry Man Home-Style Meatloaf



Introducing Ingredients

Ingredients are substances that make part of a mixture. For example, in cooking, recipes list the ingredients that go into a specific dish. Commercial products have ingredient lists on the package to show what is in the product. Raw foods, such as fresh fruits and vegetables, fish, meats, and eggs, are not required to have an ingredient list because they are just one thing; they come from nature.

How Do I Interpret An Ingredient List?

The ingredient list shows the ingredients in descending order by weight.

[DRY ROASTED PEANUTS, PEANUT OIL, SALT]

For example, this product includes dry roasted peanuts, peanut oil, and salt. The first ingredient listed is roasted peanuts. This means that by weight, peanuts are the most abundant ingredient in this item, and salt is the least abundant ingredient by weight. This ingredient list is for peanut butter!

Below is an ingredient list from another item. You can see that unbleached enriched flour is the most abundant ingredient by weight and that caramel color is the least abundant ingredient in this item. Can you guess what this ingredient list might be?

[BLEACHED ENRICHED FLOUR (WHEAT FLOUR, NIACIN, REDUCED IRON, THIAMINE MONONITRATE {VITAMIN B1}, RIBOFLAVIN {VITAMIN B2}, FOLIC ACID), SEMISWEET CHOCOLATE CHUNKS (SUGAR, CHOCOLATE, DEXTROSE, COCOA BUTTER, MILK, SOY LECITHIN), SUGAR, SOYBEAN OIL, SEMISWEET CHOCOLATE CHIPS (SUGAR, CHOCOLATE, COCOA BUTTER, DEXTROSE, MILK, SOY LECITHIN). PARTIALLY HYDROGENATED COTTONSEED OIL, BAKING SODA, AMMONIUM PHOSPHATE, SALT, MOLASSES, HIGH FRUCTOSE CORN SYRUP, WHEY, SOY LECITHIN, CARAMEL COLOR, ARTIFICIAL FLAVOR.]

It is a Chips Ahoy! Chocolate Chip cookie!

Some of these ingredients don't seem familiar or like anything that would be found in a cookie at all. If you were to make chocolate chip cookies, for instance, you would likely use butter, sugar, eggs, flour, baking powder, and chocolate chips, right? Where is the butter or the eggs in this Chips Ahoy! Cookie?

If you wanted to get into the baking business, however, and wanted to produce chocolate chips cookies for sale, say at New York City farmers market, you would likely need to provide an ingredient list on your package. Let's see what that might look like:

UNBLEACHED ALL PURPOSE 100% WHEAT FLOUR, SUGAR, BUTTER, CHOCOLATE CHIPS (COCOA LIQUOR, SUGAR, COCOA BUTTER), EGGS, BAKING POWDER, SALT

You can see that common ingredients, like sugar and baking soda are listed as such, and not with their unfamiliar chemical names (like sucrose or sodium bicarbonate). If a common name exists, it will be provided on the ingredient list. These are things that you can likely purchase at a market or grocery store. Which means that when an unfamiliar ingredient is seen on an ingredient list, it is likely made in a factory. How does this compare to the Chips Ahoy! cookie? DEXTROSE, SOY LECITHIN, or AMMONIUM PHOSPHATE may not be the types of ingredients that you could find in the grocery store.

Introducing Ingredients (cont.)

Ingredients that are further made up of other ingredients or have additional things added to them are listed in parentheses following that particular ingredient.¹ Compare the flour in our cookies to the flour in the Chips Ahoy! cookies. Here you'll see our cookies are made with all purpose wheat flour, which has been made from ground wheat. The Chips Ahoy! flour is made with wheat flour that has been processed with additional ingredients added to it.

UNBLEACHED ENRICHED FLOUR (WHEAT FLOUR, NIACIN, REDUCED IRON, THIAMINE MONONITRATE, RIBOFLAVIN, FOLIC ACID)

UNBLEACHED ALL PURPOSE 100% WHEAT FLOUR

If the food product has many unfamiliar or unpronounceable ingredients it could be difficult to know what it is, let alone what it is made up of.

Now, take a look at the number of ingredients on the Chips Ahoy! package. There are upwards of 20 ingredients!

If it is difficult to pronounce, or doesn't seem familiar to you, there is a good chance that it is an ingredient not made by nature, but rather made in a factory and/or by the food industry. When you see these types of ingredient lists, it's a good warning sign that this is a dud food.

Luckily, this Food Rule can help you be aware of and avoid dud foods, "Eat foods with ingredients that a third grader could pronounce."

1. FDA (2013). Guidance for Industry: A Food Labeling Guide.

<http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/ucm064880.htm#ingredient>

Name _____

Date _____

Food Rules Lesson 2

Lesson 2: **Chemical Cuisine**

Food Rule: _____

Eat food. Not too much. Mostly plants.

Family Tips

- Stick to the outer aisles of the grocery store. This is where we find many whole foods that don't need any ingredient list at all.
- Some common foods, like bread, peanut butter, and cereal, can either have long lists of hard to pronounce ingredients or just a couple of basic ingredients. Go for the option with fewer, it's often the same price and an easy way to eat food instead of dud food.

Food Rules from Previous Lessons

Eat Food.

- 1 Eat food you can picture growing in nature.

In Defense of Food film clip that accompanies this lesson:

Salt, Sugar, Fat

Watch at <http://bit.ly/idofclip2>

Learn more about *In Defense of Food* at:

pbs.org/indefenseoffood



Cards

Onion Ball

Print and cut out 1 set for class.

- | | |
|--|---|
| 1. Why do you think food companies add so many strange ingredients to their products? | 2. What are three common ingredients that food companies add to most dud foods? |
| 3. SOCIAL: Everyone run on the spot for 20 seconds. | 4. By looking at the ingredients in Chips Ahoy! cookies, do you think that they are foods or dud foods? |
| 5. If you see an ingredient list with 15 ingredients on it, do you think it is a food or a dud food? | 6. Name a food you plan to eat today. |



Onion Ball (cont.)

7. SOCIAL: Everyone do 10 jumping jacks!	8. Name the Food Rule from the Lesson 1.
9. Where do you see ingredient lists?	10. What can you do to apply the Food Rule from this week when choosing something to eat?
11. SOCIAL: Everyone dance for 30 seconds.	12. Name the Food Rule from today's lesson.



Cards

Onion Ball (cont.)

13. How do you think food can help you reach your goals?

14. Name an ingredient in peanut butter.

15. What is food?

16. What is an ingredient?



LESSON 3: CLAIM GAME

First Bite

Every year food companies spend billions of dollars on food marketing, much of which is targeted at children and adolescents. Although food and beverage companies advertise their products using many techniques and formats, they spend a substantial portion of their budgets on marketing through packaging. They work hard to make the packages look appealing to drive purchases. In fact, according to recent U.S. Federal Trade Commission data, 12% of youth-targeted marketing expenses are spent on point-of-sale, second only to television.¹

Cunning Dud Food Packages

Food and drink companies spend a lot of time creating packages for dud foods that are fun, colorful and enticing. It works. These companies make a lot of money from selling their products to adolescents. Adolescents are particularly vulnerable to these marketing strategies because they try hard to fit in and develop their sense of identity. If you drink Gatorade, you'll dunk like Michael Jordan. If you drink Pepsi, you'll sing and dance like Beyoncé. Food packaging that makes you think you will be happy, popular, cool, talented, athletic, and attractive if you consume dud foods makes adolescents feel good about and connected to dud foods without even realizing it.

Product packages also dictate gender norms and body image ideals. Beverage containers often feature images of male celebrity athletes or attractive, sexualized women. These images imply that eating or drinking a particular product makes you a "real man" who will be a successful athlete or a "real woman" who is sexy and beautiful.

Most children and adolescents depend on their parents for their food. Marketers recognize the strong influence that young people exercise on their parents, an effect called "nag factor" or "pester power."² Companies respond by using attractive colors and images, having characters on food packages that look right at you, and getting stores to stock their products at eye level.³ Companies work hard to establish brand loyalty because adults often purchase brands to which they first became attached as children.

Food Marketing and Health

All of this targeted marketing to youth can be harmful to their health, since youth tend to eat more dud foods with high levels of sugar, salt, fat, and other additives. This is a likely factor in high childhood obesity rates across the United States. Additionally, dud foods may displace healthier, "quieter" foods such as fruits and vegetables, which don't shout messages of fun and coolness.

Helping youth recognize techniques companies employ to entice them to buy products through clever food packaging can inspire their desire and confidence to resist dud foods and eat more foods.

References

1. Federal Trade Commission (2008) *Marketing Food to Children and Adolescents. A Review of Industry Expenditures, Activities, and Self-Regulation. A Report to Congress.* <https://www.ftc.gov/reports/marketing-food-children-adolescents-review-industry-expenditures-activities-self-regulation>. Accessed September 2015.
2. Pettigrew, S., Tarabashkina, L., Roberts, M., Quester, P., Chapman, K., & Miller, C. (2013). The effects of television and Internet food advertising on parents and children. *Public health nutrition*, 16(12), 2205-2212.
3. Page, R., Montgomery, K., Ponder, A., & Richard, A. (2008). Targeting children in the cereal aisle: promotional techniques and content features on ready-to-eat cereal product packaging. *American Journal of Health Education*, 39(5), 272-282.



LESSON 3: CLAIM GAME

Aim

Explore how companies use marketing strategies on food packaging to get us to buy products.

Food Rule

Avoid products that make health claims.

Film Clip

Dud Food Fads

Objectives

Students will be able to:

- recognize that food marketing influences choices;
- identify food marketing techniques used on packages;
- discuss how marketing of dud foods influences preferences, selection, and consumption;
- apply the Food Rule as they make food choices;
- use descriptive words to describe and express pleasure for foods;
- recognize that their food environment is saturated with dud foods.

Overview

This lesson begins with students examining photos of food packages. They learn five “tricky techniques” companies use to get people to buy food products. Watching an *IDOF* film clip reinforces the misuse of claims on food packages. Students then learn and discuss the Food Rule, “Avoid products that make health claims.” Next, students sample various fruits and learn that real, whole food does not need fancy packaging or claims to promote it. Then they create an action plan to eat foods instead of dud foods. Lastly, students are assigned homework to document foods and dud foods that they see in their home and community, to be discussed in the next lesson.

Materials

In this guide

- *Fun Fruit* preparation sheet p. 83
- *Pepsi Food Package* card p. 88
- *Pop-Tarts Food Package* card p. 89
- *Tricky Techniques* lesson resource p. 90
- *Dud Food Fake Out* guide sheet p. 94
- *Dud Food Package* cards p. 101
- *Food Rules Lesson 3* activity sheet p. 109
- *Descriptive Words* activity sheet p. 110
- *Eat Food Action Plan* activity sheet p. 111

Other materials

- *IDOF* film clip 3: Dud Food Phads and AV equipment

Other materials

- Knife
- Spoon
- Cutting board
- Bowls and plates for fruit
- 3 selected fruits for tasting, see *Fun Fruit* preparation sheet p. 83 for options
- 5 sticky note pads (blue, green, yellow, pink, and orange)

For each student:

- 2 blank sheets of paper
- Pencil
- Toothpicks
- Napkin
- Spoon



Before You Begin: Total prep time: approximately two hours

Within a few days before lesson

1. Select and purchase fruit produce for tasting activity. See *Fun Fruits* preparation sheet p. 83.
2. Review the entire lesson.

Within a day before lesson

3. Print and cut out cards:
 - *Pepsi Food Package* card p. 88, one copy
 - *Pop-Tarts Food Package* card p. 89, one copy for each pair of students
 - *Dud Food Package* cards p. 94, one set
4. Print one copy per student of each activity sheet:
 - *Food Rules Lesson 3* activity sheet p. 109.
 - *Descriptive Words* activity sheet p. 110.
 - *Eat Food Action Plan* activity sheet p. 111.
5. **Dud food fake out activity:** Prepare sets of sticky notes of all five colors for each small group.
6. **Viewing IDOF film clip:**
 - Set up AV equipment and space for film viewing.
 - Find IDOF film clip 3: Dud Food (Phud) Phads at <http://bit.ly/idofclip3>
7. **Fruit tasting:**
 - Clean all food preparation and eating surfaces with countertop cleaner.
 - Prepare fruit for tasting. See *Fun Fruits* preparation sheet p. 83 for details.

Fun Fruit

There are so many unique and interesting fruits. Some are star shaped, look like a blowfish, or have spikes. Exploring fruits with students is be a great way to get them excited about different foods.

Listed below are some interesting and unusual fruits from around the globe. Select two or three fruits for students to taste. Some may be harder to find than others. See what you can find in your local grocery store or farmers market.

Note: Wash all fruit before cutting and serving.

Give each student a toothpick, spoon, and napkin. Have students serve themselves pieces of the fruit with toothpick or spoon as appropriate.

Dragon fruit



Dragon Fruit is the fruit of a cactus plant. The outside is usually red and green and the inside is either white or red with little black crunchy seeds. It is often compared to kiwi with a very mild flavor.

To prepare for tasting: Cut the fruit in half. Use a spoon to scoop out the flesh and place on a plate.

Horned melon



Horned melon is a fruit in the cucumber and melon family. It has horn-like spines on the outside, hence the name. Inside the fruit is lime green and jelly-like with a tart flavor.

To prepare for tasting: Cut the fruit in half. Use a spoon to scoop out the soft flesh inside. Place in a bowl.

Lychee fruit



Lychee fruit comes encased in pink-red roughly textured skin, which is inedible. Peel the skin and you'll find a sweet white fruit inside with a floral flavor.

To prepare for tasting: Place in bowl. Student can take one lychee fruit and peel it themselves to taste. Warn them not to swallow the pit inside.

Star fruit



Can you guess where this fruit gets its name? The entire fruit is edible. It is a sweet fruit that has the texture of a grape.

To prepare for tasting: Slice the fruit laterally into star shaped pieces and place them on a plate.

Fun Fruit (cont.)



Papaya

Papaya is a bright orange or pinkish colored fruit with small black seeds and a green or yellow skin. A ripe papaya will be soft to the touch and you'll find a juicy, sweet fruit inside. The seeds are edible too! They taste like black pepper.

To prepare for tasting: Slice the papaya in half and scoop out the black seeds. If you would like students to try them, put them to the side. Then use a spoon to scoop out the flesh. Slice and place on a plate.



Kiwi

Kiwi has a fuzzy brown skin with bright green flesh and black seeds.

To prepare for tasting: Slice the kiwi in half. Use a spoon to scoop out the flesh. Slice and place on a plate.



Guava

Guava looks a little like a pear from the outside. Inside it has a soft pink or yellow fruit. Although the seeds inside the guava are edible, they are a little hard.

To prepare for tasting: Slice and place on a plate.



Mango

Mango is a sweet fruit with a soft, pulpy texture. There are different varieties. Some are almond shaped with yellow peel, others are round with red, orange, and yellow peel.

To prepare for tasting: The mango has a large, flat-ish pit in the center that you'll have to slice around. Cut a large slice on either side of the pit. Then take each slice, and score the flesh with lengthwise and widthwise cuts. Turn the skin inside out so that the cut segments pop out. Use a spoon to scoop out the cubes. Place cubes on a plate. For more information on cutting a mango, see: <https://www.youtube.com/watch?v=lvLdPjpELyU>.



Procedure

Lesson time: 120 min. (two 60 min. parts)

Part 1 (60 min.)

1. Play Word Association Game (10 min.)

Tell students they are going to play a word association game. Distribute a blank sheet of paper and pencil to each student. Explain that you will read out 5 terms. For each term students will write down the first food or drink that comes to mind.

The terms are: sporty, snack, refreshing, healthy, and fruity. Read each and give students time to write their food or drink.

Write “sporty” on the board or chart paper. Go around the group and ask students to share their food or drink. Record students’ responses. For repeats, place a tally mark. Continue with the four other terms.

Ask students, *why do you think some foods or drinks were repeated?* (Marketing and advertising lead us to associate certain quantities with certain foods.)

2. Introduce Marketing Strategies (10 min.)

Explain that billions of dollars are spent on designing the outside of food and beverage packages. Every word, color, and image is meant to convince us to buy the product. Nothing is on there by accident. Hold up the **Pepsi Food Package** card p. 88. Ask the students the questions in the sidebar.

3. Explore Different Marketing Techniques (20 min.)

We can become more thoughtful about our food choices when we understand the techniques food companies use to design packages. For this activity, divide students into pairs. Distribute a **Pop-Tarts Food Package** card p. 89 to each pair, and a piece of paper and pencil to each student.

Tell each pair to closely examine the **Pop-Tarts Food Package** card for colors, images, and words that might convince someone to buy this product. Instruct students to circle what they find, and to jot down why it is convincing. For example, SpongeBob SquarePants appears on this package. Students would circle the SpongeBob image, and jot down “kids like SpongeBob.” Give students about five minutes to examine the Pop-Tarts package.

Probing questions:

Why did Pepsi put Beyoncé on its can? (Beyoncé is famous, cool, and attractive so people will notice the product. The implication is if you drink Pepsi you can be like Beyoncé. The face makes the can stand out.)
Why did Pepsi choose to use these colors? (Brand colors; pink is usually feminine.)
How did you know this was a can of soda? (Logo and name.)
What does the logo do? (Help to easily identify the brand and product.)
Which age group is Pepsi trying to sell this to? (Adolescents and young adults.)
Why do you think that?



Procedure (cont.)

Bring everyone back together. Tell students there are five “tricky techniques” that are used to make food packaging convincing. Use the **Tricky Techniques** lesson resource **Learning Tricky Techniques Used on Food Packages** section p. 90 to review the five tricky techniques: celebrities, claims, incentives/promotions, branding, special design features.

Have students look at their **Pop-Tarts Food Package** card, share what they found, and determine which tricky technique was used. Use the **Tricky Techniques** lesson resource **Tricky Techniques Used on the Pop-Tarts Food Package Card** section p. 93 to review all tricky techniques used on this food package.

4. Learn How Dud Foods Fake You Out (20 min.)

Tell students that they will look at more food packages to find tricky techniques. Use the **Dud Dood Fake Out** guide sheet p. 94 and **Dud Food Package** cards p. 101 to lead this activity. Be sure to ask students the discussion questions on the bottom of the **Dud Food Fake Out** guide sheet.

After the discussion, ask each student to share one thing they learned about tricky techniques on food packages that they would want to share with a friend or someone in their family.

Part 2 (60 min.)

5. Watch IDOF Film Clip 3: Dud Food Phads (10 min.)



Now that students have practiced identifying packaging techniques, have them join you in an area of the room set up for video viewing. Play the IDOF film clip 3: Dud Food Phads to reinforce the use of health claims on dud food packaging. Following the film clip, discuss how product packages can lead people to follow food fads.

How might a product package influence your diet? (Packages can use messages related to the latest fad to sell products. If a new diet is popular, products can use buzz words to entice people to buy their products). Can you think of any buzz words on packages that would convince someone to buy the product? (low-fat, gluten-free, high in anti-oxidants, etc.)

6. Learn the Food Rule (5 min.)

Write the Food Rule for this lesson on the board or chart paper, “Avoid



Procedure (cont.)

foods with health claims.” Ask students to give a few examples of how they could use this rule to guide their food choices.

Distribute the **Food Rules Lesson 3** activity sheet p. 109 to the class. Review the Food Rules from Lessons 1 and 2 that they have already learned, and ask them to write in this lesson’s Food Rule in the Lesson 3 box. Encourage students to take this sheet home and share the Food Rules with their families.

7. Taste and Describe Fruits (25 min.)



Tell students that they will now try some fruits. Distribute a toothpick, spoon, napkin, and the **Descriptive Words** activity sheet p. 110 to each student. Have students taste each of the fruits you have, using their five senses. Remind them to not yuck anyone’s yum.

Then, using the words on the activity sheet, have students describe how the fruits taste, look, smell, feel, and sound. For tips on how to do the tasting, see the **Fun Fruit** preparation sheet p. 83.

Ask students, *which fruits were your favorite? Why? Do you want to eat these fruits again?* Encourage students to tell their families about the fruit.

8. Make an Action Plan (15 min.)

Explain to students that making an action plan can help them make food choices that will help them follow the Food Rules. Distribute the **Eat Food Action Plan** activity sheet p. 111 and a pencil to each student. Instruct them that they will make an action plan to replace a dud food with a food. Make sure that the action plan is specific and clear so that they can easily know if they have achieved their plan. Share a personal example of an action plan. For example, *I’m going to eat a banana and sunflower seeds for a snack two days a week, instead of buying a bag of Doritos.* Have several students share their action plans.

9. Introduce Capture It Activity (5 min.)

Explain to students that *Capture It* is an activity where they apply what they learn. Tell students their first *Capture It* assignment is to take a photo or draw a picture of a dud food they want to stop eating or less often or in smaller amounts. Also instruct students to write a few sentences about the dud food and why they want to eat less of it. They will be invited to share their *Capture It* in the next lesson.

An action plan is an opportunity for students to take what they learned and apply it in a meaningful and actionable way. It can help them build their confidence in their abilities to make good choices.

Example: Photo of an iced tea bottle. “ I really like this, but now I know it is a dud food so I’m trying not to drink it. I still get it sometimes. But I know change takes time and I’m going in the right direction.”

Pepsi Food Package

Print and cut out one for the class.



Pop-Tarts Food Package

Print and cut one for each pair of students.



Tricky Techniques

Learning Tricky Techniques Used on Food Packages

There are five common marketing techniques used on food packages, which we call tricky techniques.

Companies use these techniques to convince us to buy their products. However, we are often unaware that we are being influenced. Identifying these tricks makes us better equipped to make more thoughtful choices about what to eat.

Explain to students that each of these five tricky techniques have been proven to be effective at convincing people to buy products.

The five tricky techniques are:

1. **Celebrities:** Familiar faces like celebrities, cartoon characters, movie or TV characters/actors and athletes are often prominently placed on food packages. These celebrities get paid a lot of money to be featured on the product, which they may not consume regularly or at all.



Tiger Woods – Powerade



Beyoncé Knowles – Pepsi

Celebrity endorsements are particularly appealing to adolescents. For example, sports-oriented food and beverage packages use masculine imagery to make boys want the product. The use of celebrities, even cartoons, can influence taste preferences. When a celebrity appears on a food or drink package, children and adolescents rate them as tasting better than identical alternatives without the celebrity appearance on the package.¹

2. **Claims:** Tell you about the contents of a product (e.g., contains fiber, made from real fruit). They often tout the health benefits (e.g., lower blood cholesterol, prevent heart disease). Claims can also describe the quality of the product (e.g., tasty, popular, naturally made). Some of these claims that sound important, such as “natural,” have no agreed-upon or FDA-approved meaning so food companies can use them on any product they like.



Claims about the presence/absence of nutrients (e.g., protein, sugar, fat)



Snapple - “made from the best stuff on earth”

1. Keller, K. L., Kuilema, L. G., Lee, N., Yoon, J., Mascaro, B., Combes, A. L., ... & Halford, J. C. (2012). The impact of food branding on children's eating behavior and obesity. *Physiology & behavior*, 106(3), 379-386.

Tricky Techniques (cont.)

Learning Tricky Techniques Used on Food Packages (cont.)

3. **Incentive/Promotions:** Many food packages feature prizes, contests, points, premiums, sweepstakes, and clubs to entice you to like and buy the product over and over. For instance, a package might advertise a unique limited time edition, the inclusion of games on the back of a cereal box, or a chance to win an Xbox.



Doritos – Avengers edition



Mountain Dew – ‘Win an Xbox’

4. **Branding:** Companies spend a lot of time developing their logo and brand to make you think their brand is fun, healthy, cool, etc. The company logo is almost always on the package. A package may also contain logos of partner organizations (e.g., sponsor of the Olympics with the Olympics rings), to get the added impact of that brand.

Branding is one of the most important aspects of food marketing; companies spend a lot of effort and money not only to ensure that consumers can quickly identify their product, but also to get them to think a certain way about all their products. For example, Kellogg’s markets its breakfast cereals as a healthy start to the day. Other products bearing the Kellogg’s logo may lead consumers to think that they are also healthy just by their association with the brand.

5. **Special Design Features:** These include colors, images, and editing techniques.

Color

The choice of color in designing a product package is very important.

Colors are used to help consumers identify brands quickly and consistently.

Color influences moods and feelings (positive or negative), and therefore can create a certain attitude towards a product.

For example, Pepsi’s brand colors appear on this can, but are also carried out on the image. Pink lips on Beyoncé are meant to be seductive and feminine.



People make up their minds about a product within the first 90 seconds of seeing it; and 60-90% of this assessment is based on color alone.

Tricky Techniques (cont.)

Learning Tricky Techniques Used on Food Packages (cont.)

5. Special Design Features (cont.):

Images

Images provide a great deal of information to the consumer at a quick glance. They can convince you of the quality, origin, or health of a product.

For example, packaging with images of plants or natural landscapes can make you think that the product is healthy, wholesome, or contains natural ingredients, even if it doesn't.

The image on a package can influence your thinking about how much is an appropriate amount of the product to eat. Research shows that the “unit” of the product put on the package creates a norm about how much one should eat. For example, people rated the product more favorably and ate more cookies when they were given a box of Nilla wafers with many cookies displayed on the package, compared to an identical box with only a few cookies displayed on the package.¹



Editing Techniques

Companies use many sophisticated editing techniques, like extreme close-ups, fancy lighting, and cool tricks to make the food look better than it would in real life. Often photos are taken of models of foods, and not the actual food.

For example, a bowl of cereal without milk would not look very appetizing on a cereal box. However using real milk would likely make the cereal look soggy or sink to the bottom of the bowl. That is why many cereal images that you see on cereal boxes do not use milk at all. They use glue instead!

1. Madzharov, A.V., Block, L. (2010). Effects of product unit image on consumption of snack foods. *Journal of Consumer Psychology*. 20, p. 398-409

Tricky Techniques (cont.)

Tricky Techniques Used on the Pop-Tarts Food Package Card



Celebrities	Claims	Incentives/Promotions	Branding	Special Design Features
1 SpongeBob SquarePants is prominently featured on the package.	<p>2 Claims to contain wild strawberry and berry suggest the product actually contains fruit and has some healthfulness.</p> <p>3 Claim of “natural” flavors will reassure parents that the product is safe for their children</p> <p>4 “Toaster pastries” claims they are easy to make.</p>	5 This product is promoted as a limited edition giving a sense of urgency and specialness.	<p>6 The brands Kellogg’s and Nickelodeon appeal to parents and children, respectively.</p> <p>7 Kellogg’s is associated with breakfast cereal. Part of Kellogg’s branding is associated with providing a healthy start to the day, implying that this product can do that. If you were to flip the box to see the ingredients list and nutrition facts, you would see it is far from healthy, and does not actually contain wild strawberries.</p>	<p>8 Underwater pattern with coral, bubbles, and jellyfish is attractive to children.</p> <p>9 Colors are mostly primary (yellow, blue, red) which are attractive to young children.</p> <p>10 The vibrant strawberry filling pictured on the package helps children and adults picture the product.</p> <p>11 SpongeBob’s eyes are looking straight out; research has shown that when eyes on a package look back at you it increases desire for the product.</p> <p>12 The overall look of SpongeBob pulling himself out of the sea with a huge smiling face gives the package a feeling of adventure that makes it seem like it will be fun to eat.</p>

Dud Food Fake Out

The five tricky techniques are seen over and over again on dud food packaging. Not only is it important to practice recognizing these, but it is also important to start to recognize trends across packages. For example, many products make claims about nutrients added to or taken away from a product (e.g., high in fiber, or low-fat). There are no right or wrong answers in the trends that students notice. Help students think critically and recognize that these trends will continue to change and evolve across dud food packaging with the latest food craze or fad.

Materials

1. **Dud Food Package** cards p. 101
2. Tape
3. Sticky note pads: blue, green, yellow, pink, and orange
4. Pencils

Set up

1. Designate enough wall space to hang up all of the **Dud Food Package** cards (you can call this the dud food gallery walk) around the room.
2. Tape each card somewhere at eye-level. Space them out so that there is room for a small group of students to congregate around each card.
3. Draw a legend on the board or chart paper linking each color sticky tab to a tricky technique:
 - Celebrities: blue
 - Claims: green
 - Incentives/Promotions: yellow
 - Branding: pink
 - Design features: orange
4. Divide the sticky note pads so that each small group has some of each color.

Procedure

1. Divide the students into groups of about four students.
2. Point out all the **Dud Food Package** cards posted around the room.
3. Provide each small group with all five colors of sticky notes.
4. Explain the legend on the board or chart paper displaying which colors represent which tricky techniques.
5. Assign each small group to start at a different **Dud Food Package** card, placing the groups at every other card, to give them enough space to gather around the card.

Dud Food Fake Out (cont.)


6. Instruct the groups to identify one tricky technique used on each dud food package. As a group they can determine the tricky technique (e.g., use of celebrity, use of claims, etc). Then, on the appropriate color sticky, they can briefly describe how the technique is being used to convince someone to buy the product and put the sticky on the **Dud Food Package** card. For example, if they see a stylized picture of cereal, they would mark it with an orange sticky that says, “photo of cereal makes it look tasty.”
7. When groups review a food package that already is marked with one or more tricky technique, they should try to identify a different tricky technique than other groups.
8. Groups can cycle around the **Dud Food Package** cards twice. If they come to a card in which they cannot identify any new tricky techniques, they can discuss how the combination of all the technique used on the food package would work together to convince consumers to buy the product.
9. Bring students back to one large group and review the tricky techniques on each food package. Use the potential answers on the following pages to guide you.


Discussion Questions

1. *What were the most common techniques that you saw? Why do you think these are used most often?*
2. *Which trends did you notice across the packages?*
3. *Why do companies use these tricky techniques on their packages? Is there anything wrong with it? If so, what?*
4. *What do you think about these tricky techniques being used on children?*
5. *How do you feel knowing that companies are trying to trick you into buying their products?*
6. *Would you want your friends or family to be tricked? How would you explain these techniques to them so that they wouldn't be tricked?*

Guide Sheet


Dud Food Fake Out (cont.)


Product	Tricky Technique	Rationale
<p>Gatorade</p> 	Celebrity: Tiger Woods	<ul style="list-style-type: none"> Popular athlete – Tiger Woods is recognizable; if you drink Gatorade you will be like Tiger Woods
	Claims: Natural flavors	<ul style="list-style-type: none"> Seems healthy
	Incentives/Promotions: TIGER	<ul style="list-style-type: none"> Special 'Tiger' edition, limited edition – part of a collection
	Branding: <ul style="list-style-type: none"> Name – 'Gatorade' name appears on product Logo – image of thunderbolt Slogan – 'thirst quencher' Colors – orange cap 	<ul style="list-style-type: none"> Increases recognition of product
	Design Features: <ul style="list-style-type: none"> Colors – Grey scale Image of Tiger raising his hand in the air 	<ul style="list-style-type: none"> Colors - seem masculine Image - image of Tiger winning, implication that if you drink Gatorade, you will be successful

Product	Tricky Technique	Rationale
<p>Yoplait Yogurt</p> 	Celebrity: Dora the Explorer	<ul style="list-style-type: none"> Popular TV character - Dora is recognizable; watching Dora is fun, so eating this yogurt will also be fun
	Claims: <ul style="list-style-type: none"> 25% less sugar, low-fat yogurt, vitamins A & D, Excellent source of calcium and vitamin D, Good source of protein No high fructose corn syrup No artificial colors, flavors or sweeteners Flavors from natural sources Strawberry naturally flavored Cultures Grade A 	<ul style="list-style-type: none"> Nutrient and source claims make the product seem healthy Buzz words (protein, natural) Imply that the product is of good quality Product is healthier than competing brands
	Incentive/Promotions <ul style="list-style-type: none"> Box Top for Education 	<ul style="list-style-type: none"> Box Tops are an incentive program; makes you think they support education

Guide Sheet



Dud Food Fake Out (cont.)

Product	Tricky Technique	Rationale
<p>Yoplait Yogurt (cont.)</p> 	<p>Branding:</p> <ul style="list-style-type: none"> Name – Yoplait on product Logo – Yoplait within circle with image of flower Associated Brands – Nickelodeon <p>Design Features:</p> <ul style="list-style-type: none"> Colors – Bright colors Image – Dora and her friend, Boots KIDS in multiple colors 	<ul style="list-style-type: none"> Increases recognition of product Nickelodeon appeals to kids <ul style="list-style-type: none"> Colors are bright, playful, and attractive, especially to kids Dora and Boots are happy and waving at the consumer, implies that eating this yogurt will be fun and increase happiness Colors are attractive to kids; parents think that the product is good for their kids

Product	Tricky Technique	Rationale
<p>Doritos Extreme</p> 	<p>Celebrities:</p> <ul style="list-style-type: none"> Incredible Hulk Captain America <p>Incentives/Promotions:</p> <ul style="list-style-type: none"> Limited edition action figure <p>Branding:</p> <ul style="list-style-type: none"> Name – Doritos on product Logo – Image of lit up triangle Associated Brands – Avengers <p>Design Features:</p> <ul style="list-style-type: none"> Images of super heroes Explosion appearing behind the logo 	<ul style="list-style-type: none"> Popular comic book figures that appeal to youth <ul style="list-style-type: none"> Providing an action figure, and using 'limited edition' creates a sense of urgency to buy the product <ul style="list-style-type: none"> Increases recognition of product Avengers is a cool, exciting brand <ul style="list-style-type: none"> Heroes appear in a way that makes them look heroic and powerful Implies a sense of adventure, of an out of this world experience


Guide Sheet


Dud Food Fake Out (cont.)

Product	Tricky Technique	Rationale
<p>Frosted Flakes</p> 	<p>Celebrity: Tony the Tiger</p>	<ul style="list-style-type: none"> Popular character – Tony the Tiger is recognizable; if you eat Frosted Flakes you'll be strong like Tony the Tiger
	<p>Claims:</p> <ul style="list-style-type: none"> Good Source of vitamin D, listed calories per serving, total fat, sodium, sugars, vitamin A, vitamin C 	<ul style="list-style-type: none"> Nutrient claims make the product seem healthy
	<p>Incentive/Promotion: 2 Bags</p>	<ul style="list-style-type: none"> Implies that you're getting good value
	<p>Branding:</p> <ul style="list-style-type: none"> Name of Product – Frosted Flakes appears on product Name of Brand – Kellogg's appears on product Logo – Image of Tony the Tiger Logo – Tiger Stripes – "Earn your Stripes" Slogan – "They're GR-R-EAT!" 	<ul style="list-style-type: none"> Increases recognition of product If Tony the Tiger thinks they taste great, you probably will too
	<p>Design Features:</p> <ul style="list-style-type: none"> Background images of happy kids playing sports Tony the Tiger reaching up and making a fist Tony the Tiger's eyes looking directly at you 	<ul style="list-style-type: none"> Implies that this product will help you to become good at sports, and be happy like other kids If you eat Frosted Flakes, you'll be a winner and strong, like Tony the Tiger Tony the Tiger is looking at you, which is a marketing technique to increase appeal
Product	Tricky Technique	Rationale
<p>Fanta</p> 	<p>Claims:</p> <ul style="list-style-type: none"> Caffeine free 100% natural flavors With all natural flavors Grape 	<ul style="list-style-type: none"> To denote a health attribute, or appropriateness for younger people Natural implies healthy Implies that there is real fruit in it
	<p>Branding:</p> <ul style="list-style-type: none"> Name – Fanta appears on product Logo – Fanta within circle with leaf 	<ul style="list-style-type: none"> Increases recognition of product
	<p>Design Features:</p> <ul style="list-style-type: none"> Colors – purple, like grapes Image of bundle of grapes Leaves 	<ul style="list-style-type: none"> Implies that it is made with real fruit and healthy

Guide Sheet


Dud Food Fake Out (cont.)

Product	Tricky Technique	Rationale
<p>Starburst</p> 	Claims: <ul style="list-style-type: none"> Sweet fiesta Natural flavors What's inside calories 220 11% DV per pack 	<ul style="list-style-type: none"> Implies fun, tasty, healthy and natural The front of pack calorie labeling, companies think it makes them seem transparent. This package is 11% of the calories needed in a day for a whole day
	Incentives/Promotions: <ul style="list-style-type: none"> New! 	<ul style="list-style-type: none"> Suggests introducing the product to others, who then may opt to buy it Offers the excitement of trying something new
	Branding: <ul style="list-style-type: none"> Name – Starburst appears in the center of the package Logo – Starburst within yellow almost bursting bubble 	<ul style="list-style-type: none"> Increases recognition of product
	Design Features: <ul style="list-style-type: none"> Image of different of fruits Special design that looks like a drip on S in Starburst 	<ul style="list-style-type: none"> Implies that it is made with a variety real fruits and is healthy Implies it will be mouth watering good

Product	Tricky Technique	Rationale
<p>Cheetos</p> 	Celebrity: Chester Cheetah	<ul style="list-style-type: none"> Popular character – Chester Cheetah is recognizable and made to seem cool; if you eat Cheetos, you'll be cool like Chester Cheetah
	Claims: <ul style="list-style-type: none"> Crunchy Real cheese 	<ul style="list-style-type: none"> Claim about the appealing experience of eating the product Claim about the health and quality of the product
	Branding: <ul style="list-style-type: none"> Name – Cheetos appears in the center of the package Logo – Cheetos with glowing yellow hue in the background 	<ul style="list-style-type: none"> Increases recognition of product
	Design Features: <ul style="list-style-type: none"> Image of Chester Cheetah on a bike Dangerously cheesy Image of product Image of cheese wedge 	<ul style="list-style-type: none"> Imply that eating these will bring you adventure Helps visualize the product to encourage choosing it Implies that it has real cheese and is therefore healthy and a good quality product

Guide Sheet

Dud Food Fake Out (cont.)

Product	Tricky Technique	Rationale
<p>Chips Ahoy!</p> 	<p>Claims:</p> <ul style="list-style-type: none"> • Chunky • Real chocolate chunk cookies 	<ul style="list-style-type: none"> • Claim about the quality of the product (more real chocolate)
	<p>Incentives/Promotions:</p> <ul style="list-style-type: none"> • 50 years! 	<ul style="list-style-type: none"> • Special anniversary edition
	<p>Branding:</p> <ul style="list-style-type: none"> • Name of product – Chips Ahoy! name appears on product • Name of brand – Nabisco appears on the product • Logo – Chips Ahoy! with a chocolate chip dotting the “i” 	<ul style="list-style-type: none"> • Increases recognition of product
	<p>Design Features:</p> <ul style="list-style-type: none"> • Image of streamers and confetti in the background • Celebration/birthday hat • Image of cookie • Package color is brown • Sealable 	<ul style="list-style-type: none"> • Imply that eating these will be fun, like a celebration • Helps visualize the product to encourage choosing it • Like the color of chocolate • Convenient packaging, convenient to eat

Dud Food Package

Print and cut out one set for the class.



Dud Food Package (cont.)



Dud Food Package (cont.)



Cards

Dud Food Package (cont.)



Dud Food Package (cont.)



Dud Food Package (cont.)



Dud Food Package (cont.)



Dud Food Package (cont.)



Name _____

Date _____

Food Rules Lesson 3

Lesson 3: **The Claim Game**

Food Rule: _____

Eat food. Not too much. Mostly plants.

Family Tips

- Companies often charge more money for foods that claim to improve health. Trying to eat whole grains and save money at the same time? Make homemade oatmeal instead of buying expensive cereals that claim to include whole grains but are often filled with sugar.
- Ironically, some of the healthiest foods don't come with any claims at all. Fruits and vegetables--whether fresh, frozen, canned, or dried--give us many of the nutrients we need without the slick advertising.

Food Rules from Previous Lessons

Eat Food.

- 1 Eat food you can picture growing in nature.
- 2 Eat food with ingredients that a third grader could pronounce.

In Defense of Food film clip that accompanies this lesson:

Dud Food Phads

Watch at <http://bit.ly/idofclip3>

Learn more about *In Defense of Food* at:

pbs.org/indefenseoffood

Activity Sheet

Name _____

Date _____

Descriptive Words

Directions: Use these words to describe the foods that you will try.

Acidic	Dry	Liquid	Rough	Tan
Aromatic	Dull	Little	Round	Tart
Beautiful	Earthy	Long	Runny	Tasty
Black	Fair	Luscious	Salty	Tender
Bland	Fat	Melted	Satisfying	Thick
Blue	Fibrous	Milky	Savory	Thin
Brittle	Fine	Moist	Scented	Tiny
Brown	Firm	Mushy	Scrumptious	Tough
Bumpy	Flavorful	Nice	Sharp	Unripe
Bushy	Flavorless	Oblong	Shiny	Watery
Chewy	Fluffy	Oily	Short	Wet
Chunky	Fragrant	Orange	Silky	White
Clean	Fresh	Oval	Simple	Wilted
Cold	Golden	Pale	Skinny	Yellow
Colorful	Grand	Peeled	Small	Zesty
Cool	Green	Peppery	Smooth	
Creamy	Hard	Pink	Soft	Add your own
Crispy	Healthy	Pleasing	Sour	descriptive words:
Crumbly	Heavy	Plump	Speckled	_____
Crusty	Hot	Purple	Spicy	_____
Curly	Interesting	Red	Spongy	_____
Delicious	Jammy	Rich	Spotty	_____
Doughy	Juicy	Ripe		_____



Activity Sheet

Name _____

Date _____

Eat Food Action Plan

Eating food is important to help you reach your goals. Create an action plan that will help you choose foods instead of dud foods.

My Action Plan (example)

I am going to eat: sunflower seeds instead of oreos.
(food) (dud food)

Time of day (check one):

- ☐ At breakfast
- ☐ In the morning
- ☒ At lunch
- ☐ In the afternoon
- ☐ At dinner
- ☐ In the evening

Days of the week (check as many as you like):

- ☐ Sunday
- ☒ Monday
- ☐ Tuesday
- ☒ Wednesday
- ☐ Thursday
- ☐ Friday
- ☐ Saturday

My Action Plan

I am going to eat: _____ instead of _____.
(food) (dud food)

Time of day (check one):

- ☐ At breakfast
- ☐ In the morning
- ☐ At lunch
- ☐ In the afternoon
- ☐ At dinner
- ☐ In the evening

Days of the week (check as many as you like):

- ☐ Sunday
- ☐ Monday
- ☐ Tuesday
- ☐ Wednesday
- ☐ Thursday
- ☐ Friday
- ☐ Saturday





II. NOT TOO MUCH



LESSON 4:

DON'T BE PHOOLED

First Bite

Food advertising is big business. Children and adolescents are exposed to a huge number of highly sophisticated, cunning ads, mostly for dud foods. Many leading health professions call for restrictions in food advertising to children and adolescents.¹ Yet due to weak regulations and new venues, such as the Internet, exposure to ads is on the rise. Helping young people identify common marketing tricks can provide them with the skills they need to see through ads and make their own choices about what to eat.

Food Ads – They're Everywhere and They Work!

Companies spend billions of dollars creating ads aimed at youth. Black and Hispanic youth are particular targets of dud food advertising.² American children watch an average of 40,000 television food advertisements per year, 98% for dud foods.^{3,4} Yet tuning out is not as simple as turning off the television. Ads for dud foods appear on game screens, on mobile phones through text messages and app promotions, as product placements in movies and TV programs, on the radio, and on the Internet including on social media and advergames.^{1,2} Six billion fast food ads appeared on Facebook alone in 2010.⁴

In addition to ads being ubiquitous they are highly sophisticated and get youth to recognize, be loyal to, and even crave specific brands. Marketing firms conduct research to understand the “psyche of children” and “of mothers as the family food gatekeepers,” and to examine parent-child relationships.⁶ This enables them to exploit the suggestibility of youth.¹ Ads targeting teens appeal to emotion by selling coolness, fun, and success along with their products.⁷ Food marketing also convinces children to eat foods made “just for them,” instead of what adults

eat.⁸ This has a powerful influence on how youth identify with food and undermines parents’ ability to encourage healthy eating habits.

Understanding Ads

Preference for a product increases by viewing a single commercial and grows even more with repeated exposure.¹ Since American youth spend nearly \$30 billion a year of their own money on dud foods, unveiling the techniques food advertisements use is a powerful antidote. Knowing how to analyze ads increases youths’ desire and confidence to make their own decisions about what to eat. They will also want to spread the word by teaching others not to be phooled.

References

1. McGinnis, J.M., Gootman, J.A., Kraak, V.I., eds. (2006) *Food marketing to children and youth: threat or opportunity?* Washington, D.C.: National Academies Press, Institute of Medicine (IOM).
2. Harris, J.L., Schwartz, M.B., Shehan, C., Hyary, M., Appel, J., Haraghey, K., Li, X. (2015, November). *Snack Facts 2015. Evaluation Snack Food Nutrition and Marketing to Youth.* UConn Rudd Center for Food Policy and Obesity.
3. Federal Trade Commission. (2007). *Children's Exposure to TV Advertising in 1977 and 2004.* Bureau of Economics Staff Report. Washington, DC: Federal Trade Commission. Accessed August 1st, 2015.
4. Powell, L. M., Szczypka, G., & Chaloupka, F. J. (2007). Exposure to food advertising on television among US children. *Archives of pediatrics & adolescent medicine*, 161(6), 553-560.
5. Institute of Medicine. (2002, September 5). *Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids.* National Academy of Sciences.
6. Fast Food f.a.c.t.s. (2013). *Food Advertising to Children and Teens Score.* Yale Rudd Center for Food Policy and Obesity.
7. Foltz, S. C., Goldberg, J. P., Economos, C., Bell, R., Melzer, R. (2006) Food advertising targeted at school-age children: A content analysis. *Journal of Nutrition Education and Behavior*, 38:244–248.
8. Elliott, C. (2011). “It’s junk food and chicken nuggets”: Children’s perspectives on ‘kids’ food’ and the question of food classification. *Journal of Consumer Behaviour*, 10(3), 133-140.



LESSON 4:

DON'T BE PHOOLED

Aim

Examine how food advertising and marketing influence us, often on a subconscious level.

Food Rule

Avoid foods you see advertised on television.

Film Clip

Marketing Low-Fat

Objectives

Students will be able to:

- explain how most people can instantly recognize logos from dud foods and discuss how this impacts what we think about dud foods;
- demonstrate increased confidence in their ability to identify marketing strategies for dud foods;
- state and understand the lesson's Food Rule;
- generate arguments to convince peers to avoid dud foods advertised on television and other media sources; and
- create an ad to defend a food.

Overview

This is the first lesson of the Not Too Much section. It begins with students learning that dud food logos are easily recognizable. Students build on their understanding of the five “tricky techniques” from Lesson 3 by learning that marketing appeals to the heart and mind. Students then practice using these appeals on their peers. Next, students analyze dud food ads. After watching and discussing an *IDOF* film clip about food marketing, they learn the Food Rule, “Avoid foods you see advertised on television.” Students synthesize what they learned by developing persuasive arguments to eat foods instead of dud foods for their peers not receiving the *IDOF Curriculum*. Lastly, they develop ads for foods (not dud foods).

Materials

In this guide

- **Logo** cards p. 121
- **Logo Game** cards p. 124
- **Persuasive Arguments** guide sheet p. 136
- **Convince Me** cards p. 138
- **Heart and Mind** lesson resource p. 141
- **Print Ad** cards p. 146
- From Lesson 3: **Pepsi Food Package** card p. 88 and **Dud Food Package** Cards p. 101 (specifically: Gatorade, Cheetos, and Frosted Flakes)
- **Food Rules Lesson 4** activity sheet p. 149

Other materials

- *IDOF* film clip 4: Marketing Low-Fat and AV equipment
- Board or chart paper
- Your *Capture It* piece, see Lesson 3 procedure #9 p. 87 for details
- Small paper bag
- Gatorade ad clip [www.youtube.com/watch?v=Vxd9W0RVgFY]
- Frosted Flakes ad clip [www.youtube.com/watch?v=kAIb2j-xVw]
- FNV PSA clip [vimeo.com/120688660]

For each student:

- Blank paper
- Pencil



Before You Begin: Total prep time: approximately two hours

Within a few days before lesson

1. Create your own personal *Capture It* piece to share with the group. See Lesson 3, procedure #9 p. 87 for details.
2. Read over the entire lesson.

Within a day before lesson

3. **Print and cut out cards:**
 - **Logo** cards p. 121, one set
 - **Logo Game** cards p. 124, one set. Prepare sets 1, 2, and 3. For each set, make one pile of partial logos, and a second pile with full logos. Be sure logos are in the same order in each pile.
 - **Convince Me** cards p. 138, one set, and place them in a small paper bag
 - **Print Ad** cards p. 146, one set (two sets if you have more than 12 students)
4. **Print one copy per student of each activity sheet:**
 - **Food Rules Lesson 4** activity sheet p. 149
5. **Viewing appeals videos:** Load videos for viewing:
 - Gatorade ad clip www.youtube.com/watch?v=Vxd9W0RVgFY
 - Frosted Flakes ad clip www.youtube.com/watch?v=kAIlb2j-xVw
 - FNV PSA clip vimeo.com/120688660
6. **Viewing IDOF film clip:**
 - Set up AV equipment and space for film viewing.
 - Find IDOF film clip 4: Marketing Low-Fat at <http://bit.ly/idofclip4>



Procedure

Lesson time: 120 min. (two 60 min. parts)

Part 1 (60 min.)

1. Check in on Action Plans (5 min.)

Remind students that in Lesson 3 they completed the **Eat Food Action Plan** activity sheet p. 111 where they make a plan for having a food instead of a dud food. Ask students to share their successes. Compliment students on the changes they have been able to make. Ask students to share challenges. Encourage peer-to-peer interaction on creating ways to overcome challenges. Remind students to keep working on this and their previous action plans.

2. Introduce Not Too Much Section (1 min.)

Remind students of the curriculum's themes: Eat Food, Not Too Much, Mostly Plants and that these are Michael Pollan's answer to the question, "What do I eat to be healthy?" Tell students Lessons 4–6 are about Not Too Much.

3. Recognize Brand Logos (15 min.)

Explain to students that they will play a game to see how well they identify logos. Using the **Logo** cards p. 121, hold up the card with the partial Pepsi logo. *Can you guess which brand?* Reveal the card with the full Pepsi logo. Repeat with the McDonald's and Domino's logos.

Explain that now they will do the same thing in small groups. Divide the class into three groups. Provide group 1 with set 1 of the **Logo Game** cards p. 124, group 2 with set 2, and group 3 with set 3. Tell the groups which stack has partial logos and which has full logos. Make sure the stacks are logo-side down. Students will flip the first card in the partial logo stack, guess the brand and then flip the first card in the full logo stack to see the correct answer. Repeat until the stacks are gone. Tell students to flip the cards on top of each other to re-make their stacks, as they will use them in the next part of the activity.

Once all groups are done, select one group to go first to facilitate a guessing game for their peers with their set of cards. Have that group stand and present their cards, present a partial logo, allowing other groups to guess, and then present the full logo. Then, have the other two groups present their cards.

Once all groups have shared, use the questions in the sidebar to host a discussion.

Probing questions:

What do you think is the purpose of this activity? (Logos are easy to recognize because they are everywhere.)

Did you find it easy or difficult to identify the brands? If difficult, were there some that were easier than others? Why do you think so? (Some are more common.)

If easy, why was identifying the brands so easy to do? (These logos are everywhere!)

Where do we see these logos? (TV ads, the Internet, movies, billboards, advergames, people wearing brand paraphernalia, sporting events, school etc.) Does it make you want these products? Does it make you buy these products?



Procedure (cont.)

2. Review *Capture It* Piece (9 min.)

Ask students to get out their *Capture It* piece, assigned in Lesson 3. Have students join you in a sharing circle. Start by sharing your own *Capture It* piece. Show your photo or drawing and read the accompanying text.

Ask for volunteers to share their *Capture It* pieces. If anybody has more than one *Capture It* piece, instruct them to select one. Once all the students who wish to share have done so, ask students what they learned from doing their own *Capture It* and from sharing.

3. Persuade Peers (15 min.)

Explain to students that in this activity they have an opportunity to come up with a convincing argument. Ask students if they can think of a time when they had to convince someone of something (e.g., a friend to see a movie with you). *How did you do it? Was it easy? Did you succeed?* Use the **Persuasive Arguments** guide sheet p. 136 and **Convince Me** cards p. 138 to facilitate this activity. Be sure to ask students the discussion questions on the bottom of the **Persuasive Arguments** guide sheet.

This activity provides scaffolding needed for students to be able to understand persuasive techniques used in food advertising and marketing and to learn about how they can be less influenced by advertising.

4. Learn About Persuasive Marketing (15 min.)

Ask students, *do you think the persuasive arguments you just created are similar to what food advertisers do to convince us to buy a product? If so, how?* Have students recall the five tricky techniques that they learned in Lesson 3: Celebrities, Claims, Incentives/Promotions, Branding, Special Design Features. Explain that in addition to these tricky techniques, food marketers use appeals to the heart and mind. Use the **Heart and Mind** lesson resource **Appeals About Food** section p. 141 to review examples of appeals. Then use the Pepsi, Gatorade, Cheetos, and Frosted Flakes cards from Lesson 3 and the **Heart and Mind** lesson resource **Appeals on Product Packages** section p. 142 to explain how these appeals are used on packaging.

Ask a few students to share one dud food they will try to eat less of now that they have learned about these marketing strategies.

Procedure (cont.)

Part 2 (60 min.)

5. Practice Identifying Appeals (15 min.)



Remind students that they see logos and food ads everywhere. They are trying to persuade you to buy the product. In an area of the room set up for video viewing, show students the Gatorade and Frosted Flakes ad clips. Use the **Heart and Mind** lesson resource **Appeals in Video Advertisements** section p. 143 to help them identify the appeals in these ads.

Divide students into three groups. Provide each group with one **Print Ad** cards p. 146. Instruct them to take five minutes to find appeals to the heart and mind. Have each group present their findings to the class. Use the **Heart and Mind** lesson resource **Appeals Print Advertisements** section p. 144 to share any appeals the students missed.

6. Watch IDOF Film Clip 4: Marketing Low-Fat (10 min.)



Have them join you in an area of the room set up for video viewing. Play IDOF film clip 4: Marketing Low-Fat which is about food marketing and how marketing can be used to sell food. Use the fat-free craze as an example.

After watching the clip, have a discussion with students to help them see how food marketing can be so persuasive. *How do you think food marketing influences what you think is healthy or not? When you see that something is fat-free on a package what do you think? Does the marketing work? Can you think of other food trends right now that might make you think something is healthy? (e.g., gluten-free, high in protein.)*

7. Learn the Food Rule (3 min.)

Based on this lesson, ask students if they can think of an appropriate Food Rule for this lesson. Allow several students to share. Tell them the Food Rule is, “Avoid foods you see advertised on television.” *How can we expand on this rule? Where else are dud foods advertised?*

Distribute the **Food Rules Lesson 4** activity sheet p. 149 and a pencil to each student. Have students write in the lesson’s Food Rule. Encourage students to bring the sheet home and discuss the Food Rule with their families.

Procedure (cont.)

8. Convince Others to Follow the Food Rule (10 min.)

As a class, take five minutes to brainstorm ideas to convince peers who are not in the *IDOF Curriculum* to avoid dud foods advertised on television. Record these ideas on the board or chart paper.

Have pairs of students practice convincing each other using the brainstormed ideas.

9. Assign *Capture It Piece* (2 min.)

Ask students to think about one dud food that is really hard for them to resist. They should document the dud food by taking a photo or drawing it and write a few sentences about why it is hard to resist. They will present their *Capture It* pieces to the group in Lesson 5.

10. Create a Food Ad (20 min.)



Now that they have an understanding of how appeals are used to convince teens to buy dud foods, ask, *what do you rarely see ads for?* (Foods!) Some celebrities have decided to fight the good fight, and become food defenders. They speak up for food. In an area of the room set up for video viewing, show students the FNV PSA at vimeo.com/120688660.

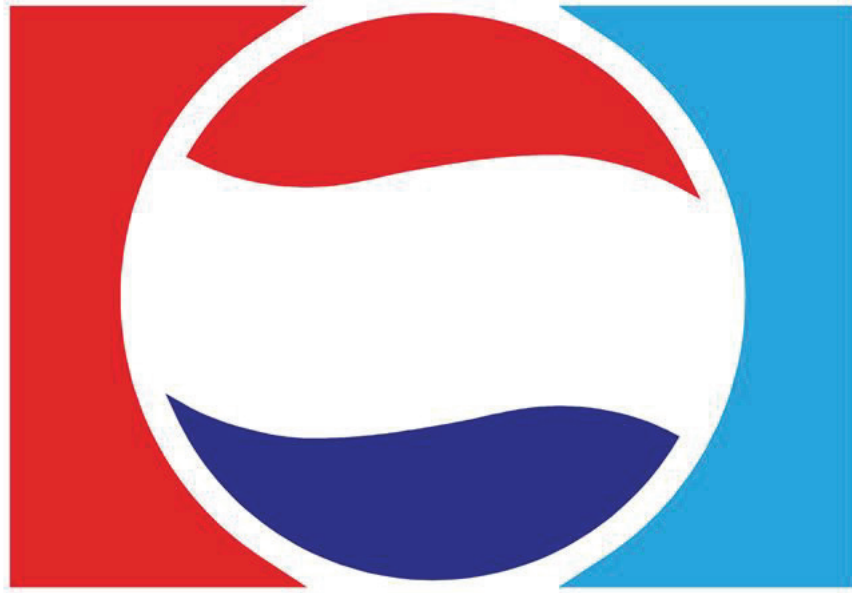
Divide the class into small groups. Distribute a piece of paper and pencil to each student.

Ask each group to select one food and create a television commercial that would make teenagers want to eat more of this food. *How would they appeal to the heart and mind?* Give students 15 minutes to come up with a skit for their commercial. Ask one or two groups to share their commercials. Tell students that they will be able to continue to work on their commercials and will be invited to present them in Lesson 10.

Middle school students don't like feeling tricked. This exercise helps students realize the power they have to take control of their food choices and not be "phooled" by marketing.

Logo

Print and cut one set for the class.





Cards

Logo (cont.)



Logo (cont.)



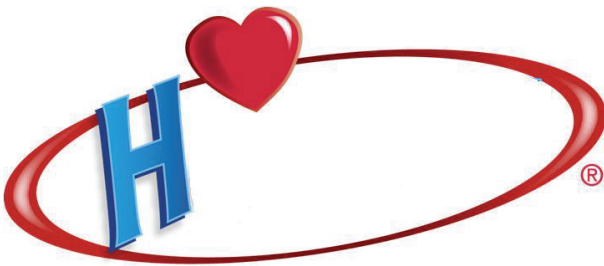
Cards

Logo Game: Set 1

Print and cut one set for the class.



Logo Game: Set 1 (cont.)



Logo Game: Set 1 (cont.)

j



Jamba Juice®

K

KFC®

D
D



Logo Game: Set 1 (cont.)



Logo Game: Set 2



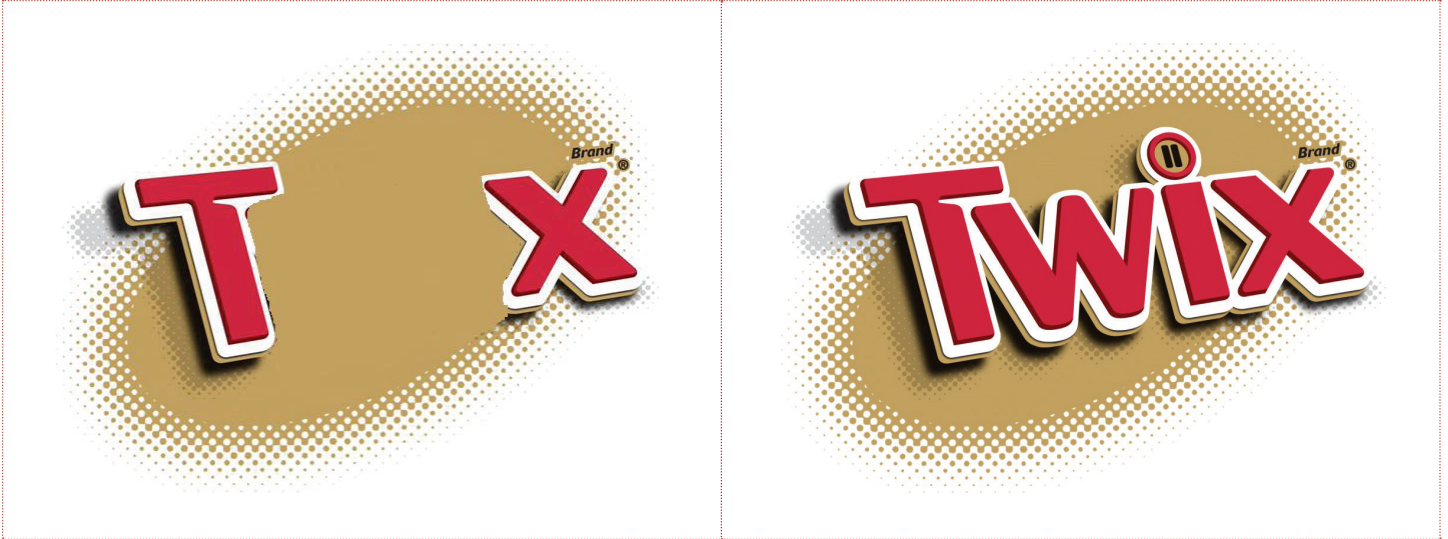
Logo Game: Set 2 (cont.)



Logo Game: Set 2 (cont.)



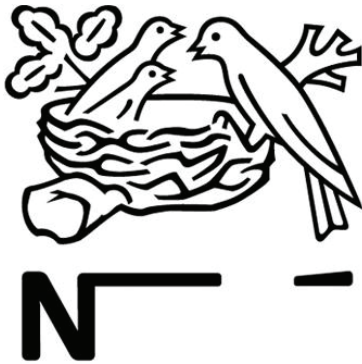
Logo Game: Set 2 (cont.)



Logo Game: Set 3



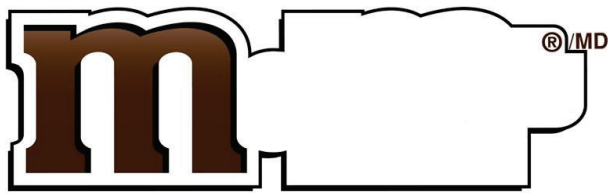
Logo Game: Set 3 (cont.)



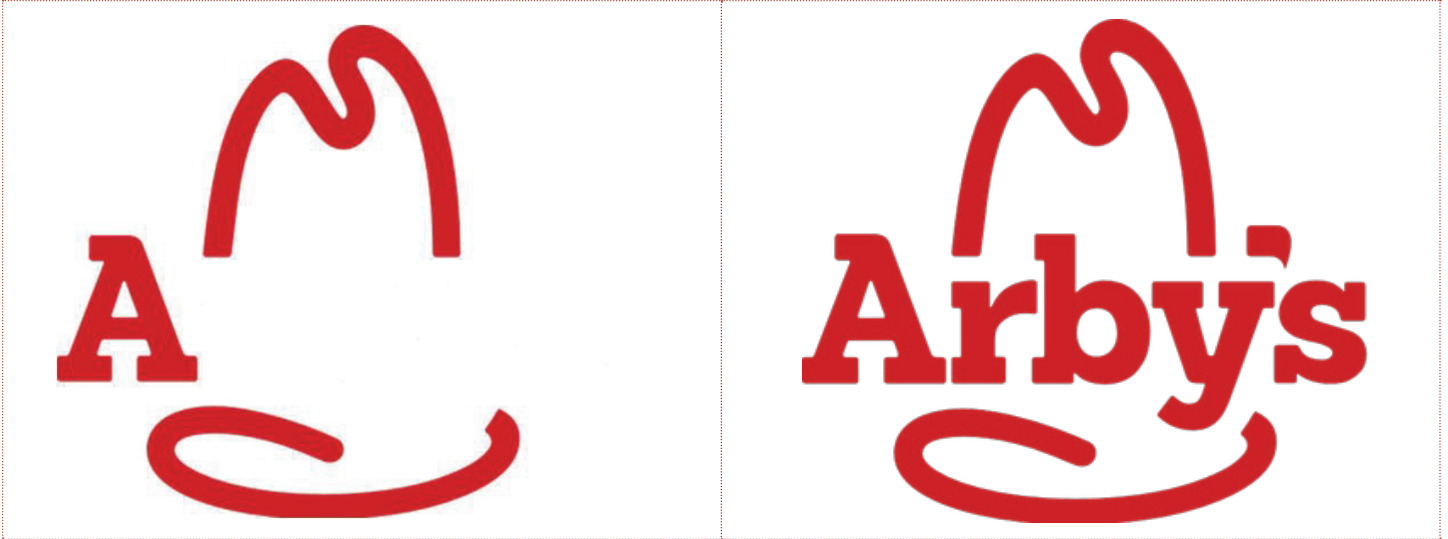
Good Food, Good Life



Logo Game: Set 3 (cont.)



Logo Game: Set 3 (cont.)



Persuasive Arguments

In this activity, students learn the power of persuasion by creating convincing arguments.

Materials

- Small paper bag
- ***Convince Me*** cards p. 138

Set up

1. Cut out ***Convince Me*** cards and place them in the small paper bag.

Procedure

1. Read the following to students:

A new movie came out and you are dying to see it. The problem is that you don't want to go alone. Your friend doesn't particularly like going to the movies; he doesn't want to spend a lot of money and tickets are \$15.00! Try and convince him to go see the movie with you.

2. Explain that to convince someone to go to the movies with you, you could use three types of appeals.

Appeals to the heart create emotion. Example: One of your friend's saw the movie and loved it! He said it was hilarious. Tell your friend how much you will appreciate it if he or she goes with you

Appeals to the mind share facts. Examples: You can pay for his ticket. Ten of your friends saw it and liked it.

Have students share their own appeals and classify them as heart or mind.

3. Explain to students that they can put together several appeals to construct an argument, which can be more convincing than one appeal alone.
4. Now, try creating an argument for this example:

Your friend Mia throws a football with a powerful spiral and wants to be a star quarterback. She is graduating middle school and tryouts for the high school football team are in a month. The school has never had a girl on the football team before. A decision needs to be made on whether girls are allowed to play on the football team. You were selected to make a case in front of the school leaders. What would you argue and why?

5. Give students a minute to construct an argument. Have students share. For each appeal, classify as heart or mind.
6. Have students pick one ***Convince Me*** card out of the paper bag. Instruct them to come up with convincing arguments, using appeals to the heart or mind. They can use one, two, or all three appeals.
7. Give students five minutes working independently to generate an argument for their scenario.
8. Ask for four volunteers to read their scenario, and then present their argument to the class.



Guide Sheet

Persuasive Arguments

Discussion Questions

1. *What made arguments convincing? What was not convincing?*
2. *How would you use what you've learned when you try to persuade someone in the future?*



Cards

Convince Me Cards

Print, cut out and place cards in a paper bag.

You are on vacation in Puerto Rico with your grandparents. You see a flier offering a coupon for ½ price snorkel equipment. Convince your elderly grandmother to go snorkeling with you.

You are on a baseball team. You just found out one of your buddies was thrown off the team for using performance-enhancing drugs. You know that other players are as well. The coach thinks everyone should be thrown off the team. You think they deserve another chance. Argue your case with the coach.

The winter Olympics features bobsledding, figure skating, and skiing. You think that snowman building should be added as an official sport. Convince the International Olympic Committee to add snowman building next Winter Games.

You want to start a business washing neighborhood park benches. Convince your neighbors to invest in your business.

The mayor has expressed interest in donating money to build a new sports' facility in one neighborhood in your city. It will have a pool, a skateboard park, basketball courts, and a baseball diamond. The mayor is deciding where to build the facility. Convince the mayor that your neighborhood is the most deserving.

Have you ever had hummus before? It's a spread made from chickpeas. Your friend has never tried hummus, and tends to hate eating anything new. Convince him that it is worth trying.

A unicorn landed on your roof and you became friends. Your parents want to call the Humane Society to get them to take the unicorn away. Convince them to let you keep it.

There is a new kid in school. She is from China and doesn't speak a lot of English. She sits by herself at lunch. Convince your friends to let her join you at the lunch table today.



Cards

Convince Me Cards (cont.)

You once read the ingredient list for grape soda and saw that there are no grapes in grape soda. What the heck?! Convince your friend that he is wasting his money buying grape soda.

Each year everyone talks about how great the Easter Bunny is because it brings chocolate and candy. Convince your friends that the Easter Bunny is the scariest of all holiday figures.

You have been volunteering at a retirement home on the weekends. Convince your best friend to volunteer with you.

A friend of yours is thinking about getting an illegal-downloading app that lets her get new music and movies for free. Convince her that this is not a good idea.

Last night a spaceship descended on your home and aliens visited you. You hung out with them for the whole night. Convince your family aliens are real.

You want to stay up when your parents want you to go to bed. Convince your parents that you are old enough to choose your own bedtime.

You have a crush on a girl/boy at school. But she/he doesn't even know who you are. Convince her/him to go out on a date with you.

This has been going on for too long: naked pets are everywhere! You think the government needs to do something about all these naked pets!! You have an opportunity to meet with your congressperson. Convince him/her that pets should wear clothes.



Cards

Convince Me Cards (cont.)

You are at the grocery store with your family. Your little sister wants Dora the Explorer yogurt and your dad puts it into the grocery cart. Convince your family that they should think twice about getting that yogurt.

OMG!! You are sitting beside Derek Jeter on the subway. You saw him in a Gatorade commercial a few weeks ago and read a Tweet that Gatorade paid him \$1 million dollars to act in the commercial. Convince him to stop doing ads for dud foods like Gatorade.

Your principal is looking for a celebrity to come to your school. Think about the celebrity who you think would be best to come and speak to your classmates, and then convince your principal to invite this person.

This year your family is going to Six Flags amusement park. It has the highest and fastest roller coasters. You want your friend to come on your family trip with you. Convince your friends' parents to let him come with you.

Heart and Mind

Advertisers want us to buy their products. To do this, they appeal to our heart and mind.

Appeals About Food

Appeals to the Heart

Create positive emotions with a product or brand (e.g., love, excitement, pride, togetherness/community, nostalgia, adventure, desire, satisfaction, popularity). Examples:

- Chester Cheetah appears on Cheetos bags riding a dirt bike. This implies a sense of adventure, as do the words “dangerously cheesy.”
- Tiger Woods with his hands raised in the air on a bottle of Gatorade, a symbol of victory, evokes positive feelings that a person gets when winning or consuming this product.
- “Hungry? Grab a Snickers®.”
- Mountain Dew television commercials make you think that if you drink Mountain Dew you will have an exciting adventure with friends.



Appeals to the mind

Provide information about a product or brand so we think good things about it. Examples:

- Nutrition information is highlighted on the front of the package, such as Reduced Fat Oreos.
- Words such as nature, natural, pure, and tasty are frequently used on food packages, such as Nature Valley Granola Bars. However, these words don't have a legal definition. Companies can use them on any product they choose.
- 4 out of 5 dentists recommend Trident Gum. This builds a sense of trust that this must be a good product.
- “Choosy moms choose Jif” (peanut butter). This makes mom's think they are doing the right thing if they choose Jif brand peanut butter.
- Yoplait has an affiliation with Nickelodeon (a trusted company for kids' entertainment) on their Dora the Explorer themed yogurt.
- American Heart Association's affiliation with Cheerios and Quaker Life Cereal.

Heart and Mind (cont.)

Appeals on Product Packages

Pepsi Package

Heart: Beyoncé's lips are pink and pursed open. She is coyly glancing at you. These project feelings of being alluring, desirable, seductive.



Heart: Image of a popular performer, Beyoncé makes Pepsi a cool product.

Gatorade Package

Mind: Image of a respected athlete, Tiger Woods, suggests Gatorade can improve your athletic abilities.

Heart: Tiger Woods lifts his hand in victory, implying that if you drink Gatorade, you can win too.



Heart: Black and gray are strong colors that are typically masculine, implying strength and masculinity.

Mind: Words Naturally flavored imply health.

Cheetos Package

Mind: "Real Cheese" implies the product is good quality.

Heart: "Dangerously Cheesy" appeals to adventure.



Heart: Bright, youthful, vibrant colors imply a young and hip product.

Heart: Chester Cheetah on a dirt bike appeals to adventure.

Heart and Mind (cont.)

Appeals on Product Packages (cont.)

Frosted Flakes Package

Mind: The Kellogg's brand is associated with wholesome breakfast cereals.

Heart: Tony the Tiger is strong, if you eat Frosted Flakes you'll be strong too.

Heart: "They're GR•R•REAT!" suggests that the product tastes great and makes you feel great.



Mind: Nutrition information on top of package gives facts about the product. Vitamin D is also highlighted.

Heart: "Earn your stripes" implies achievement and being part of Tony the Tiger's team.

Heart: Background of happy, athletic kids, implies if you eat this product you will be happy and athletic.

Mind: "2 bags for Freshness" implies quality.

Appeals in Video Advertisements

Derek Jeter and Gatorade: an Appeal to the Heart

www.youtube.com/watch?v=Vxd9W0RVgFY

Most people, whether they are sports fans or not, know Derek Jeter. He is liked, respected, and a successful athlete. Jeter's retirement from baseball was something most people felt strongly about. This is a great example of an appeal to the heart that associates the nostalgia of Jeter's career with Gatorade.

Why did they select the music? ("Final Curtain" by Frank Sinatra song evokes nostalgia.)

Why black and white? (Also evokes nostalgia.)

Why does Derek stop the car to walk? (Jeter is retiring. He gets out of the car a ways from the stadium to experience the community around Yankee stadium one last time.)

Why does he give people high-fives, sign baseballs, and interact with members of the community? (He wants to be near his fans.)

What do most viewers feel at the end of the ad? (The ad ends with the power of a cheering crowd. This is followed by the Gatorade logo with Jeter's famous number 2 connecting all the good feelings of Jeter and his career with Gatorade.)

Heart and Mind (cont.)

Appeals in Video Advertisements (cont.)

Mighty Mighty Tigers and Frosted Flakes: an Appeal to the Heart and Mind

www.youtube.com/watch?v=kAIib2j-xVw

What are people chanting? (Kellogg's is using one of the most famous team chants. If you sang this song, chances are you remember being a part of something special, and it made you feel connected to others.)

Why is the chant broken up so that different people are chanting different lines? (This further adds to a sense of community and solidarity that Frosted Flakes is connected to all different sports.)

Why is everybody doing some kind of sport? (So every viewer can connect to the commercial.)

How does that chant make you feel? (Frosted Flakes builds a community among anyone who plays any kind of sport.)

What does the claim "part of a healthy breakfast" imply? (Frosted Flakes are good for you.)

Appeals in Print Advertisements

Doritos Jacked

Heart: The image of aircrafts lifting the chip implies adventure.

Heart: "Jacked" implies strong — strong flavor and strong body.

Mind: "Bigger. Bolder. Thicker." implies you get a lot from these chips.



Heart: The explosion plume implies adventure and an explosion of flavor.

Heart: "Insanest Chip Ever" implies a sense of adventure.

Heart and Mind (cont.)

Appeals in Print Advertisements (cont.)

Sierra Mist Natural

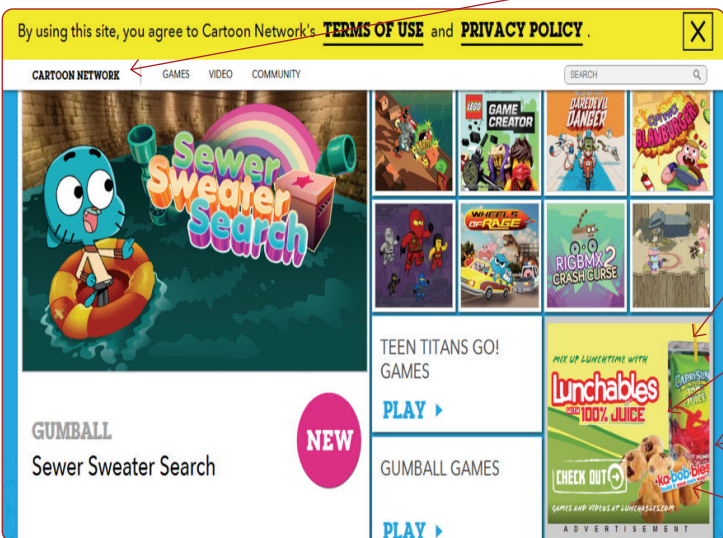
Heart: “I’d trade my yellow stripe for a mouth right now” appeals to humor and implies Sierra Mist Natural is irresistible.



Mind: “Natural” in the name and “with other natural flavors,” “caffeine free” and “made with real sugar” imply the product is healthy.

Mind: “The soda nature would drink if nature drank soda” and beautiful mountain and sky associate Sierra Mist Natural with nature.

Lunchables



Mind: Cartoon Network provides credibility through association.

Mind: Including Capri Sun brand provides credibility through association.

Mind: “With 100% juice” implies natural and healthy.

Heart: Cartoon images imply fun and adventure.

Heart: The name Kabobbles is a made up word, making the product feel fun and interesting.

Print Ads

Print and cut one for the class.



Print Ads (cont.)

*"I'd trade my yellow stripe
for a mouth right now."*
-Rainbow



**SIERRA
Mist.
NATURAL**
lemon-lime soda
WITH OTHER NATURAL FLAVORS
CAFFEINE FREE
MADE WITH REAL SUGAR


THE SODA NATURE WOULD DRINK *if* NATURE DRANK SODA™
Made with real sugar and nothing artificial.

SIERRA MIST NATURAL and THE SODA NATURE WOULD DRINK IF NATURE DRANK SODA are trademarks of PepsiCo, Inc.

Print Ads (cont.)

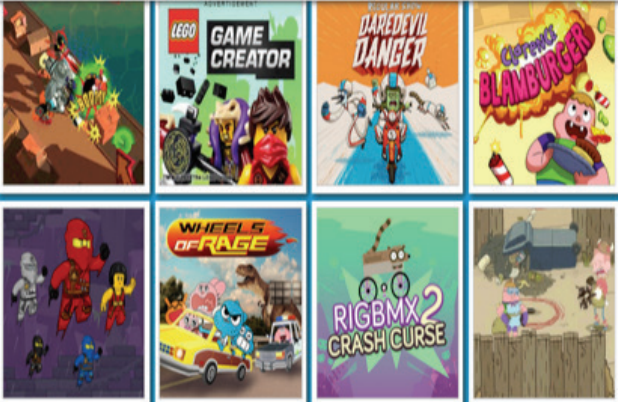
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Activity Sheet

Name _____

Date _____

Food Rules Lesson 4

Lesson 4: **Don't Be Phooled**

Food Rule: _____

Eat food. Not too much. Mostly plants.

Family Tips

- When we buy products that we see on television we are paying for the food companies' marketing budget as well as the food itself.
- Many television commercials are for snacks that are dud foods—chips, candy, and sugary drinks. But, there are great snacks that are foods—fruits, nuts, and seeds.

Food Rules from Previous Lessons

Eat Food.

- 1 Eat food you can picture growing in nature.
- 2 Eat food with ingredients that a third grader could pronounce.
- 3 Avoid products that make health claims.

In Defense of Food film clip that accompanies this lesson:

Marketing Low-Fat

Watch at <http://bit.ly/idofclip4>

Learn more about *In Defense of Food* at:

pbs.org/indefenseoffood



LESSON 5: SUPERSIZED

First Bite

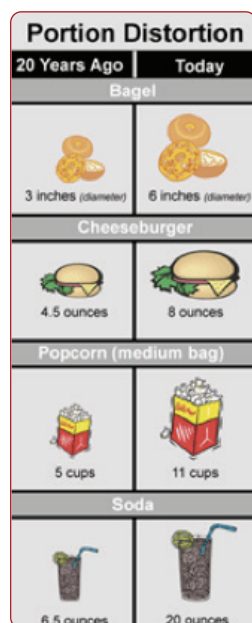
We may assume that what and how much we eat is a matter of individual choice, but in truth these actions are influenced by a variety of factors.

Portion Size Power

Food and beverage portion sizes have dramatically increased in the United States, especially for fast foods, salty snacks, soft drinks, and other dud foods.¹⁻³ Cheeseburgers, popcorn, sodas, and bagels have nearly doubled in size (see image⁴).

How much we eat is based more on how much we are served than on our hunger. A research study served participants small, medium, large, and extra large portions of macaroni and cheese. The majority ate all they were served regardless of how hungry they were.⁵ In another study, participants were given soup bowls that were secretly being refilled as they ate. They just kept eating because the soup in their bowls never diminished.⁶ Study after study has shown that people served larger portions don't tend to report a greater level of fullness than those served less.⁶⁻⁹ Food companies know these strategies and apply them to sell more of their products. It works. Americans consume about 25% more calories than 40 years ago.⁵ Supersizing contributes to "supersized" American waistlines.

Other factors such as variety, proximity to food, attractiveness and size of packages, size of plates and cups, and social norms can lead us to consume more than we otherwise would or should.¹⁰



Choosing Portions Wisely

Luckily, becoming aware of how powerful these external influences are on what and how much we eat can help us to "small size it." We can use small plates, bowls, and cups. We can select small sizes on a menu. We can split large sizes with a friend or take home leftovers to have at another meal. On the flip side, we can use large plates and bowls to nudge us to eat more fruits, vegetables, and other foods.

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LESSON 5: SUPERSIZED

Aim

Increase awareness that our environment influences when, what, and how much we eat.

Food Rule

Choose smaller plates and glasses.

Film Clip

Serve More, Eat More

Objectives

Students will be able to:

- recognize that large packages and portions make us eat more;
- identify foods that come in large packages;
- state and understand the lesson's Food Rule;
- strategize ways to eat less dud food, despite it being everywhere; and
- demonstrate increased confidence in choosing smaller portions of dud foods.

Overview

This lesson begins with students taking a serving of popcorn, as part of an experiment. Examining optical illusions and watching an *IDOF* film clip teaches students that our eyes play tricks on us. Then, students pour liquid into different glasses, learning that shape influences how much we pour. Continuing the popcorn experiment, students discover the amount served varies based on the size of the bag they were given. They learn the Food Rule, “Choose smaller plates and glasses.” Students come up with an action plan to “small size it” and enjoy popcorn flavored with herbs and spices.

Materials

In this guide

- **“Pop” Culture** preparation sheet p. 153
- **Optical Illusion** cards p. 160
- **Portion Persuasions** guide sheet p. 167
- **Measure It** activity sheet p. 169
- **Food Rules Lesson 5** activity sheet p. 170
- **Small Size It Action Plan** activity sheet p. 171
- **Popcorn Tasting** guide sheet p. 172
- **Popcorn Party** activity sheet p. 174

Other materials

- *IDOF* film clip 5: Serve More, Eat More and AV equipment
- All materials and ingredients from **“Pop” Culture** preparation sheet p. 153

Other materials (cont.)

- Tape
- Food coloring
- Dish towel or paper towels
- 2 2-gallon resealable bags

For each small group*

- 1 pint water jug (16 oz. or 500 ml)
- Tall thin glass (16 oz. or less)**
- Short wide glass (16 oz. or less)**
- Graduated 2 cup measuring cup
- Scissors

For each student

- Marker
- Pencil
- 2 tasting cups

* If you have trouble getting multiples of these materials, do this activity as a demonstration with one set

** These glasses need to be the same volume but different shapes or sizes (e.g., both 8 oz. or both 16 oz.)



Before You Begin: Total prep time: approximately two hours

Within a few days before lesson

1. Purchase ingredients and gather materials for popcorn experiment and tasting. See “*Pop*” *Culture* preparation sheet p. 153 for details.
2. Review the entire lesson.

Within a day before lesson

3. Print and cut out cards:
 - *Optical Illusion* cards p. 160, two sets for the class.
4. Print one copy per student of each activity sheet:
 - *Measure It* activity sheet p. 169
 - *Food Rules Lesson 5* activity sheet p. 170
 - *Small Size It Action Plan* activity sheet p. 171
 - *Popcorn Party* activity sheet p. 174 (plus two extra copies for cooking stations)
5. Viewing *IDOF* film clip:
 - Set up AV equipment and space for film viewing.
 - Find *IDOF* film clip 5: Serve More, Eat More at <http://bit.ly/idofclip5>
6. Popcorn experiment and tasting: See “*Pop*” *Culture* preparation sheet p. 153 for details.
 - Clean all food preparation and eating surfaces with countertop cleaner.
 - Make popcorn.
 - Either make shaker mix recipes before the lesson, or have ingredients, measuring spoons, and resealable snack bags ready to make shaker mix with students during the lesson.
 - Set out two large bowls of popcorn, each with a scoop or ladle.
7. **Culminating project:** Have all students’ culminating projects ready for them to work on.

Preparation Sheet

"Pop" Culture

Popcorn is used in two different parts of this lesson. This sheet will help you prepare for both parts. Please note: The amounts listed here are for a class of 10–15 student; for smaller or larger classes, adjust accordingly.

Shop for ingredients

For popcorn experiment:

- 1 ½ cups popcorn kernels (to make 30 cups of popcorn)

For tasting:

- 30 cups popcorn (from popcorn experiment)
- Ingredients for the shaker mix recipes you choose (see below)
- Oil (peanut, coconut, or vegetable)
- Salt

Gather materials

For experiment:

- Air popper, stove, or microwave to make popcorn
- 2 large bowls
- 2 ladles or serving spoons (same size, identical if possible)
- 15 lunch size paper bags (about 5" x 3" x 10 ½")
- 15 hardware size paper bags (about 4 ½" x 2 ½" x 8")

Note: these are a little smaller than lunch bags.

For tasting:

- 2 snack size resealable bags
- 4 sets of measuring spoons

Complete advanced preparation of ingredients

- Pop 1 ½ cups of popcorn kernels, to make about 30 cups of popcorn. Depending on the facilities available to you, make stovetop, microwave (not the dud food version!), or air popped popcorn.
- Divide the popcorn in about half and place each half in one of the large bowls. Place a ladle or serving spoon in each bowl.
- Have the paper bags ready to distribute to students. Make sure about half the students get the larger bags and half get the smaller bags.



"Pop" Culture (cont.)

To Prepare Popcorn for Tasting

Select two shaker mix recipes and purchase ingredients. If possible, have students prepare shaker mix recipes during class. If not, make the shaker mix recipes and bring them to class.

Shaker Mix Recipes

All shaker mix recipes for 15 cups of popped popcorn.



1. Mexican-Mole Popcorn Shaker Mix

- 2 tablespoons unsweetened cocoa powder
- 1 tablespoon chili powder (mild)
- 1 tablespoon sweet paprika
- 2 teaspoons ground cumin
- 2 teaspoons brown sugar
- 1 teaspoon ground black pepper
- 1 teaspoon dry oregano
- 1 teaspoon granulated sugar
- 1 teaspoon kosher salt



2. Moroccan Popcorn Shaker Mix

- 1 teaspoon ground cumin
- 1 teaspoon ground ginger
- 1 teaspoon kosher salt
- $\frac{3}{4}$ teaspoon freshly ground black pepper
- $\frac{1}{2}$ teaspoon ground cinnamon
- $\frac{1}{2}$ teaspoon ground coriander
- $\frac{1}{4}$ teaspoon ground allspice
- $\frac{1}{4}$ teaspoon ground cloves
- $\frac{1}{4}$ teaspoon cayenne



3. Caribbean Jerk Popcorn Shaker Mix

- 3 $\frac{1}{2}$ teaspoons dried thyme
- 2 tablespoons toasted coconut flakes
- 1 $\frac{1}{2}$ teaspoons brown sugar
- $\frac{3}{4}$ teaspoon ground allspice
- $\frac{1}{2}$ teaspoon kosher salt
- $\frac{1}{2}$ teaspoon ground black pepper
- $\frac{1}{4}$ teaspoon ground cinnamon
- $\frac{1}{4}$ teaspoon ground cumin
- $\frac{1}{4}$ teaspoon cayenne pepper

"Pop" Culture (cont.)



4. Italian Popcorn Shaker Mix

- 4 tablespoons grated Parmesan cheese
- 2 tablespoons dry oregano
- 1 teaspoon garlic powder



5. Chinese Popcorn Shaker Mix

- 3 tablespoons sesame seeds
- 3 teaspoons powdered ginger
- 2 teaspoons garlic powder
- Pinch of cayenne

To add Shaker Mix to the Popcorn

Place about 15 cups of popcorn in a large bowl. Add 1 tablespoon oil and $\frac{1}{2}$ teaspoon salt. Gently stir until all popcorn is coated. Add shaker mix to popcorn and gently stir until shaker mix is evenly distributed on popcorn. Serve.



Procedure

Lesson time: 120 min. (two 60-min. parts)

Part 1 (60 min.)

1. Serve Popcorn (5 min.)

Tell students that you made fresh popcorn for today's lesson and point out the two bowls of popcorn. Randomly distribute the paper bags so that some students get the smaller bags and some the larger bags. Try not to make the students aware that there are two different sized bags. Give students a marker and have them write their name on their bag.

Ask them to put some popcorn from one of the bowls into their bag, using the spoons to serve themselves instead of their hands. Remind them not to eat the popcorn now, and instruct them where to put their labeled bags so they are out of the way. Students will have an opportunity to eat the popcorn later in the lesson.

2. Experience Optical Illusions (10 min.)

Tell students this activity will help them realize that seeing is not always believing. Sometimes our senses mislead us.

Use one of the sets of the **Optical Illusions** cards p. 160. Show students card 1 and ask them the question on the bottom of the card. Allow students to call out their responses. Show the rest of the cards one by one and have students compare images A and B, asking the question on the bottom of each card. Once you have gone through all cards, reveal that in each case A and B were identical. Tape the **Optical Illusion** cards to the wall at eye-level.

Divide the class into group. Provide each group with one **Optical Illusion** card. Give each group a pair of scissors. Instruct students to cut out the A and B images on their card. Have them place images A and B on top of each other. Have students put their cut outs near the corresponding card taped to the wall. Give students a couple of minutes to walk around and examine the cut outs. Use the probing questions in the sidebar to have a discussion.

Probing questions:

Were the images the same once you cut them out? (Yes.) What does this tell you about the way that things are presented? (Sometimes the way that something is presented can mislead you.) Can you think of any other circumstance when seeing is not always believing?

3. Watch IDOF Film Clip 5: Serve More Eat More (18 min.)



Have students join you in an area of the room set up for video viewing. Play the IDOF film clip 5: Serve More, Eat More to illustrate factors that impact what and how much you eat.

Following the film clip, hold a discussion using the following questions.



Procedure (cont.)

What happens when people in Brian Wansink's study have to serve themselves pasta a second time, but this time on a smaller plate? (They serve themselves less food when it is on the smaller plate.) Do they notice that they served less food? (No, they didn't.)

What other factors impact our food choices according to the film? (The order that food is served on a buffet line.) How? (We fill up our plates with foods that come first on the buffet line, so we take more of those. We take fruit when it is put right near the cash register because it's convenient.)

Do you think it is the right to make changes in school cafeterias that would encourage students to make healthier choices? Why or why not?

What are some places that encourage unhealthy choices? (Fast food restaurants, movie theaters, all you can eat buffets.)

What does Michael Pollan mean when he talks about social engineering from corporations? (Often food package sizes influence how much people eat. Companies add things to food to make people crave them.) How is the Big Gulp an example of social engineering? (Sizes of drinks dictate how much people will drink. The bigger the drink the more of it we will consume.)

What are the implications of consuming larger and larger portions? (People are eating too much and gaining too much weight.) Why might these package sizes make it difficult for someone to manage their weight? (It's difficult to know that you are eating more than you should. Since large packages are everywhere, we eat more than we should too often.)

4. Measure out Different Portions (15 min.)

This activity will help students see that even though they have learned about how our eyes can play tricks on us which influences how much we eat (called portion persuasions), people still have a hard time assessing portions. Divide students into groups. Use the **Portion Persuasions** guide sheet p. 167 to lead this activity. Student will also use the **Measure It** activity sheet p. 169 during this activity. Be sure to ask the students the discussion questions on the bottom of the **Portion Persuasions** guide sheet.



Procedure (cont.)

5. Do We Eat What We are Served? (2 min.)

Tell students to think about the last time they ate a fast food meal. Ask students to raise their hand if they ate the whole meal. Have the students look around and see how many students have their hands up. If there are any students who did not raise their hands, ask them how much they ate.

Ask students, *from what you have learned so far, why do you think so many people ate the whole meal?*

6. Reveal Popcorn Experiment (10 min.)

Explain that when they took popcorn at the beginning of the lesson they were part of an experiment. Sort the paper bags by size. *From what you have learned so far in this lesson, what do you think was the purpose of giving out small and large bags?* (To show bag size influenced how much you serves.) Using two large resealable bags, have students help you empty the contents of the small paper bags into one resealable bag. Empty the contents of the large paper bags into the other resealable bag.

Hold up the two resealable bags for students to see the difference. Remind students that people eat what they are served. This may make people eat more than they want. In our current food environment with large portions of dud foods this can lead to eating large amounts on a regular basis.

Probing questions:

What do you think would be the impact of choosing a large dud food portion once in a while? (Probably not such a big impact.)
How about over and over again? (This can lead to weight gain and risk of diet-related diseases.)

Part 2 (60 min.)

7. Learn the Food Rule (5 min.)

Write the Food Rule for this lesson on the board: “Choose smaller plates and glasses.” Ask students to give examples of how they could use this rule to guide their food choices. Distribute the **Food Rules Lesson 5** activity sheet p. 170 to the class and have students write in the lesson’s Food Rule. Encourage students to take home the sheet and discuss the Food Rule with their families.

Probing questions:

How can you use this rule? (Smaller plates, cups, bowls). *Are there particular foods that you would want to use smaller dishes for?* (Dud foods.)

8. Make a Small Size It Action Plan (5 min.)

Remind students that making an action plan can help them make their own choices, not ones that they are being manipulated to make. Distribute the **Small Size It Action Plan** activity sheet p. 171. Ask students *What do you think small sizing it means? What are some ways that you can small size your dud food choices?*

Ask students to choose a dud food to small size. Think about how the Food Rule may help them. Share an example: I usually get a double cheeseburger, I will now get a regular size cheeseburger.



Procedure (cont.)

9. Review *Capture It* Activity (15 min.)

Have students get out their *Capture It* pieces assigned in Lesson 4. They should have photographed or drawn a dud food that is hard for them to resist and written about why it is hard to resist. Have students join you in a sharing circle. Start by sharing your own *Capture It* piece.

Ask for volunteers to share their *Capture It* pieces. Once all the students who wish to share have done so, ask students, *what were some common reasons dud foods were hard to resist?* For each of these reasons, have students brainstorm strategies to help them resist dud foods.

10. Taste Flavored Popcorn (20 min.)



Tell students they are going to create interesting flavor shakers using spices and herbs from all over the world to put on popcorn. Have students clean their hands and join you in the area of the room designated for cooking and eating. Use the **Popcorn Tasting** guide sheet p. 172 to lead this activity. Be sure to ask students the discussion questions on the bottom of the **Popcorn Tasting** guide sheet.

Distribute a **Popcorn Party** activity sheet p. 174 to each students to take home to their families.

11. Work on Culminating Projects (Remaining time)

Throughout the curriculum students have done creative projects. In Lesson 1 they created a dud food pharm skit. In Lesson 4 they created a television commercial for a food. They have created two *Capture It* pieces to help them reflect on their food environments. Allow students to spend the remainder of the lesson working on one or more of these projects. They will share these as culminating projects during the last session.

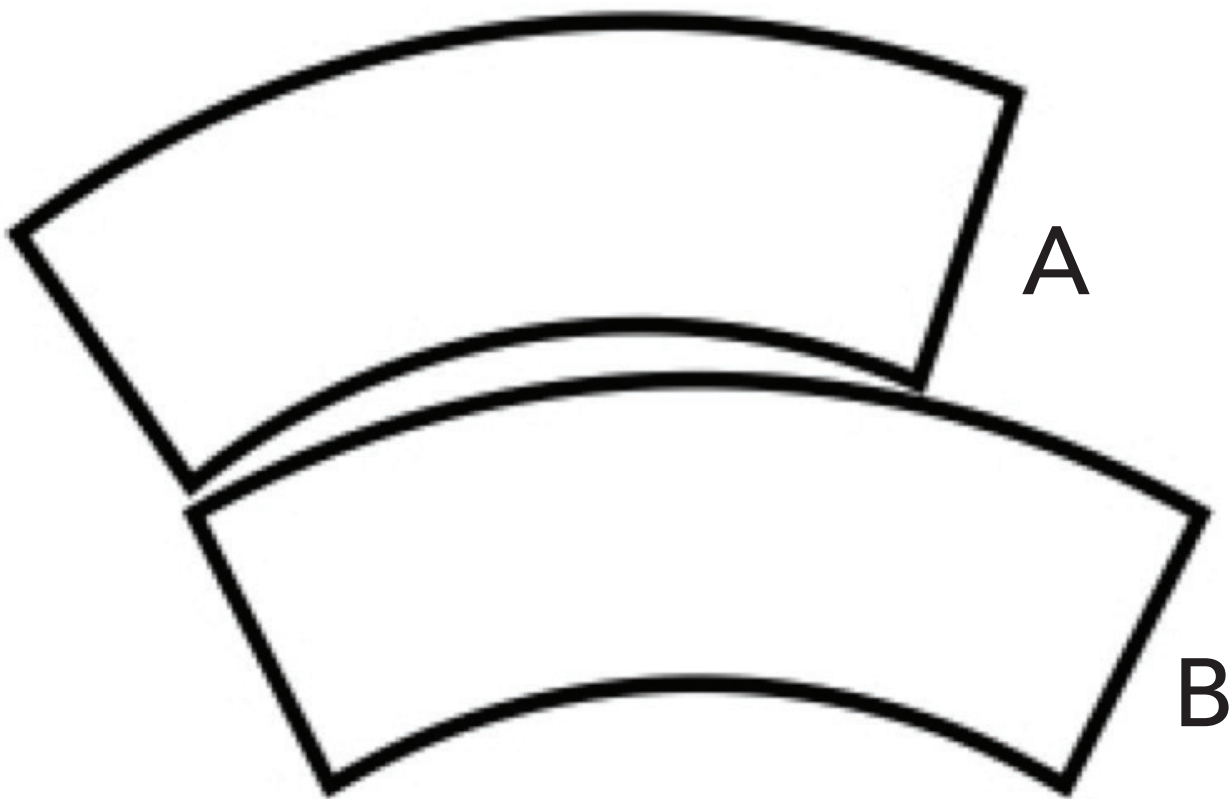
Probing questions:

What do you think small sizing is? (Small sizing means choosing smaller portions of what is offered at a fast food restaurant. It also means using smaller plates and bowl to serve yourself at home. It can mean sharing dud foods, when you choose to eat them with someone else, to cut the portion in half.)

Students sharing ideas with each other can be a very powerful way for them to increase their desire to eat fewer dud food and more food.

Optical Illusion

Print two sets of cards for the class.



Which shape looks bigger, A or B?

Original source Joseph Jastrow. (1889). Images retrieved from <https://exploreprsychology.wordpress.com/tag/colour-illusion/>

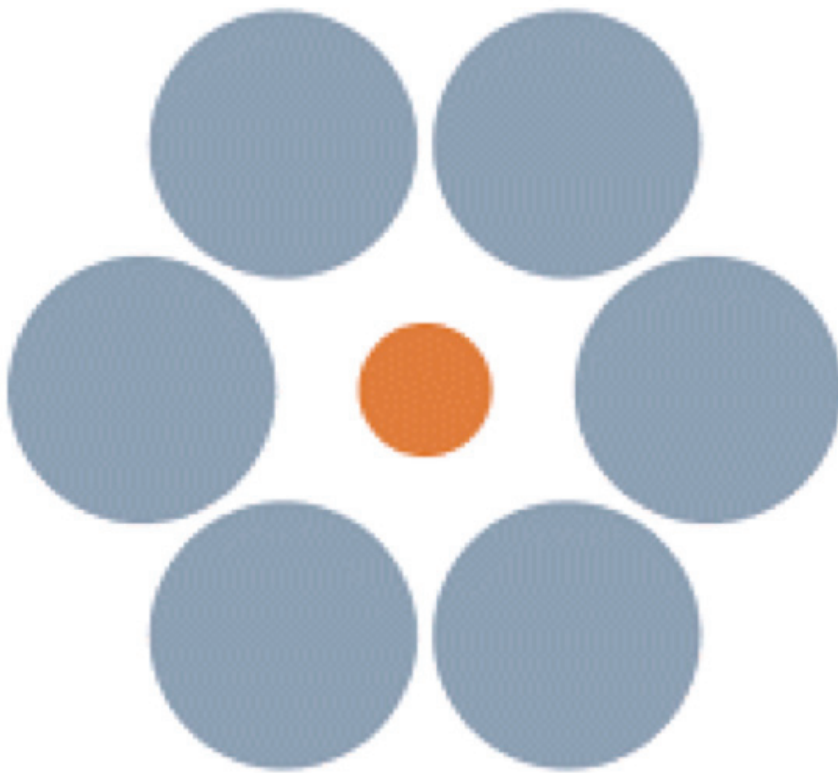
Optical Illusion (cont.)



Which line looks bigger, A or B?

Original source Mueller Lyer. (1889). Images retrieved from http://psychology.wikia.com/wiki/Mueller_Lyer_illusion

Optical Illusion (cont.)



A

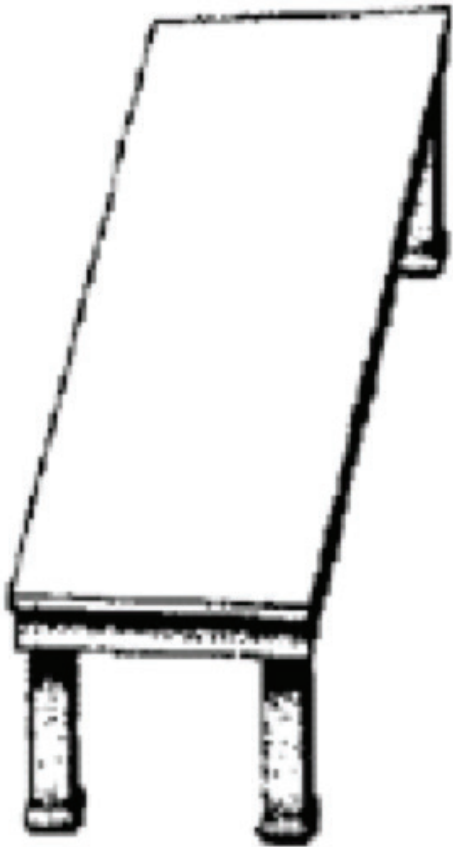


B

Which inner circle looks bigger, A or B?

Original Source Hermann Ebbinghaus (1850–1909). Images retrieved from https://en.wikipedia.org/wiki/Ebbinghaus_illusion

Optical Illusion (cont.)



A



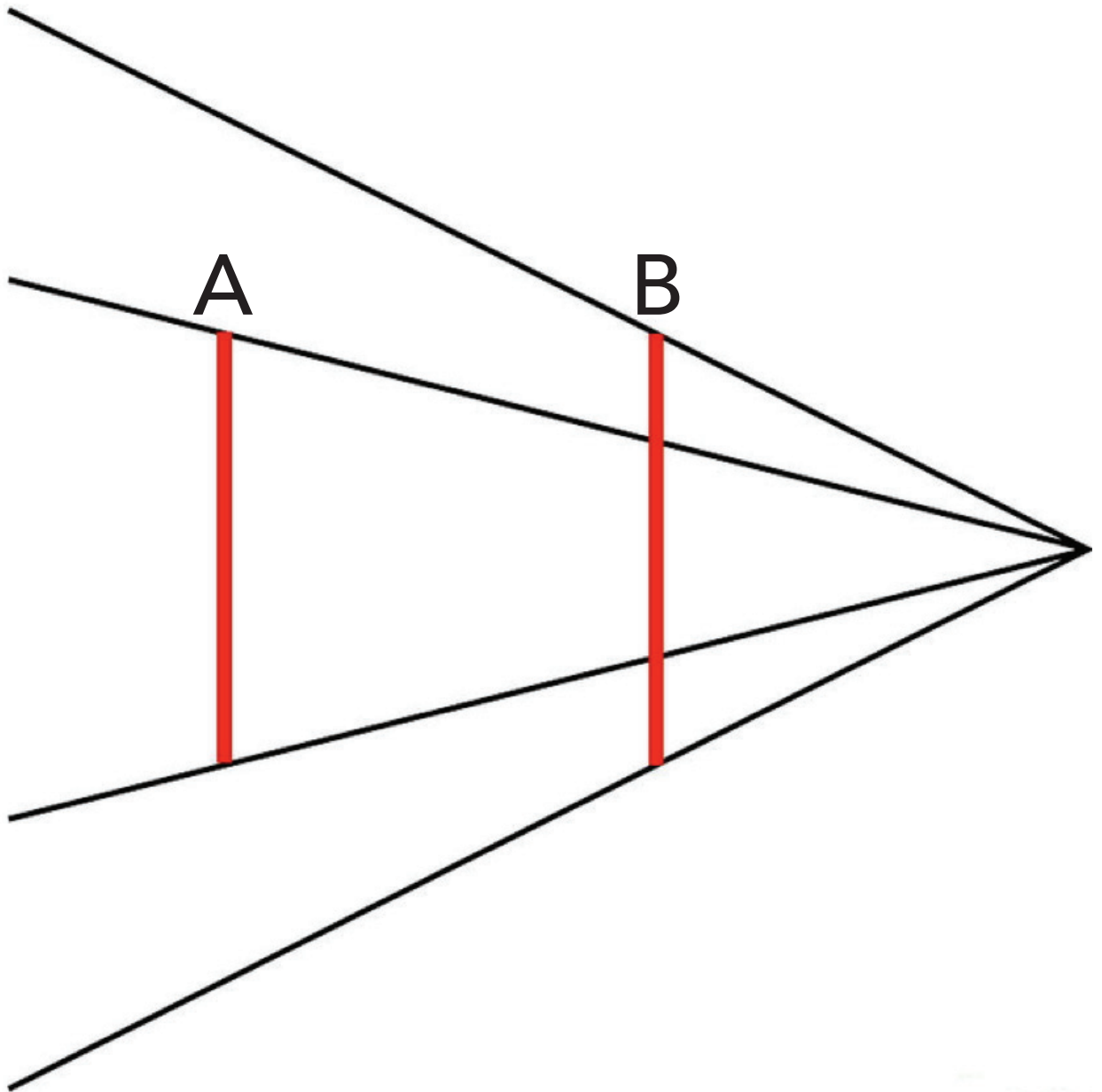
B

Which table looks longer? Which table looks wider?

Source unknown. (n.d.) Image retrieved from

<https://www.google.com/search?hl=en&q=table+optical+illusion&tbs=isch&tbs=simg:CAQSjAEaiQELEKjU2AQaAggKDAQsQsIynCBpiCmAlAxIougfVE-oTpgjuAaUI4hOEA-UTnwPeNdw13TXRP-Y16CfDNq4o6zXbNRowrkwcM0VgRYXqRXTI3kusiNBwHgEaxnUwQRc-GqPZrevkh37yrAPCQuci4cTog2AIAIMCxCOrv4IGgoKCAgBEgQPKNemDA&sa=X&ved=0CBoQwg4oAGoVChMInfHytqmHyQIViuMmCh0FdQHG&biw=1287&bih=710#imgsrc=T7P2lfGLbfgkVM%3A>

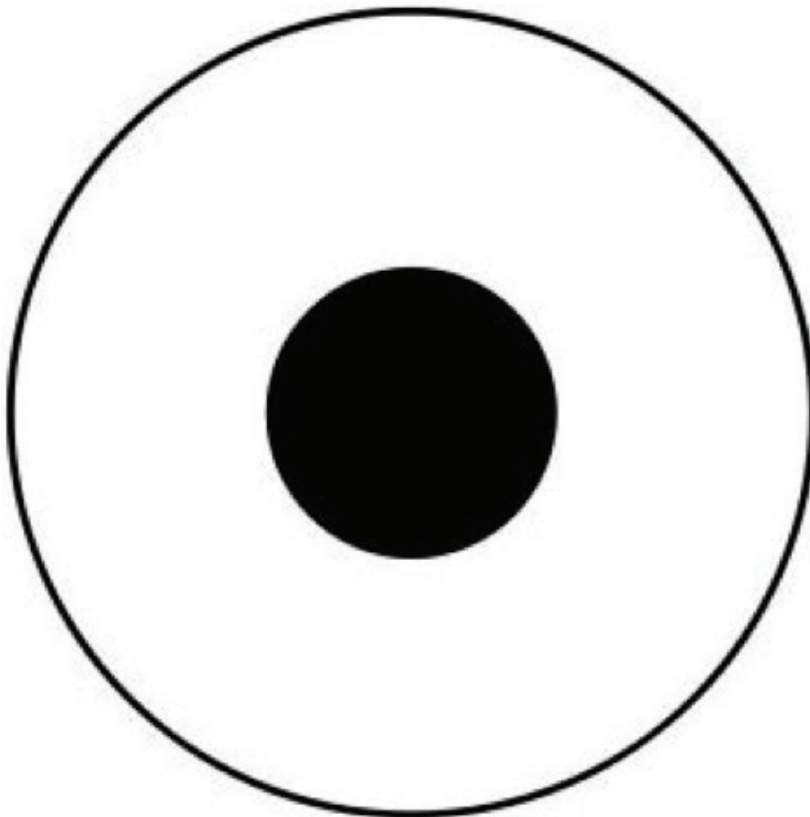
Optical Illusion (cont.)



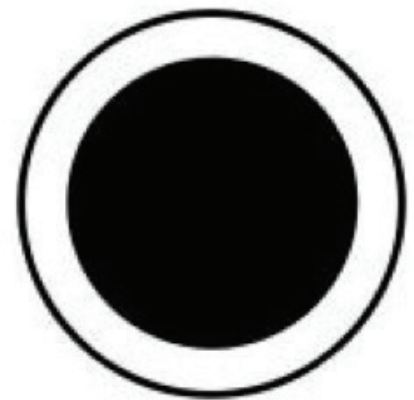
Which vertical line looks longer, A or B?

Original Source Mario Ponzo. (1911). Images retrieved from <http://fineartamerica.com/featured/ponzo-illusion-spl-and-photo-researchers.html>

Optical Illusion (cont.)



A



B

Which inner circle looks bigger, A or B?

Original source Joseph Remi Leopold Delboeuf (1831 – 1896) Images retrieved from https://en.wikipedia.org/wiki/Delboeuf_illusion

Optical Illusion (cont.)



Which line looks longer, A or B?

Source unknown. (n.d.) Retrieved from http://www.esa.int/spaceinimages/Images/2004/06/The_reversed_T_illusion

Portion Persuasions

Our eyes may not be the best judges of portion sizes, which can lead us to consume more than we think. However, if we can understand the effect of these “portion persuasions,” we can come up with strategies that will help us make better decisions about portions.

Materials

For the class:

- Dish towels or paper towel, in case of a spill

For each small group:*

- 1 pint water jug (16 oz. or 500 ml)
- Water
- Food coloring
- Tall, thin glass (16 oz. or less)
- Short, wide glass (16 oz. or less—same volume as the tall, thin glass)
- Graduated 2 cup measuring cup

For each student:

- *Measure It* activity sheet p. 169
- Pencil

*Note: If have only one set of these materials, do this as a class demonstration.

Set up

1. Fill each jug with water. Add a few drops of food coloring.
2. For each small group set up: one jug of colored water, a tall thin glass, a short wide glass, and a measuring cup.
3. Have the *Measure It* activity sheets and pencils ready to distribute to students.
4. Have one measuring cup and a jug of colored water handy to demonstrate how to use a graduated measuring cup properly.

Procedure

1. Show students how to use a graduated measuring cup. Put cup on a flat surface. Pour 1 cup of water into it. Allow the water to stop moving. Show students how to read the graduated markings by looking at them at eye level.
2. Divide students into small groups.
3. Provide each group with one jug of colored water, a tall thin glass, a short wide glass, a measuring cup, a *Measure It* activity sheet p. 169, and a pencil.
4. Have students follow instructions on the *Measure It* activity sheet, trying to pour the same amount of water in the different shaped glasses and complete two trials.



Guide Sheet

Portion Persuasions (cont.)

5. Have groups look at their results from trial 1. Ask about trial 1 results. *Who had the same amount in both glasses? Who had more in the tall glass? Who had more in the wide glass?*
6. Ask the same for trial 2.

Discussion Questions

1. *Which glass looks like it would hold more water? (The tall glass) Is this the case? (No. Both glasses hold the same amount of water.)*
2. *Were you able to accurately pour the same amount of water into both glasses? (Most students will pour the more water into the short, wide glass.)*
3. *What do you think is the impact of not being able to accurately judge how much a cup holds? (It could lead us to consume more or less than we want.)*
4. *How much do you think large food packages influence how much we eat? (They makes us eat more.)*



Activity Sheet

Name _____

Date _____

Measure It

In this activity you will pour colored water into different shaped glasses and learn how the shape of the glass influences how much you pour.

1. Pour water from the jug into one of your glasses.
2. Pour water from the jug into the other glass. Try to pour the same amount as your poured in the first glass.
3. Use the measuring cup to measure how much water you poured into each glass. Record the amounts in the Trial 1 box.
4. Pour all water back into the jug and repeat steps 1–3, using the Trial 2 box.

Trial 1

Tall, thin glass: _____ oz.

Short, wide glass: _____ oz.

Trial 2

Tall, thin glass: _____ oz.

Short, wide glass: _____ oz.



Activity Sheet

Name _____

Date _____

Food Rules Lesson 5

Lesson 5: **Supersized**

Food Rule: _____

Eat food. Not too much. Mostly plants.

Family Tips

- Did you know that when we eat from smaller plates we eat less? Keep the smaller size cups, bowls and plates in the front of your cabinets so those are the ones your family grabs when they are hungry.
- Supersize portions may seem like a bargain, but when we factor in the long-term health care costs of eating that much dud food, small sizes are the real deal.
- Another way to small size it is to get a large and share.

Food Rules from Previous Lessons

Eat Food.

- 1 Eat food you can picture growing in nature.
- 2 Eat food with ingredients that a third grader could pronounce.
- 3 Avoid products that make health claims.

Not Too Much.

- 4 Avoid foods you see advertised on television.

In Defense of Food film clip that accompanies this lesson:

Serve More, Eat More

Watch at <http://bit.ly/idofclip5>

Learn more about *In Defense of Food* at:

pbs.org/indefenseoffood



Activity Sheet

Name _____

Date _____

Small Size It Action Plan

You learned that portion persuasions make you eat too much dud food. Make an action plan to small size a dud food. When we small size dud foods and eat more foods we make choices that help us reach our goals. Use the table below to track when you small size it.

Sample

The dud food that I am going to small size is _____ french fries _____.

The size I usually have is _____ large _____.

My new size will be _____ small _____.

Date	Day of week	I small sized it!	Describe how you did it
10/27	Thursday	√	I split large fries with two friends.
11/1	Tuesday	√	I chose small fries.
11/4	Friday	√	I chose small fries. I like eating a small, I feel less full.
11/9	Wednesday	√	I convinced my friends to eat small sized fries. They only eat small now too.

My Action Plan

The dud food that I am going to small size is _____.

The size I usually have is _____.

My new size will be _____.

Date	Day of week	I small sized it!	Describe how you did it

Adapted from the Food Day School Curriculum. Used with permission.

Popcorn Tasting

Popcorn can be a blank canvas for all sorts of flavors. In this activity, students explore a variety of flavors from many different cultures.

This guide sheet is only needed if you are making the shaker mix recipes during class.



Materials

- 4 sets of measuring spoons
- All ingredients for your 2 shaker recipes
- 2 snack size resealable bags
- Oil (peanut, coconut, or vegetable)
- Salt
- 2 copies of **Popcorn Party** activity sheet p. 174

For each student:

- 2 tasting cups

Set up

1. Designate an area of the room for cooking and eating.
2. Make a cooking station set up for each shaker mix recipe. At each station place 2 sets of measuring spoons, 1 snack size resealable bag, and all ingredients for the shaker mix recipe. If any ingredients are in both recipes, put them with one of the set ups, and tell students to share.
3. Place a **Popcorn Party** activity sheet at each station.

Procedure

1. Have students clean their hands and join you in the cooking and eating area.
2. Divide students into two groups.
3. Demonstrate using a measuring spoon by showing students how to fill it to the top. Be sure students can properly identify the correct spoon for the amounts listed in the recipe.
4. Instruct students to measure out all ingredients in their recipe and place them in the snack size resealable bag.
5. If you have not already, be sure the popcorn from the popcorn experiment is back in the two large bowls and evenly divided.
6. Place 1 tablespoon of oil and 1 teaspoon of salt in each bowl of popcorn and gently stir until all popcorn is evenly coated with the oil and salt.
7. Sprinkle the shaker mix onto the popcorn and again gently stir until all popcorn is evenly coated.
8. Provide each student with two tasting cups and allow them to scoop a little popcorn from each bowl into each of their two tasting cups.
9. Encourage students to look at and smell the spices while they munch on their popcorn.



Guide Sheet

Popcorn Tasting (cont.)

Discussion Questions

1. Which was your favorite flavor? Why? Does it remind you of anything else that you have tried? What?
2. Would you introduce any of these flavors to a friend? How would you describe each of the popcorn flavors to a friend?

Activity Sheet

Name _____

Date _____

Popcorn Party

Popcorn is a favorite American snack. It's hard to imagine walking into a movie theater without its scent inviting you inside.

Americans started eating popcorn in the early 1800s (2). It quickly became popular and got the name "popcorn" because of "the noise it makes on bursting open" (2). Although popcorn got its name in America, other cultures also consumed it long before us.



What Makes Popcorn Pop?

Early popcorn was made over open flames by placing the cob directly on heat¹ and/or over heated sand.² Nowadays, we use air poppers, the microwave, or we can pop popcorn in pots over the stove. But what makes popcorn pop?

The popcorn kernel is a seed. It comes from a different variety of corn than we are used to eating off the cob, one with much harder kernels. As with most seeds, inside the protective covering is a soft and moist center. When the kernel is heated, the moisture within turns into steam. Then the outer shell bursts open and releases the soft, fluffy edible part creating what we recognize as popcorn!

Below are some recipes for shaker mixes that you can add to popcorn. Try these and you could also create your own interesting blends of herbs and spices to add to popcorn.

Pop $\frac{3}{4}$ cup kernels to make about 15 cups of popcorn. We recommend an air popper. Then make the shaker mix by adding all ingredients to a small resealable bag.

Add 1 tablespoon oil. We recommend peanut, coconut, or vegetable oil. Add 1 teaspoon salt to the popcorn. Stir gently until coated. Add the shaker mix, stir gently until all popcorn is coated.



Mexican-Mole



Moroccan



Caribbean



Italian



Chinese

1. Grobman, A., Bonavia, D., Dillehay, T. D., Piperno, D. R., Iriarte, J., & Holst, I. (2012). Preceramic maize from Paredones and Huaca Prieta, Peru. *Proceedings of the National Academy of Sciences*. 112(20270109)

2. Avery, T. (2013). Popcorn: A "Pop" History. Retrieved from: <http://www.pbs.org/food/the-history-kitchen/popcorn-history/>

Activity Sheet

Name _____

Date _____

Popcorn Party (cont.)

Shaker Mix Recipes

1. Mexican-Mole Popcorn Shaker Mix

- 2 tablespoons unsweetened cocoa powder
- 1 tablespoon chili powder (mild)
- 1 tablespoon sweet paprika
- 2 teaspoons ground cumin
- 2 teaspoons brown sugar
- 1 teaspoon ground black pepper
- 1 teaspoon dry oregano
- 1 teaspoon granulated sugar
- 1 teaspoon kosher salt



2. Moroccan Popcorn Shaker Mix

- 1 teaspoon ground cumin
- 1 teaspoon ground ginger
- 1 teaspoon kosher salt
- $\frac{3}{4}$ teaspoon freshly ground black pepper
- $\frac{1}{2}$ teaspoon ground cinnamon
- $\frac{1}{2}$ teaspoon ground coriander
- $\frac{1}{4}$ teaspoon ground allspice
- $\frac{1}{4}$ teaspoon ground cloves
- $\frac{1}{4}$ teaspoon cayenne



3. Carribbean Jerk Popcorn Shaker Mix

- 3 $\frac{1}{2}$ teaspoons dried thyme
- 2 tablespoons toasted coconut flakes
- 1 $\frac{1}{2}$ teaspoons brown sugar
- $\frac{3}{4}$ teaspoon ground allspice
- $\frac{1}{2}$ teaspoon kosher salt
- $\frac{1}{2}$ teaspoon ground black pepper
- $\frac{1}{4}$ teaspoon ground cinnamon
- $\frac{1}{4}$ teaspoon ground cumin
- $\frac{1}{4}$ teaspoon cayenne pepper



4. Italian Popcorn Shaker Mix

- 4 tablespoons grated Parmesan cheese
- 2 tablespoons dry oregano
- 1 teaspoon garlic powder



5. Chinese Popcorn Shaker Mix

- 3 tablespoons sesame seeds
- 3 teaspoons powdered ginger
- 2 teaspoons garlic powder
- Pinch of cayenne





LESSON 6: DIA-BEAT IT!

First Bite

Diabetes is a disease that affects how the body uses glucose, the simple kind of sugar that is its chief source of energy. After we eat, our digestive system breaks down the carbohydrates in the foods we eat into glucose, which then moves into the bloodstream. As the amount of glucose in the blood rises, the pancreas responds by making more of the hormone insulin, which enables the body to move glucose out of the bloodstream and into the cells that need it.

When people have diabetes, the body either can't make insulin (type 1 diabetes) or can't respond to it properly (type 2 diabetes). When insulin is not present or not working, glucose can't get to its destination and stays trapped in the bloodstream. High levels of glucose in the blood are unhealthy and can cause many complications, including kidney damage, heart disease and blindness.

Right now, type 2 diabetes is the most rapidly growing chronic disease in the United States.¹ Though scientists aren't completely certain of its causes, type 2 diabetes is most likely triggered by a combination of factors, including being overweight or obese, the kinds of food we eat, how much exercise and sleep we get, and how much stress we experience. Genetic factors may also help explain why certain people, but not others, develop type 2 diabetes.

Diabetes On The Rise

The increase in rates of type 2 diabetes is staggering.² In 1915, only 1 in 100 Americans had diabetes. By 2015, that number had grown to 9 in 100.³ Health professionals warn that if we continue our current eating and physical activity patterns, by 2050 as many as 33 in 100 people may have diabetes.³

In the past, it was rare to hear about a child with type 2 diabetes. But as childhood obesity has increased, type 2 diabetes has become increasingly common in children

and adolescents.⁴ Being diagnosed with diabetes at a young age means living many years at high risk of serious health problems.⁴

Health Disparities

Type 2 diabetes does not affect everyone in our country equally; it disproportionately impacts low-income and minority populations. For example, African Americans are over one-and-a-half times more likely to get diabetes and 27% more likely to die from it than Caucasians.²

There are many reasons for this disparity. People living in low-income communities often have a harder time paying for healthy foods, which are often more expensive than heavily processed dud foods. They may have less access to places where they can buy real food. As we learned in earlier lessons, dud foods are often most heavily advertised and more widely available in neighborhoods with low-income and minority populations.⁵⁻⁶ These and other factors can make healthy food choices difficult to make.

References

1. New York State Department of Health. (2015, January). *Diabetes*. Retrieved July, 2015, <https://www.health.ny.gov/diseases/conditions/diabetes/>
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6. Poti, J. M., Mendez, M. A., Ng, S. W., & Popkin, B. M. (2015). Is the degree of food processing and convenience linked with the nutritional quality of foods purchased by US households? *American Journal of Clinical Nutrition*, 101(6), 1251-1262.



LESSON 6: DIA-BEAT IT!

Aim

Understand that eating dud foods instead of foods increases our risk of getting sick.

Food Rules

Make water your beverage of choice.

Sweeten and salt your food yourself.

Film Clips

Sugar Flood

Diabetes: An Epidemic

Objectives

Students will be able to:

- describe how rates of type 2 diabetes are rising and how type 2 diabetes develops;
- discuss disparity in type 2 diabetes rates in the U.S.;
- calculate teaspoons of sugar in snacks and beverages and recognize various names for sugar;
- apply the Food Rules to make healthier beverage and snack choices; and
- create a personal action plan to eat fewer dud foods.

Overview

This lesson begins with students investigating type 2 diabetes and learning how prevalence rates have changed. Through watching an *IDOF* film clip and participating in a simulation activity, students learn how type 2 diabetes develops. Then, students calculate how much sugar is in popular snacks and beverages and learn the Food Rules, “Make water your beverage of choice,” and “Sweeten and salt your food yourself.” Students make homemade ginger ale to apply the Food Rules practically. They watch a second *IDOF* film clip that highlights how diabetes impacts youth. Then they create an action plan to consume less sugary dud foods. The lesson ends with students writing a poem on their personal experiences with sugar and dud foods in their neighborhoods.

Materials

In this guide

- *Prevalence Rates* guide sheet p. 184
- *Investigating Blood Sugar* guide sheet p. 186
- *Grab 2* cards p. 188
- *Food Rules Lesson 6* activity sheet p. 210
- *Sugar Sugar Everywhere!* activity sheet p. 211
- *Not Too Much Action Plan* activity sheet p. 212

Other materials

- *IDOF* film clips 6a & 6b: Sugar Flood and Diabetes: An Epidemic

Other materials (cont.)

- 3 paper bags
- Permanent marker
- 256 dry white beans
- 44 dry red beans
- 3 resealable sandwich bags
- 4 clear plastic cups
- 2 plastic spoons
- Plastic fork
- 2 ½ cups sugar
- 2 6-9 inch pieces fresh ginger
- 32 oz. bottle seltzer

For each student:

- Pencil
- Paper
- 1 oz. tasting cup

To learn more about *In Defense of Food*, visit pbs.org/indefenseoffood. Funding was provided by the National Science Foundation and PBS.



Before You Begin: Total prep time: approximately two hours

Within a few days before lesson

1. Purchase ingredients and make ginger syrup:

- Thinly slice 2 cups ginger. Save a piece of ginger to show students.
- Add sliced ginger and 2 cups water to small sauce pan and bring to boil on high heat. Reduce heat to medium and simmer for 20 minutes.
- Turn off heat. Use slotted spoon to scoop out ginger. Discard ginger. Add $\frac{1}{8}$ cup sugar and stir to dissolve.
- If not using ginger syrup right away, store it in a sealed container in the refrigerator.
- Note: if you have the capacity to make the syrup with the students during the lesson, do so as a demonstration in front of the class. Make the syrup at the beginning of the lesson so it has plenty of time to cool before the ginger ale tasting.

2. Review the entire lesson.

Within a day before lesson

3. Print and cut out cards:

- **Grab 2** cards p. 188, one set for the class. Fold so that the front side has the food image and the back side has the nutrition panel. Lay cards on a table with food image facing up, keeping beverages and snacks separate.

4. Print one copy per student of each activity sheet:

- **Food Rules Lesson 6** activity sheet p. 210
- **Sugar Sugar Everywhere!** activity sheet p. 211
- **Not Too Much Action Plan** activity sheet p. 212

5. Diabetes rate activity:

- Use the permanent marker to label the 3 paper bags as: past, present, and future.
- Fill the past bag with 99 white beans and 1 red bean.
- Fill the present bag with 91 white beans and 9 red beans.
- Fill the future bag with 67 white beans and 33 red beans.
- Label the 3 resealable sandwich bags as: past, present, and future.

6. Viewing IDOF film clips:

- Set up AV equipment and space for film viewing.
- Find IDOF film clip 6A Sugar Flood <http://bit.ly/idofclip6a> and 6B Diabetes: An Epidemic at <http://bit.ly/idofclip6b>

7. Investigating blood sugar activity:

- Use the permanent marker to label the plastic cups as: food, digestive system, blood stream, and cells.
- Label both the plastic spoon and fork as insulin.

8. Homemade soda activity: Set out seltzer, ginger syrup, and tasting cups.



Procedure

Lesson time: 120 min. (two 60-min. parts)

Part 1 (60 min.)

1. Check in on Action Plans (5 min.)

Remind students that in Lesson 5 they completed the ***Small Size It Action Plan*** activity sheet p. 171 to make a plan to small size a dud food. Ask students to share their successes. Compliment students on the changes they have been able to make. Ask students to share challenges. Encourage peer-to-peer interaction on overcoming challenges. Remind students to keep working on this and their previous action plans.

2. Examine Rising Diabetes Rates (12 min.)

Explain that the lesson begins with an activity to help them see how our food environment impacts our health. Have students stand in a circle. Ask them to remain standing if they know at least one person with diabetes (if they don't know anyone with diabetes they can sit). Ask them to remain standing if they know two people with diabetes. Ask them to remain standing if they know more than two people with diabetes. Have them look around and note how many students know more than two people with diabetes.

Explain to students in this next activity they learn how the rates of diabetes have changed. Use the ***Prevalence Rates*** guide sheet p. 184 to lead the activity. Be sure to ask the students the discussion questions on the bottom of the ***Prevalence Rates*** guide sheet.

Encourage students to share what they learned about how the rates of diabetes have changed with their families.

3. Watch *IDOF* Film Clip 6A: Sugar Flood (5 min.)



Have students join you in an area of the room set up for video viewing. Play the *IDOF* film clip 6a: Sugar Flood to explain diabetes. Tell students to keep in mind what they saw in this clip during the rest of the lesson.

4. Investigate How Diabetes Develops (15 min.)

Remind students that type 2 diabetes is a disease that develops over time. Type 2 diabetes is most likely triggered by the kinds and amounts of food we eat, what foods are available and affordable, whether we get enough exercise and sleep, and how much stress we experience. Genetic factors may also play a role in developing type 2 diabetes.

Use the ***Investigating Blood Sugar*** guide sheet p. 186 to lead this activity. Be sure to ask the students the discussion questions on the bottom of the ***Investigating Blood Sugar*** guide sheet.



Procedure (cont.)

5. Explore How Dud Foods Increase Diabetes Risk (15 min.)

Point out the **Grab 2** cards p. 188 that you laid out. Explain that they are going to learn how consuming these dud foods can increase risk of type 2 diabetes.

Explain that the nutrition facts panel shows how much sugar is in products. Pull out the Arizona Iced Tea and Nutter Butter Bites cards to use as an example. Show students the place on the nutrition facts label where it says servings per container. The Arizona Iced Tea with Lemon Flavor is 2.5 servings and the Nutter Butter Bites is 3 servings. To get total sugar in the container, number of servings needs to be multiplied by grams of sugar. For the Arizona Iced Tea with Lemon Flavor 24 grams of sugar X 2.5 servings is 60 grams total. For the Nutter Butter Bites 9 grams of sugar X 3 servings is 27 grams total.

Since we can picture teaspoons more easily than we can picture grams, the cards show teaspoons of sugar. To get from grams to teaspoons, divide total grams sugar in a product by four. For example, 60 grams divided by 4 is 15 teaspoons.

Use the labeled cups and sugar from the previous activity to measure out the 15 teaspoons of sugar in the Arizona Iced Tea with Lemon Flavor and the 6.75 teaspoons of added sugar in the Nutter Butter Bites so students can visually see that this beverage and snack combination has 21.75 teaspoons of sugar.

Tell students the U.S. government recommends having no more than 12.5 teaspoons of added sugar a day, and less is better. The above snack and beverage combination is almost double the recommended maximum for the entire day.

Tell students they will now learn how much sugar is in other beverage and snack combinations. Choose a student volunteer to select one beverage and one snack card. Have the student flip the cards to reveal the nutrition facts panel. Ask the student who selected the cards to add up how many teaspoons of sugar is in this snack and beverage.

Have another student select two cards and add up the sugar in the beverage and snack. Compare to the 12.5 teaspoon limit. Continue having students choose pairs until the cards are gone.

6. Learn the Food Rule (8 min.)

Ask students to share ideas for how they might change their snack and beverage choices to stay below the 12.5 teaspoons a day maximum.

Write the Food Rules, “Make water your beverage of choice” and “Sweeten and salt your food yourself” on the board or chart paper.

Probing questions:

What do you notice about the items that everyone selected? (Most are over the 12.5 teaspoon limit)

Do any of the items that you selected surprise you? (E.g., how much sugar is in soda; how much sugar is in fruit chews.)

How do you feel about the amount of sugar in beverages and snacks?

You may want to mention that the snacks on the **Grab 2** cards also contain fat, salt and refined carbohydrate that add to the disease risk of consuming these.



Procedure (cont.)

Brainstorm reasons why it might be difficult to make water the beverage of choice and strategies to overcome these barriers. Then have students brainstorm some foods with little or no added sugar that they could snack on in place of dud foods.

Distribute the **Food Rules Lesson 6** activity sheet p. 210 and a pencil to each student. Have them record these Food Rules. Encourage students to take the sheet home and share the Food Rules with their families.

Part 2 (60 min.)

7. Identify Sugar in Ingredient Lists (5 min.)

Looking at the nutrition facts panel for sugar can be complicated. Now, students will determine if reviewing ingredient lists on food packages is a possible solution to finding dud foods with less added sugar.

Distribute the **Sugar, Sugar, Everywhere** activity sheet p. 211 and a pencil to everyone. Have students circle all ingredients they think are forms of sugar. Give them about two minutes.

Ask a volunteer to read the items circled in row 1. Ask if anyone circled other items in that row. Repeat for rows 2 and 3. Finally, reveal that everything on the sheet is a form of sugar.

Ask students, *if you wanted to determine whether a product had a lot of sugar, would it make sense to bring this list with you to compare with product ingredient lists?* (Not really. This list does not include all forms of sugar. Using the ingredient list to eat less sugar is impractical.)

Explain that this is another reason why we want to eat foods instead of dud foods. Foods generally have less added sugar. Eating foods instead of dud foods can lower our risk for diabetes.

Probing questions:

What are some possible solutions to help you reduce how much sugar you eat? (Choose foods more often, eat smaller portions of dud foods, add your own flavors, choose water.)

8. Make Homemade Soda (15 min.)



In this tasting activity, students make homemade ginger ale. Have students clean their hands and join you in the area of the room designated for tasting.

Explain that one way to reduce the amount of sugar you eat while still eating flavorful food is to add your own sugar (or other flavors) to basic food items.

Ask students, *what are some examples of how you could flavor your own food?* (Add fruit to water/club soda, add fruit or jam to plain yogurt, flavor plain oatmeal with cinnamon and sugar.) Chances are, if you are

Procedure (cont.)

adding your own sugar, you will add less than food companies do.

Ask, *has anybody ever looked at the ingredient list for a bottle of ginger ale? What does it have in it? Do you think most ginger ale you buy in a store contains real ginger?*

Show the students the seltzer and explain that this is fizzy water with nothing added. Show the students the homemade ginger syrup and explain that it was made with real ginger and a small amount of sugar. Show ginger root if you have it.

Have a student volunteer pour the seltzer into each tasting cup. Have another volunteer use a plastic spoon to add 2 teaspoons of syrup to each cup.

9. Watch IDOF Film Clip 6B: Diabetes, An Epidemic (10 min.)



Have students join you in an area of the room set up for video viewing IDOF film clip 6b: Diabetes: An Epidemic. This clip highlights how diabetes impacts people's lives through a poem written and performed by a teenage girl.

After watching the film clip ask the questions below.

Why does the young poet say that her and her family's ways of eating are like suicide? What does she mean? How can you relate?

What does Michael Pollan mean by "misery of the modern diet?"

Knowing what you know now, what advice would you give family members who might struggle with health issues? How can they navigate their food environments to eat more foods and fewer dud foods?

Encourage students to discuss with their families what makes it challenging to eat foods instead of dud foods and what they can do to overcome these challenges.

10. Make an Action Plan (10 min.)

Remind students that making an action plan can help them make choices to help keep them healthy. Distribute the **Not Too Much Action Plan** activity sheet p. 212. In this action plan they will choose a food to eat instead of a dud food. Ask them to consider how the Food Rules may help them. Share a personal example of your action plan. For example, "I plan to drink water instead of sweetened iced tea during the week. If I want a sweetened iced tea, I will wait until the weekend and only have one." Have a few students share their action plans and invite others to give suggestions for how to make changes.



Procedure (cont.)

11. Write a Poem (20 min.)

Students saw a powerful form of art called spoken word poetry in the film clip. A young lady expresses how sugar impacts her life. Explain to students that they have an opportunity to think about and reflect on how sugar and sugary food items impact their lives.

Ask if anybody has heard of spoken word poetry before. Often hip hop songs are examples of spoken word poetry. Explain that spoken word poetry is written on a page, but often performed out loud for an audience. It uses rhythm, rhymes, word plays, and slang.

Ask students to work alone or with a partner to write a poem. Remind students that powerful spoken word poems can make the listener feel like they can see, hear, smell, feel, and maybe even taste what is described in the poem.

Give students about 20 minutes to work on their poems. Indicate that they also will have time in future lessons to work more on their poems. They will be invited to share their poem as a culminating project in the last lesson.



Prevalence Rates

This activity will help illustrate changes in prevalence rates for type 2 diabetes. Prevalence means the proportion of people in the U.S. with diabetes. In 1915, 1 in 100 people had type 2 diabetes. In 2012, 9 in 100 people have type 2 diabetes. If current trends continue, by 2050, as many as 33 in 100 people may have type 2 diabetes.

Materials

- 3 paper bags
- 1 permanent marker
- 256 dry white beans
- 44 dry red beans
- 3 resealable sandwich bags
- Tape

For each student:

- Paper
- Pencils

Set up

1. If you have not already completed the preparation for this activity, see #5 in **Before you Begin**.
2. There are 100 beans in each paper bag. Divide 100 by the number of students in your class to determine how many beans each student will draw from each bag.
3. Designate a space for students to sit in a circle.
4. Have the paper bags with the beans and the empty resealable sandwich bags in front of you.

Procedure

1. Have students sit in a circle.
2. Distribute a sheet of paper and pencil to each student. Instruct them to draw three columns on their paper and write Past at the top of the left column, Present at the top of the middle column, and Future at the top of the right column.
3. Explain that you have three bags of beans: Past, Present, Future. Tell students how many beans they should take from each bag, without looking. Pass the bags in this order: Past, Present, Future. Have students put the beans in the appropriate column, being careful not them up.
4. When all students have taken beans, empty any remaining beans into their respective sandwich bags and place them in front of you.
5. Ask students, *what do you think the beans could represent?* (The beans represent people: red beans for people with diabetes, and white beans for people without diabetes.)

past	present	future

Prevalence Rates (cont.)

6. Have students look at the beans in the Past column. Ask, *who has a red bean for a person with diabetes?* Explain that in the early 1900s only 1 in 100 people had diabetes, so there was only 1 red bean in the Past bag.
7. Have students look at the beans in the Present column. Ask, *who has a red bean for a person with diabetes?* Explain that today, 9 in every 100 people has diabetes. This makes it much more likely that people would know someone with diabetes.
8. Lastly, draw attention to the Future column. Ask, *who has a red bean for a person with diabetes?* Explain that health professionals project that if our current dud food-based diet and low levels of physical activity continue, by 2050 as many as 33 in 100 people (one-third) may have diabetes.
9. Pass around the sandwich bags and have students place their beans in the appropriate bag. Once all the beans are in the three bags have students look at the bags to look at the prevalence of diabetes in the past, present and future.
10. Clarify differences between type 1 and type 2 diabetes. Explain that type 1 diabetes comes on suddenly and is usually diagnosed when people are young. People with type 1 diabetes have to start taking insulin injections from the time they are diagnosed. Ask, *do you know anyone with type 1 diabetes?* Type 2 diabetes develops slowly and is partially due to environmental factors such as the kinds of food that are available and affordable, ability to get enough exercise and sleep, and how much stress people experience. Type 2 diabetes is the kind of diabetes that is most rapidly increasing.

Discussion Questions

1. *What does this activity demonstrate?* (Helps to visualize how many people around us diabetes rates are rising.) *How does it make you feel?*
2. *Based on what you have experienced about your food environments, what do you think this tells you?* (That dud foods are everywhere, and eating too much dud food can make us sick.)

Investigating Blood Sugar

In this simulation, students investigate how type 2 diabetes develops over time.*

Materials

- 4 clear plastic cups
- Small bowl
- Plastic spoon
- Plastic cup
- Permanent marker
- 2 cups sugar

Set up

1. If you have not already completed the preparation for this activity, see #7 in **Before you Begin**.

Procedure

1. Ask for five student volunteers to play the following roles: food, digestive system, bloodstream, insulin, and cells. Have the volunteers stand in that order.
Give the students the appropriately labeled cups for their roles. Give the student playing insulin the spoon.
Fill the food cup with sugar.
2. Explain to students that when we eat food (point to the student playing food), it goes into our digestive system (point to the student playing digestive system), which includes our mouth, stomach, and intestines. Food is broken down into very small pieces and then moves into our bloodstream (point to student playing bloodstream). One of the things that moves into the bloodstream is sugar. A hormone called insulin (point to the student playing insulin) transfers the sugar from the bloodstream into the fat, muscle, and liver cells (point the student playing cells).
3. **This scenario models a healthy snack, such as a piece of fruit:**
Instruct the person playing food to carefully pour about 2 teaspoons of sugar into the digestive system cup.
Have the person playing digestive system pour the sugar into the bloodstream's cup.
Have the person playing insulin use the spoon to scoop sugar from the bloodstream's cup into the cell's cup.
Explain that as insulin moves sugar into cells, the blood sugar level goes back down to normal.
4. **This scenario models a high sugar snack, such as a large soda and a candy bar:**
Have the student playing food pour about $\frac{1}{2}$ cup sugar into the digestive system's cup.
Then the digestive system pours the sugar into the bloodstream's cup.
Have the student playing insulin use the spoon to scoop sugar from the bloodstream's cup into the cell's cup.
Point out to students that the insulin has to work longer and harder since there is more sugar.

*To watch a video of this activity, go to <http://bit.ly/oqqYvq>

Adapted from *Choice, Control & Change*. Linking Food and the Environment curriculum series, Teachers College, Columbia University



Guide Sheet

Investigating Blood Sugar (cont.)

5. This scenario models eating many high sugar snacks every day for many years:

Have the person playing food pour about half a cup of sugar into the digestive system's cup. Digestive system pours the sugar into the bloodstream's cup.

Have the person playing insulin continue to scoop sugar into the cell's cup. While this is going on, instruct the person playing food to pour more sugar into the digestive system's cup (add more sugar to the food cup if needed).

Have digestive system pour the sugar in into the bloodstream's cup. Instruct the person playing insulin to keep working. It is insulin's job to clear sugar from the blood and move it to the cells. If needed, have food pour more sugar into digestive system's cup so that the bloodstream cup stays full of sugar.

After about a minute, take away the spoon and switch to the fork. Explain that this is what many scientists think happens in the body. When there is a steady supply of sugar to clear from the blood, insulin stops working properly and does not move sugar out of the blood as it should. When blood sugar stays at too high a level, a person has type 2 diabetes.

Discussion Questions

1. *Why do you think it is important to keep your insulin working properly?*
2. *What could you do to prevent getting type 2 diabetes? Does your environment make this challenging? Why?*

Cards

Grab 2

Cut out one set for the class.

Nutrition Facts

Serving Size 1 bottle
Servings Per Container 1

Amount Per Serving

Calories 240 **Calories from Fat** 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

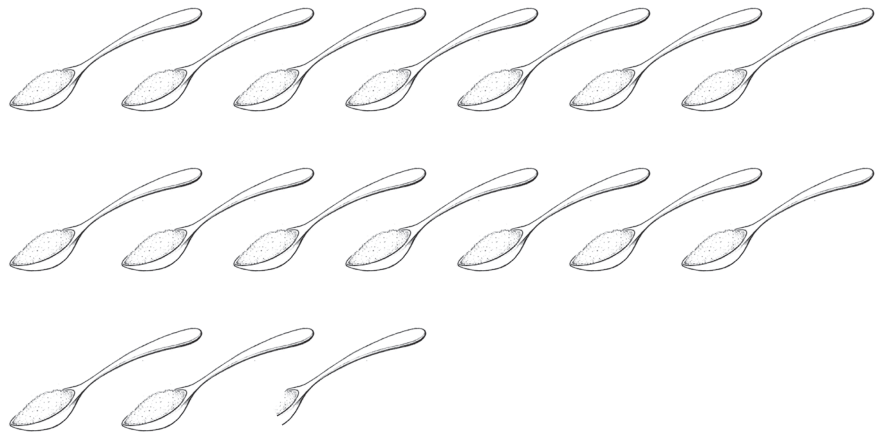
Sodium 75mg **3%**

Total Carbohydrate 65g **22%**

Dietary Fiber 0g **0%**

Sugars 65g

Protein 0g



65 grams ÷ 4 grams/teaspoon = 16.25 teaspoons sugar



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 1 bottle
Servings Per Container 1

Amount Per Serving

Calories 190 **Calories from Fat** 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

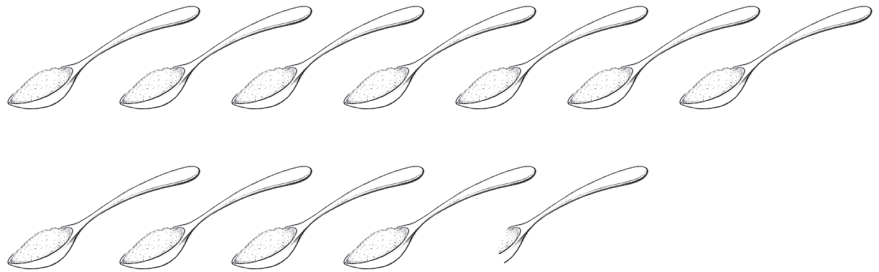
Sodium 15mg **1%**

Total Carbohydrate 46g **15%**

Dietary Fiber 0g **0%**

Sugars 45g

Protein 0g



$45 \text{ grams} \div 4 \text{ grams/teaspoon} = 11.25 \text{ teaspoons sugar}$



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 1 bottle
Servings Per Container 1

Amount Per Serving

Calories 0 **Calories from Fat** 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 0mg **0%**

Total Carbohydrate 0g **0%**

Dietary Fiber 0g **0%**

Sugars 0g

Protein 0g

0 grams ÷ 4 grams/teaspoon = 0 teaspoons sugar



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 8 fl oz.
Servings Per Container 2.5

Amount Per Serving

Calories 90 **Calories from Fat** 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

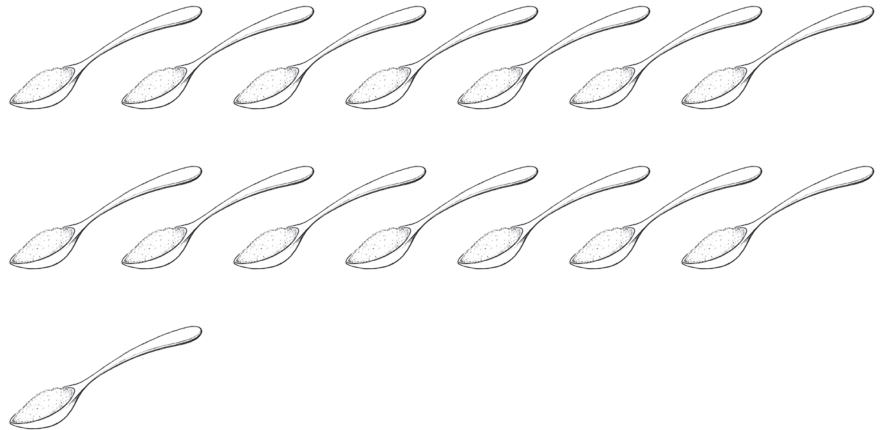
Sodium 10mg **0%**

Total Carbohydrate 25g **8%**

Dietary Fiber 0g **0%**

Sugars 24 g

Protein 0g



2.5 servings X 24 grams = 60 grams
60 grams ÷ 4 grams/teaspoon = 15 teaspoons sugar



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 1 pouch
Servings Per Container 1

Amount Per Serving

Calories 60 **Calories from Fat** 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 0mg **0%**

Total Carbohydrate 15g **5%**

Dietary Fiber 0g **0%**

Sugars 15g

Protein 0g



$15 \text{ grams} \div 4 \text{ grams/teaspoon} = 3.75 \text{ teaspoons sugar}$



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 20 fl oz
Servings Per Container 1

Amount Per Serving

Calories 130 **Calories from Fat** 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 270mg **11%**

Total Carbohydrate 34g **11%**

Dietary Fiber 0g **0%**

Sugars 34g

Protein 0g



34 grams ÷ 4 grams/teaspoon = 8.5 teaspoons sugar



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 1 Bottle
Servings Per Container 1

Amount Per Serving

Calories 260 **Calories from Fat** 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

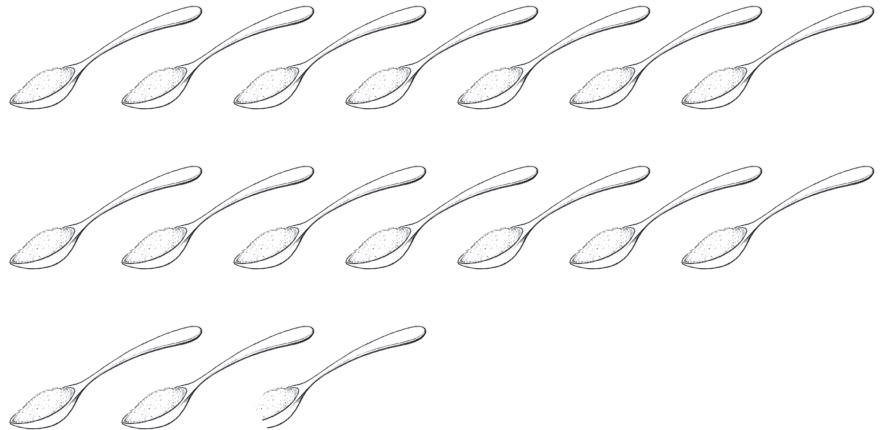
Sodium 80mg **3%**

Total Carbohydrate 70g **23%**

Dietary Fiber 0g **0%**

Sugars 67g

Protein 0g



67 grams ÷ 4 grams/teaspoon = 16.75 teaspoons sugar



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 12 fl oz
Servings Per Container 1

Amount Per Serving

Calories 160 **Calories from Fat** 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

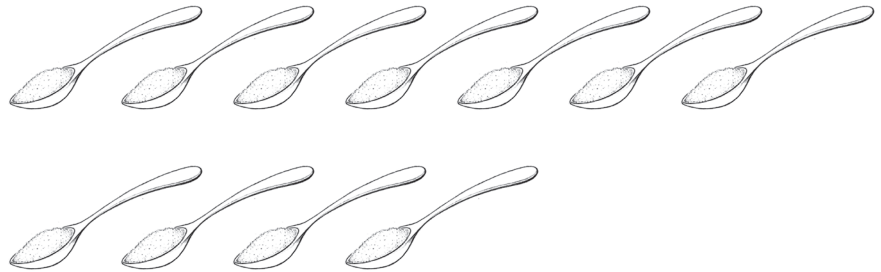
Sodium 55mg **2%**

Total Carbohydrate 44g **15%**

Dietary Fiber 0g **0%**

Sugars 44g

Protein 0g



44 grams ÷ 4 grams/teaspoon = 11 teaspoons sugar



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 20 fl oz
Servings Per Container 1

Amount Per Serving

Calories 120 **Calories from Fat** 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

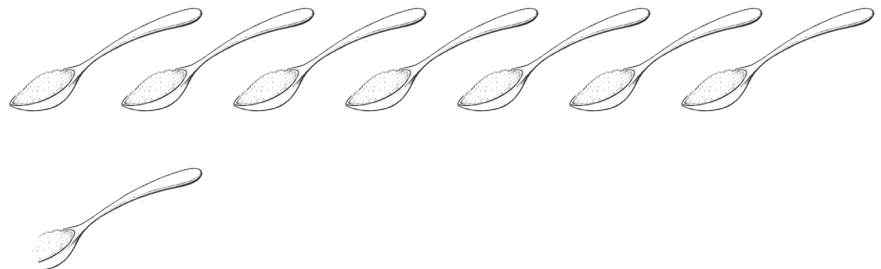
Sodium 0mg **0%**

Total Carbohydrate 31g **10%**

Dietary Fiber 0g **0%**

Sugars 31g

Protein 0g



$$31 \text{ grams} \div 4 \text{ grams/teaspoon} = 7.75 \text{ teaspoons sugar}$$



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 20 fl oz
Servings Per Container 1

Amount Per Serving

Calories 0 **Calories from Fat** 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 5mg **0%**

Total Carbohydrate 0g **0%**

Dietary Fiber 0g

Sugars 0g

Protein 0g

0 grams ÷ 4 grams/teaspoon = 0 teaspoons sugar



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 16 fl oz
Servings Per Container 1

Amount Per Serving

Calories 120 **Calories from Fat** 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 210mg **8%**

Total Carbohydrate 30g **10%**

Dietary Fiber 0g

Sugars 28g

Protein 0g



28 grams ÷ 4 grams/teaspoon = 7 teaspoons sugar



Grab 2 (cont.)

Nutrition Facts

Serving Size 2.07 oz
 Servings Per Container 1 package

Amount Per Serving

Calories 280 **Calories from Fat** 130

% Daily Value*

Total Fat 14g **22%**

Saturated Fat 5g **25%**

Trans Fat 0g

Cholesterol 5mg **2%**

Sodium 140mg **6%**

Total Carbohydrate 35g **12%**

Dietary Fiber 1g **4%**

Sugars 30g

Protein 4g



$$30 \text{ grams} \div 4 \text{ grams/teaspoon} = 7.5 \text{ teaspoons sugar}$$



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 1 cake
Servings Per Container 2

Amount Per Serving

Calories 150 **Calories from Fat** 41

% Daily Value*

Total Fat 4.5g **7%**

Saturated Fat 2.5g **13%**

Trans Fat 0g

Cholesterol 20mg **7%**

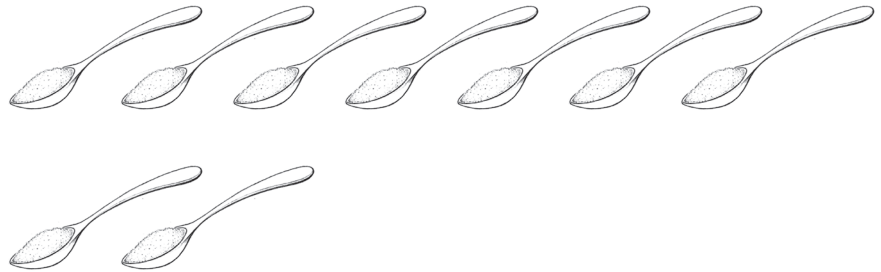
Sodium 220mg **9%**

Total Carbohydrate 27g **9%**

Dietary Fiber 0g **0%**

Sugars 18g

Protein 1g



$$2 \times 18 \text{ grams} = 36 \text{ grams}$$

$$36 \text{ grams} \div 4 \text{ grams/teaspoon} = 9 \text{ teaspoons sugar}$$



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 40 g
Servings Per Container 3.5

Amount Per Serving

Calories 150 **Calories from Fat** 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

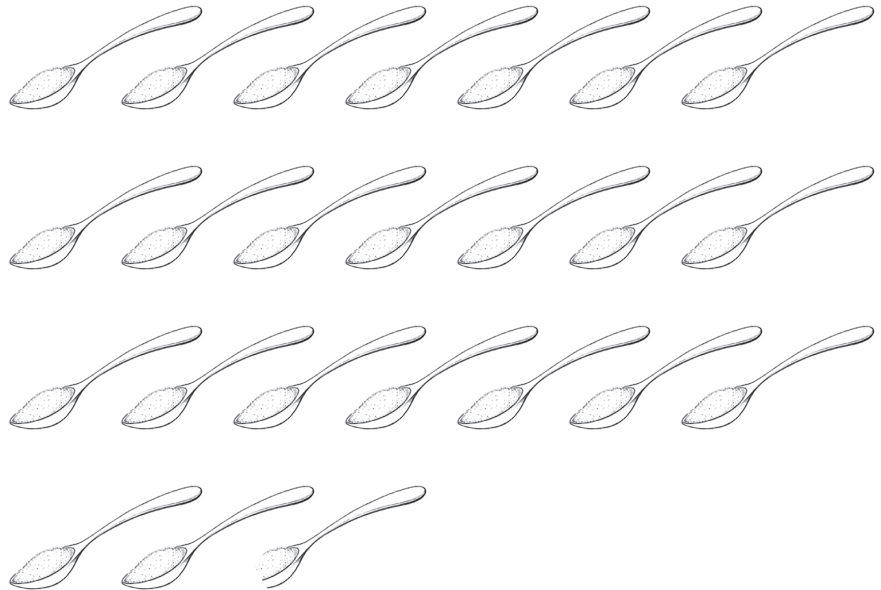
Sodium 25mg **1%**

Total Carbohydrate 37g **12%**

Dietary Fiber 0g **0%**

Sugars 26g

Protein 0g



$$3.5 \times 26 \text{ grams} = 91 \text{ grams}$$

$$91 \text{ grams} \div 4 \text{ grams/teaspoon} = 22.75 \text{ teaspoons sugar}$$



Grab 2 (cont.)

Nutrition Facts

Serving Size 1 pastry
Servings Per Container 2

Amount Per Serving

Calories 200 **Calories from Fat** 45

% Daily Value*

Total Fat 5g **8%**

Saturated Fat 1.5g **8%**

Trans Fat 0g

Cholesterol 0g **0%**

Sodium 170mg **7%**

Total Carbohydrate 38g **13%**

Dietary Fiber <1g **3%**

Sugars 16g

Protein 2g



$$2 \times 16 \text{ grams} = 32 \text{ grams}$$

$$32 \text{ grams} \div 4 \text{ grams/teaspoon} = 8 \text{ teaspoons sugar}$$



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 1 cake
Servings Per Container 1

Amount Per Serving

Calories 480 **Calories from Fat** 230

% Daily Value*

Total Fat 27g **41%**

Saturated Fat 13g **67%**

Trans Fat 0.5g

Cholesterol 5g **2%**

Sodium 380mg **16%**

Total Carbohydrate 55g **18%**

Dietary Fiber 1g **4%**

Sugars 27g

Protein 5g



$$27 \div 4 \text{ grams/teaspoon} = 6.75 \text{ teaspoons sugar}$$



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 40 g
Servings Per Container 2.8

Amount Per Serving

Calories 130 **Calories from Fat** 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

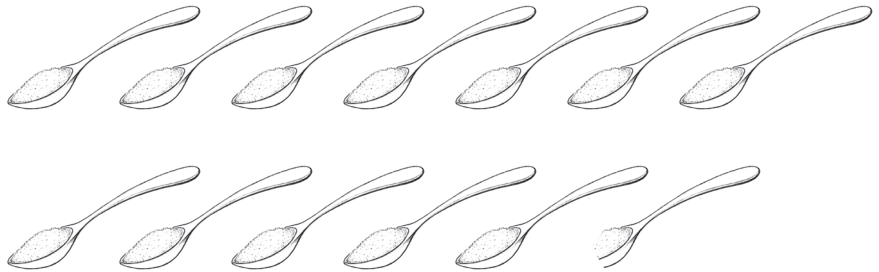
Sodium 15mg **1%**

Total Carbohydrate 31g **10%**

Dietary Fiber 0g

Sugars 18g

Protein 1g



$$2.8 \times 18 \text{ grams} = 50.4 \text{ grams}$$

$$50.4 \div 4 \text{ grams/teaspoon} = 12.6 \text{ teaspoons sugar}$$



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 30g
Servings Per Container 3

Amount Per Serving

Calories 140 **Calories from Fat** 50

% Daily Value*

Total Fat 6g **9%**

Saturated Fat 1.5g **8%**

Trans Fat 0g

Cholesterol 0g **0%**

Sodium 120mg **5%**

Total Carbohydrate 21g **7%**

Dietary Fiber 1g **3%**

Sugars 9g

Protein 2g



$$3 \times 9 \text{ grams} = 27 \text{ grams}$$

$$27 \div 4 \text{ grams/teaspoon} = 6.75 \text{ teaspoons sugar}$$



Grab 2 (cont.)

Nutrition Facts

Serving Size 1 bag
Servings Per Container 1

Amount Per Serving

Calories 250 **Calories from Fat** 120

% Daily Value*

Total Fat 13g **20%**

Saturated Fat 5g **25%**

Trans Fat 0g

Cholesterol 5g **2%**

Sodium 25mg **1%**

Total Carbohydrate 30g **10%**

Dietary Fiber 2g **8%**

Sugars 25g

Protein 0g



$$25 \div 4 \text{ grams/teaspoon} = 6.25 \text{ teaspoons sugar}$$



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 2 cookie bars
Servings Per Container 1

Amount Per Serving

Calories 260 **Calories from Fat** 110

% Daily Value*

Total Fat 12g **18%**

Saturated Fat 7g **35%**

Trans Fat 0g

Cholesterol 5mg **2%**

Sodium 100mg **4%**

Total Carbohydrate 34g **11%**

Dietary Fiber 1g **4%**

Sugars 24g

Protein 0g



$$44 \div 4 \text{ grams/teaspoon} = 6 \text{ teaspoons sugar}$$



Cards

Grab 2 (cont.)

Nutrition Facts

Serving Size 29g
Servings Per Container 3

Amount Per Serving

Calories 130 **Calories from Fat** 50

% Daily Value*

Total Fat 6g **9%**

Saturated Fat 2g **10%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 140mg **6%**

Total Carbohydrate 21g **7%**

Dietary Fiber 1g **4%**

Sugars 11g

Protein 0g



$$3 \times 11 \text{ grams} = 33 \text{ grams}$$

$$33 \div 4 \text{ grams/teaspoon} = 8.25 \text{ teaspoons sugar}$$



Grab 2 (cont.)

Nutrition Facts

Serving Size 4 cookies
Servings Per Container 1

Amount Per Serving

Calories 190 **Calories from Fat** 80

% Daily Value*

Total Fat 9g **14%**

Saturated Fat 3g **15%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 120mg **5%**

Total Carbohydrate 27g **9%**

Dietary Fiber 1g **3%**

Sugars 13g

Protein 2g



$$13 \div 4 \text{ grams/teaspoon} = 3.25 \text{ teaspoons sugar}$$





Activity Sheet

Name _____

Date _____

Food Rules Lesson 6

Lesson 6: **Dia-Beat It!**

Food Rules: _____

Eat food. Not too much. Mostly plants.

Family Tips

- Carry a reusable water bottle with you. That way you will not have to buy a beverage when you get thirsty. Insulated bottles keep water cold, making it especially refreshing in warmer weather.
- Add fruit slices to water or seltzer for a lightly sweetened drink.
- Try adding fruit and a bit of honey to plain yogurt.
- Make air-popped popcorn and add your own salt, herbs, and spices for a tasty and fun snack.

Food Rules from Previous Lessons

Eat Food.

- 1 Eat food you can picture growing in nature.
- 2 Eat food with ingredients that a third grader could pronounce.
- 3 Avoid products that make health claims.

Not Too Much.

- 4 Avoid foods you see advertised on television.
- 5 Choose smaller plates and glasses.

In Defense of Food film clips that accompanies this lesson:

Sugar Flood and Diabetes: An Epidemic

Watch at <http://bit.ly/idofclip6a> and <http://bit.ly/idofclip6b>

Learn more about *In Defense of Food* at:

pbs.org/indefenseoffood



Activity Sheet

Name _____

Date _____

Sugar Sugar Everywhere

Highlight or circle all the ingredients listed below that are a form of sugar.

- | | | | | | | | |
|----|----------------------|------------------------|--------------------------|------------------------|---------------------------------|----------------------------|--------------------|
| 1. | Raw sugar | Buttered
syrup | Panocha | Florida
crystals | Icing sugar | Barley malt | Fruit juice |
| 2. | Dextran | Refiner's
syrup | Galactose | Cane juice
crystals | High-
fructose
corn syrup | Glucose | Date sugar |
| 3. | Agave
nectar | Ethyl
maltol | Evaporated
cane juice | Turbinado
sugar | Confection-
er's sugar | Yellow
sugar | Molasses |
| 4. | Dextrose | Demerara
sugar | Corn syrup
solids | Fructose | Sucrose | Diatase | Beet sugar |
| 5. | Organic
raw sugar | Barbados
sugar | Grape sugar | Honey | Brown rice
syrup | Crystalline
fructose | Malt syrup |
| 6. | Brown
sugar | Treacle | Carob
syrup | Invert sugar | Caramel | Golden
sugar | Corn syrup |
| 7. | Glucose
solids | Blackstrap
molasses | Sugar | Castor
sugar | Lactose | Maltose | Muscovado
sugar |
| 8. | Cane
sugar | Golden
syrup | Rice syrup | Diastatic
malt | Sorghum
syrup | Fruit juice
concentrate | Maple syrup |



Activity Sheet

Name _____

Date _____

Not Too Much Action Plan

Making sure you don't eat too much sugar and refined carbohydrates from dud foods is important to help keep you healthy so you can work towards your goals.

Create an action plan that will help you stay away from too much dud food!

My Action Plan: (example)

I am going to eat: homemade popcorn instead of cheetos.
(food) (dud food)

Time of day (check one):

- ☐ At breakfast
- ☐ In the morning
- ☒ At lunch
- ☐ In the afternoon
- ☐ At dinner
- ☐ In the evening

Days of the week (check as many as you like):

- ☒ Sunday
- ☒ Monday
- ☐ Tuesday
- ☒ Wednesday
- ☒ Thursday
- ☐ Friday
- ☐ Saturday

My Action Plan:

I am going to eat: _____ instead of _____.
(food) (dud food)

Time of day (check one):

- ☐ At breakfast
- ☐ In the morning
- ☐ At lunch
- ☐ In the afternoon
- ☐ At dinner
- ☐ In the evening

Days of the week (check as many as you like):

- ☐ Sunday
- ☐ Monday
- ☐ Tuesday
- ☐ Wednesday
- ☐ Thursday
- ☐ Friday
- ☐ Saturday



III. MOSTLY PLANTS



LESSON 7:

ROOTING FOR PLANTS

First Bite

This lesson begins the section on Mostly Plants. Eating mostly plants means having a higher proportion of foods that come from plants, such as vegetables, fruits, beans, peas, lentils, whole grains, nuts, and seeds, and a lower proportion foods from animals such as meat, poultry, fish, eggs, milk, yogurt and cheese. This would be a switch for many Americans. Only 13.1% of adults eat enough fruits and even fewer, 8.9%, eat enough vegetables.¹ Additionally, Americans eat a lot of meat. The world average for meat consumption is 88 pounds per person each year. Americans eat over three times that, averaging 277 pounds per person each year.²

Eating Mostly Plants

Eating mostly plants has many benefits. Plants are filled with thousands of beneficial compounds, called phytonutrients. Collectively these phytonutrients are believed by scientists to prevent some forms of cancer and other diseases, and help our body to function optimally. Vegetables, beans, and fruits with deep, rich colors have high levels of phytonutrients. Plant-based foods, especially whole grains and beans, are inexpensive. Making these the center of the plate for some meals instead of animal-based foods is a great way to move toward eating mostly plants and reducing how much we spend on food. Additionally, plant-based foods have a lower carbon footprint than animal-based foods. Eating mostly plants is good for the environment.

Mostly Plants on Our Plates

There are lots of ways to incorporate more plants into our diets. One way is to try to eat all different parts of plants, including seeds, roots, stems, leaves and flowers. Beans, whole grains, nuts, and seeds themselves are

examples of seeds. Carrots and turnips are types of roots. Asparagus and rhubarb are stems. Spinach and collards are leaves. Broccoli and cauliflower are forms of flowers. Plums and cucumbers are fruits. Interestingly, plant scientists --called botanists--define a fruit as the part of the plant that produces seeds. Many items that a chef would consider vegetables--such as peppers, tomatoes, cucumbers, and squash--are fruits to a botanist. Trying to eat all the different parts of plants can help make eating mostly plants fun and varied.

Another great way to eat mostly plants is to think about the proportions of different foods that we put on our plates. In 2011 the United States introduced a new food guide called MyPlate³ that can help us do just that. MyPlate⁴ recommends making half our plate fruits and vegetables. Another fourth of the plate should be grains, such as rice, pasta, quinoa, or potatoes, all of which come from plants. So a full 75% of the plate should be plant-based. The final fourth of the plate is for foods that provide protein; these can come from either plants such as beans, nuts, or seeds, or animals such as meat, poultry, fish, or eggs. MyPlate also recommends a side of dairy, such as milk, yogurt, or cheese. If we think about the proportions recommended by MyPlate as we choose our meals and snacks, we can move toward eating mostly plants.

References

1. Moore LV, Thompson FE. (2015, July 10). Adults Meeting Fruit and Vegetable Intake Recommendations — United States, 2013. *Morbidity and Mortality Weekly*, 64(26);709-713.
2. Daily Chart. King of the Carnivores. (2012, April 30). *The Economist Online*.
3. United States Department of Agriculture, Center for Nutrition Policy and Promotion. (2011). *A Brief History of USDA Food Guides*.
4. United States Department of Agriculture. (2011) *MyPlate.gov website*: <http://www.choosemyplate.gov/>.



LESSON 7:

ROOTING FOR PLANTS

Aim

To increase familiarity with and excitement about eating plant-based foods.

Food Rule

**If it came from a plant, eat it.
If it was made in a plant, don't.**

Film Clip

Going Farming!

Objectives

Students will be able to:

- explain why it is important to eat mostly plants;
- list plant-based foods that are fruits, vegetables, grains, and proteins;
- categorize plant-based foods as seeds, roots, stems, leaves, flowers, and fruits;
- demonstrate ability to prepare an all-plant based dish; and
- use descriptive words to describe the sensory qualities of the dish they prepare.

Overview

In this lesson students begin the section on Mostly Plants by looking at cards with close up photos of plants. Then, they learn about MyPlate and what kinds of foods are plant-based. Watching the *IDOF* film clip, students learn about foods available in different neighborhoods and see other students excited about making and eating plant-based food. They learn the Food Rule, “If it came from a plant, eat it. If it was made in a plant, don’t.” Then they learn practical strategies for choosing plant-based foods and create a Mostly Plants action plan. To experience eating all different parts of plants, students make and eat a plant part salad. Finally, students work on their culminating projects.

Materials

In this guide

- **Plant Part Salad** preparation sheet p. 217
- **Close-up** cards p. 223
- **Guess Me** activity sheet p. 229
- **Close Up Answer Sheet** lesson resource p. 230
- **MyPlate** lesson resource p. 231
- **Plant Food Mysteries** activity sheet p. 232
- **Plant Food Mysteries Answer Sheet** lesson resource p. 234
- **Food Rules Lesson 7** activity sheet p. 236
- **Mostly Plants Action Plan** activity sheet p. 237
- **Edible Plants** lesson resource p. 239
- **Visualizing Plant Part Salad** lesson resource p. 240
- **Making Plant Part Salad During Class** lesson resource p. 241

In this guide (cont.)

- **Take Home Plant Part Salad Recipe** activity sheet p. 243

Other materials

- *IDOF* film clip 7: Going Farming! and AV equipment
- All ingredients and cooking materials from **Plant Part Salad** preparation sheet p. 217
- Countertop cleaner
- Paper towels
- Tape
- For each student:**
 - Pencil
 - Tasting cup
 - Fork
 - Slip of paper

To learn more about *In Defense of Food*, visit pbs.org/indefenseoffood. Funding was provided by the National Science Foundation and PBS.



Before You Begin: Total prep time: approximately two hours

Within a few days before lesson

1. Purchase ingredients and gather cooking materials for the salad making activity. See *Plant Part Salad* preparation sheet p. 217 for details.
2. Review the entire lesson.

Within a day before lesson

3. **Print and cut out cards:**
 - *Close Up* cards p. 223, one set, hang up around room.
4. **Print one copy per student of each activity sheet:**
 - *Guess Me* activity sheet p. 229
 - *Plant Food Mysteries* activity sheet p. 232
 - *Food Rules Lesson 7* activity sheet p. 236
 - *Mostly Plants Action Plan* activity sheet p. 237
 - *Take Home Plant Part Salad Recipe* activity sheets p. 243
5. Explore eating mostly plants: Print *MyPlate* lesson resource p. 231
6. Viewing *IDOF* film clip:
 - Set up AV equipment and space for film viewing.
 - Find *IDOF* film clip 7: Going Farming! at <http://bit.ly/idofclip7>
7. Appreciate eating plant parts: Print 1 copy of *Edible Plants* lesson resource p. 239.
8. **Preparing plant part salad:**
 - Print *Making Plant Part Salad During Class* lessons resource p. 241, at least 2 copies to be placed at the cooking station. Print more copies if you have a large class.
 - Clean all food preparation and eating surfaces with countertop cleaner.
 - Set up the salad making and dressing making stations with ingredients and cooking materials for each. See *Making Plant Part Salad During Class* lessons resource for details. Note: the salad making station needs the bigger area.
9. **Culminating project:** Have all students' culminating projects ready for them to work on.

Plant Part Salad

To experience eating all parts of the plant, including seeds, roots, stems, leaves, flowers, and fruits, students will make a plant part salad. This recipe makes enough salad for 10-15 students, for smaller or larger classes, adjust accordingly.

Shop for ingredients

For salad:

- Wild rice (need 1 ½ cup dry rice)
- 3 medium spring onions (scallions)
- Edamame (need 2 cups shelled)
Buying shelled and frozen is easiest. If unshelled, shell yourself.
If you cannot find edamame, use frozen peas)
- 2 medium carrots
- Small head cauliflower (need 2 cups)
- Small bunch parsley (need 1 cup)
- Dried cranberries (need ¾ cup)
- Sesame seeds (white or black, need 2 tablespoons)

For dressing

- Kosher salt (need 2 teaspoons)
- Black pepper (need 1 teaspoon)
- Sesame oil (need 5 tablespoons)
- Rice vinegar (need ¼ cup)
- Honey (need 2 teaspoons)

Gather materials

For salad:

- Large bowl
- Large spoon
- 2 graters (for carrots)
- 2 plastic knives (for cauliflower)
- 2 cutting boards or large paper plates (for cauliflower)
- 2 pairs kitchen scissors (for cutting spring onion)
- Small bowl (for placing torn parsley)
- Set of measuring cups
- Set of measuring spoons

For dressing:

- Small bowl
- Fork
- Large plate
- Set of measuring cups
- Set of measuring spoons

Complete advanced preparation of ingredients

- **Rice:** Combine 1 ½ cup uncooked wild rice with 3 cups water in a medium size pot with a lid. Bring to a boil and then reduce the heat to medium. Cook the wild rice covered at a simmer for 40-45 minutes. The wild rice will burst open when it is cooked. When it's done, fluff rice with a fork.
- **Spring onions (scallions):** Wash and remove any dirt from inside the green leaves.
- **Edamame:** If using frozen edamame or peas, let thaw before class. If you have edamame with shells, remove beans from the shells before class.
- **Carrots:** Wash (no need to peel).
- **Cauliflower:** Wash and remove outer leaves.
- **Parsley:** Wash and dry leaves, cut off and discard stems.



Procedure

Lesson time: 120 min. (2 60-min. parts)

Part 1 (60 min.)

1. Check in on Action Plans (5 min.)

Remind students that in Lesson 6 they completed the ***Not Too Much Action Plan*** activity sheet p. 212 where they plan to eat a food instead of a dud food. Ask students to share their successes. Compliment students on the changes they have been able to make. Ask students to share challenges. Encourage peer-to-peer interaction about how to overcome challenges. Remind students to keep working on current and previous action plans.

2. Introduce Mostly Plants Section (1 min.)

Remind students of the three themes of the curriculum: Eat food. Not too much. Mostly plants. These are the seven words Michael Pollan recommends to answer the question, “What should I eat to be healthy?” Tell students Lessons 7–9 are the Mostly Plants section of the curriculum.

3. Get Up Close with Plants (8 min.)

Point out the ***Close Up*** cards p. 223 placed around the room and explain that these are extreme close ups of different foods, all of which are plants.

Divide students into pairs and provide each student with the ***Guess Me*** activity sheet p. 229 and a pencil. Each ***Close Up*** card picture has a number on the top right-hand corner, which corresponds to a numbered box on the ***Guess Me*** activity sheets. The pairs walk around, examine the cards, and record their guesses for each ***Close Up*** card on the activity sheet.

When each pair has completed the activity sheets, have them come to you to see how many they got correct. The ***Close Up Answer Sheet*** lesson resource p. 230 has the answers. The team who gets the most correct wins! Crown the winning team the Guess Me champion. Have the winning team help you reveal the plant-based foods found on each ***Close Up*** card.

4. Explore Eating Mostly Plants (4 min.)

Ask students to share what they think it means to eat mostly plants. Have each student share the first two or three words that pop into their minds. Tell students it is fine to repeat what others said or to pass if they cannot think of anything.

Procedure (cont.)

Tell students that eating mostly plants is a great way to help them reach their goals and keep them healthy now and into the future. Plants are full of many different nutrients. In fact, scientists know relatively little about all of the good things in plants and exactly how they keep us healthy. What scientists and health professionals do know is that people who eat mostly plants tend to be healthier than those who do not.

Explain that one way students can think about eating mostly plants is to follow MyPlate. Hold up the **MyPlate** lesson resource p. 231. Ask students, *which sections are foods that come from plants?* (Fruits, vegetables, and grains are all from plants. Protein can come from animals such as meat, poultry, fish, dairy, and eggs, as well as from plants such as beans, nuts, and seeds.)

5. Solve Plant Food Mysteries (8 min.)

To learn more about how to eat mostly plants, students are going to solve some plant food mysteries. Divide students into small groups. Give each student a **Plant Food Mysteries** activity sheet p. 232 and a pencil. Explain that when you say go they will work with their groups to try to fill in the missing letters in the plant-based foods. Point out that the **Plant Food Mysteries** activity sheet is two pages, with fruits and vegetables and grains on the first page and proteins on the second page.

Groups will have five minutes to figure out as many foods as they can. If they finish before time is up ask them to stay quiet, look up, and put their hands on their heads. Set the timer or look at the clock and tell groups to go!

When five minutes is up or all groups are finished have everyone stop. Use the **Plant Food Mysteries Answer Sheet** lesson resource p. 234 to go over all the answers. Have students fill in whichever foods they had not completed.

Tell students they can take this page home and encourage them to share it with their families so that they can think about eating mostly plants.

6. Watch IDOF Film Clip 7: Going Farming! (10 min.)



Have students join you in an area of the room set up for video viewing. Play the IDOF film clip 7: Going Farming!, which shows other kids around the country cooking and enjoying plant-based foods. Following the film clip hold a discussion.

What are some of the reasons why people tend to eat so many dud foods that were revealed in the film clip? Does this happen in some neighborhoods more than others? What is the take away message from this video? (Certain neighborhoods have more dud foods than others, they are cheap, heavily



Procedure (cont.)

marketed, and easy to buy). *Now that you know what you do, what kinds of things could you tell people about the foods that they eat, especially when they are mostly dud foods?*

What were the Bronx Chefs making in their cooking class? (Pasta and pesto.) Are these foods or dud foods? Why? What are some members of the community doing to fight back against their unhealthy food environment? What are some things your can do in your home/school/community to fight back and defend food?

7. Learn the Food Rule (12 min.)

Write the Food Rule on the board or chart paper, “If it came from a plant, eat it. If it was made in a plant, don’t.” *What do you think this means?*

*What kinds of things come from plants? (Eat more of everything they just filled in on the **Plant Food Mysteries** activity sheet.) What does made in a plant refer to? (Made in a factory. This is a way of saying to eat fewer dud foods).*

Distribute the **Food Rule Lesson 7** activity sheet p. 236 to the class and have students write in this lesson’s Food Rule in the Lesson 7 box.

Students can also use some of the previous Food Rules to help them as they choose plant-based foods. For example, when choosing breads, cereals, and cereal bars, they can think of “Eat foods with ingredients that a third grader could pronounce.” This rule can help students choose products made of a few whole or minimally processed ingredients, opposed to ones that contain many highly processed ingredients and additives.

Students can also look for items that are whole grains, which has all the parts and nutrients that are in the grain seed. To eat whole grains they can choose bread made with whole-wheat flour instead of white flour or choose brown rice instead of white rice.

8. Make An Action Plan (13 min.)

Remind students that this section is called Mostly Plants, but that does not necessary mean to eat only plants. Eating a diet that is mostly plants can also include eating foods that are from animals: meat, poultry, fish, eggs, and dairy products. Often foods from animals are paired with foods from plants, such as scrambled eggs on toast or a turkey sandwich on whole wheat bread with lettuce and tomato. What we want to think about is eating more foods from plants and fewer foods from animals.

Distribute the **Mostly Plants Action Plan** activity sheet p. 237 to all students. Explain that they are going to circle options of plant-based foods they already eat or would like to eat at breakfast, lunch, dinner and snacks. On the blank lines, they can write in other options.

Procedure (cont.)

Have students work independently on this sheet for about five minutes. Then ask students to share what they wrote on the blank lines. Students can write down on their own sheets any ideas from their classmates that sound appealing.

Encourage students to use this sheet as they make food choices in the future and to share it with their families.

Have a few students share their action plans and also share ideas for how they will stick with their plans.

Part 2 (60 min.)

9. Build Appreciation for Eating Plant (5 min.)

Explain that we eat all the different parts of plants: seeds, roots, stems, leaves, flowers, and fruits.

Draw a chart on the board or chart paper with seeds, roots, stems, leaves, flowers, and fruits in the columns. As a group, brainstorm as many edible plant parts for each column as you can. Use the **Edible Plants** lesson resource p. 239 to guide you. Leave the **Edible Plants** lesson resource in a place where students can see it as they make the salad, in case they want to look at it to learn more about the plants we eat.

10. Prepare Plant Part Salad (40 min.)



Explain to students that now they will work together to make a plant part salad that includes all different parts of the plant.

Have students clean their hands and join you in an area set up for food preparation. Review the ingredients in the salad. Have students to call out the plant part for each ingredient. Use the **Visualizing Plant Part Salad** lesson resource p. 240.

Assign about one-fourth of the students to make the dressing. Be sure the students making the dressing share measuring the ingredients. Assign the rest to make the salad. Work with this group and have them divide the tasks of grating carrots, cutting scallions, cutting cauliflower, and tearing parsley.

Have students refer to the page of the **Making Plant Part Salad During Class** lesson resource p. 241 at their station for the details of what they need to do to make the salad or dressing.

Once the salad is made and the dressing has been incorporated serve approximately ½ cup portions in the tasting cups.



Procedure (cont.)

11. Name the Plant Part Salad (3 min.)

Have students sit together to enjoy their creation. Encourage them to use descriptive words to describe how it tastes, smells, looks, feels in their mouths, and sounds when they eat it.

The plant part salad remains nameless! Provide students with a slip of paper and have them write down a name for the salad. They should not put their name on the slip. Collect the slips and read out the names. Ask students to call out a name they like, that was not their own. Once you have three favorite names chosen, have the class vote on their favorite.

Distribute the ***Take Home Plant Part Salad Recipe*** activity sheet p. 243 to students, and have them fill in the name of the salad. They can fill in the name voted as the favorite, the name they came up with, or another name that they like. Encourage them to share the recipe, and their descriptions of the salad with their families.

12. Assign *Capture It* Piece (2 min.)

Remind students that *Capture It* pieces allow them to apply what they are learning in their real lives. Tell them in this *Capture It* they are going to take a photo or draw a picture of a plant-based food that they like to eat with a friend or family member. Ask students to write a few sentences about why they chose this food and what they like about it. Remind students this *Capture It* piece can be displayed as part of their culminating project in Lesson 10.

13. Work on Culminating Project (Remaining time)

Throughout the curriculum students have done creative projects. In Lesson 1 they created a dud food pharm skit. In Lesson 4 they created a television commercial for a food. They have created two *Capture It* pieces to help them reflect on their food environments. Allow students to spend the remainder of the lesson working on one or more of these projects. They will share these as culminating projects during the last session.

Close Up

Print and cut out one set for the class.

1



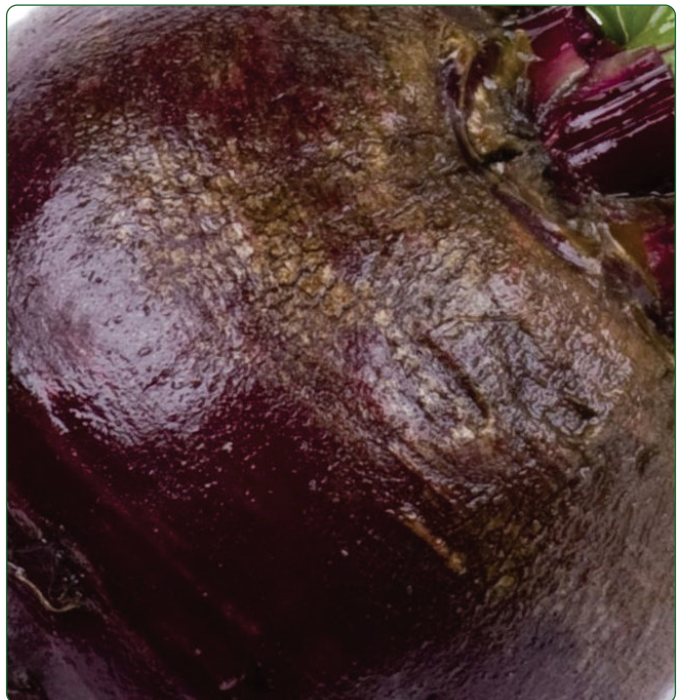
2



3



4

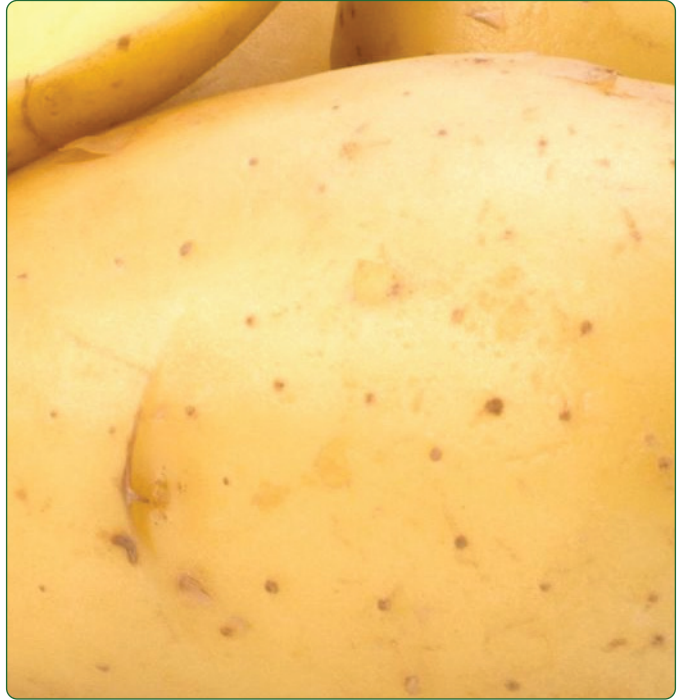


Close Up (cont.)

5



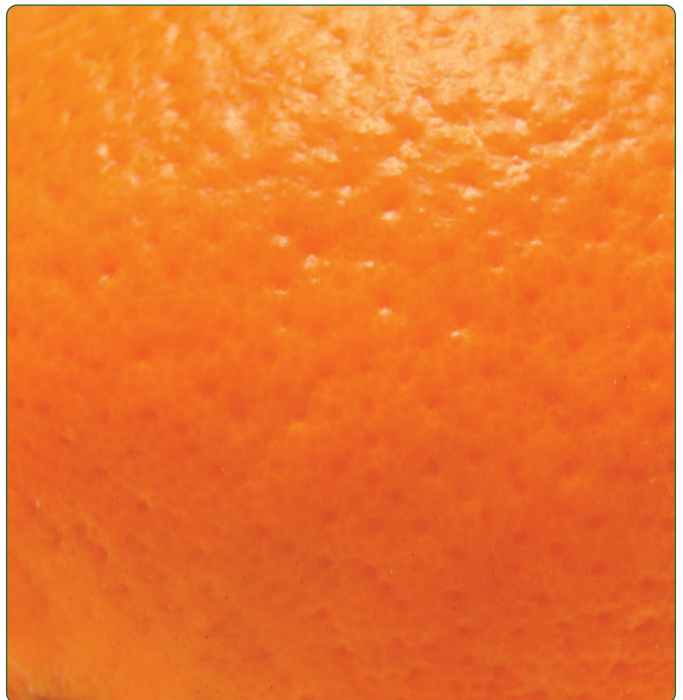
6



7



8



Close Up (cont.)

9



10



11



12



Close Up (cont.)

13



14



15



16

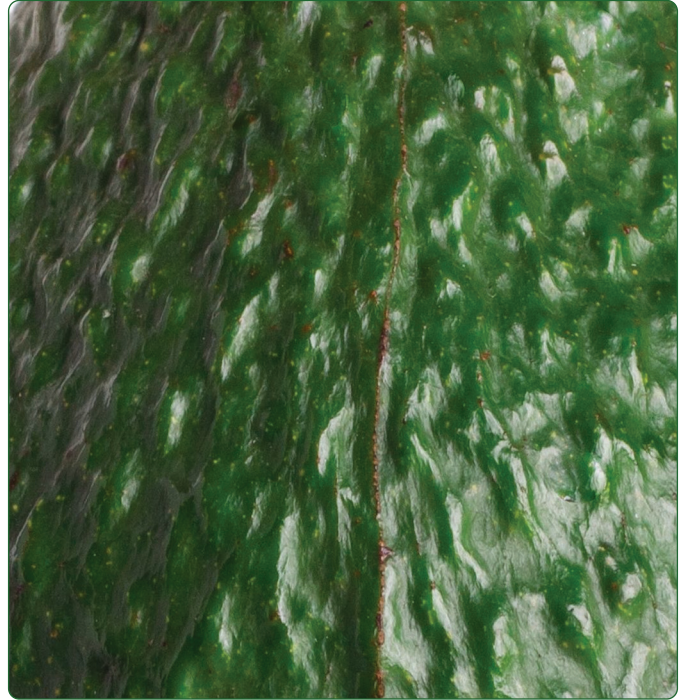


Close Up (cont.)

17



18



19



20



Close Up (cont.)

21



22





Activity Sheet

Name_____

Date_____

Guess Me

Look at the plant picture and guess which food you think it is. Each picture is numbered. Write your guess in the corresponding box below.

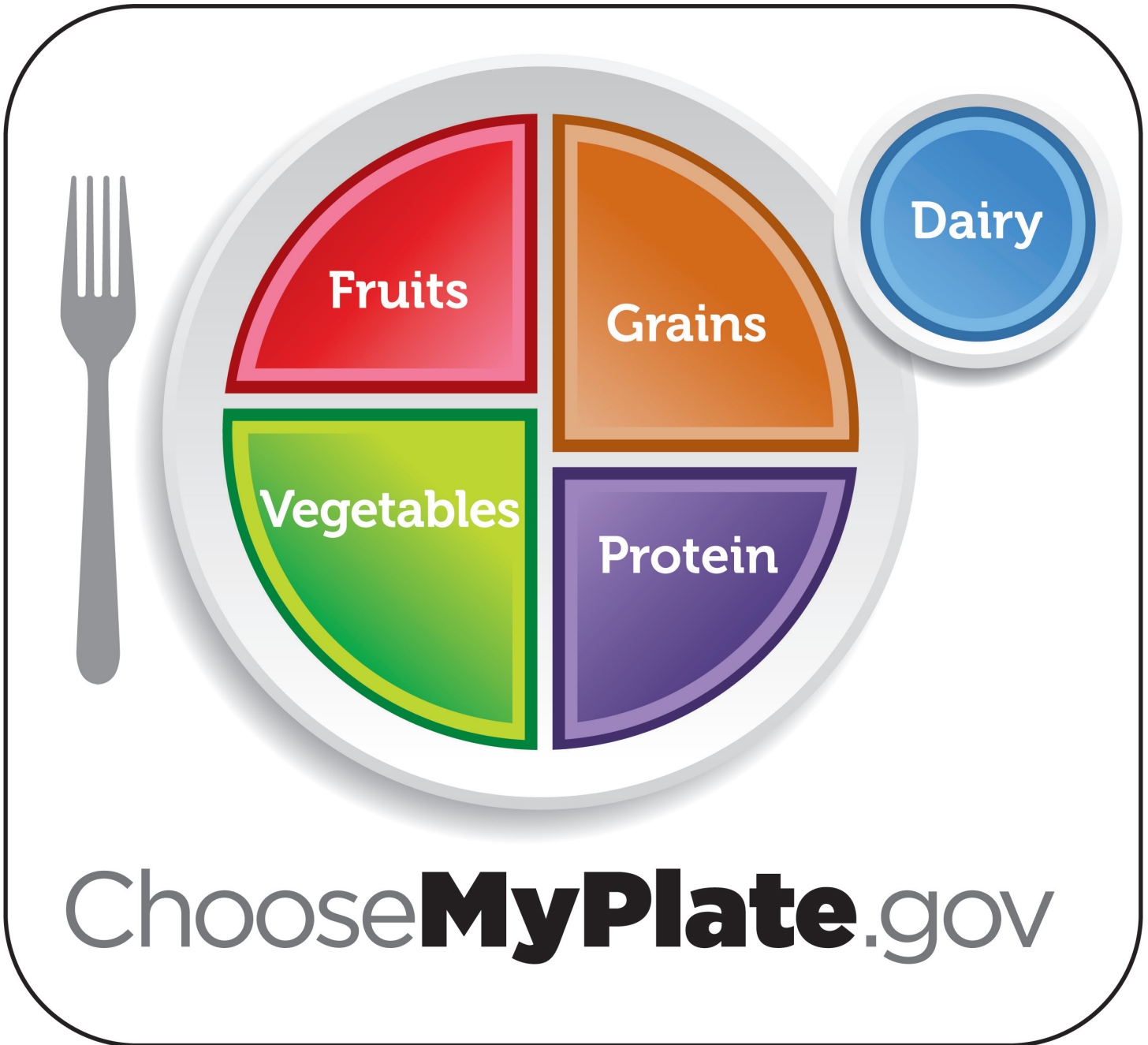
1.	12.
2.	13.
3.	14.
4.	15.
5.	16.
6.	17.
7.	18.
8.	19.
9.	20.
10.	21.
11.	22.

Close Up Answer Sheet

This sheet provides the answers for the *Close Up* cards.

1. Carrot	12. Celery
2. Cauliflower	13. Cantaloupe
3. Strawberry	14. Lettuce
4. Beet	15. Almond
5. Asparagus	16. Red bean
6. Potato	17. Collard greens
7. Broccoli	18. Avocado
8. Orange	19. Peas
9. Cucumber	20. Apple
10. Sunflower seeds	21. Pineapple
11. Kiwi	22. Cilantro

MyPlate



Activity Sheet

Name _____

Date _____

Plant Food Mysteries

To eat mostly plants

Make half your plate **fruits** and **vegetables**!

Fresh are fabulous, and so are:

___ r ___ z ___ n

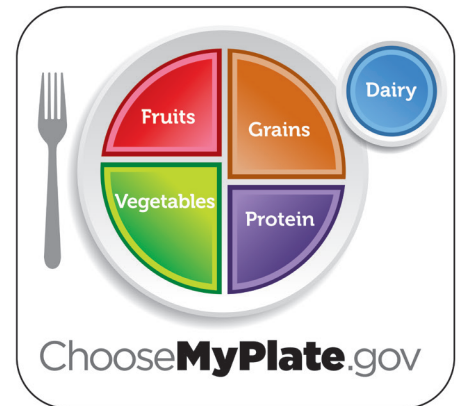
c ___ n ___ d

d r ___ d

Also try:

a ___ p ___ e ___ a u ___ e

___ r u ___ t s ___ a d



Have **grains**! Great choices are:

___ r ___ a d

p ___ s ___ a

c e ___ e ___

r ___ c ___

t ___ r ___ l l ___ s

Activity Sheet

Name _____

Date _____

Plant Food Mysteries (cont.)

To eat mostly plants (cont.)

Make some of your protein **plant-based**! Try:

b _ _ a _ _ s

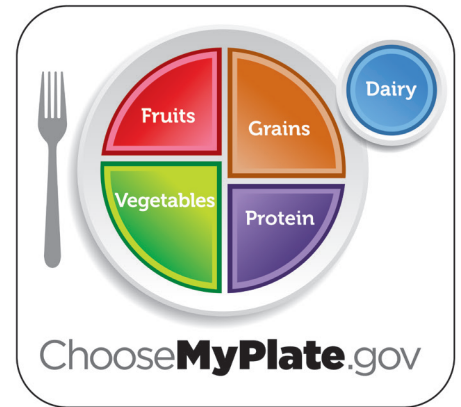
n _ _ t _ _

s _ _ _ d _ _

_ _ u _ _ m u s

_ _ e a _ _ _ t _ _ u t _ _ e _ _

_ _ r a _ _ l m _ _ x



Plant Food Mysteries Answer Sheet

To eat mostly plants

Make half your plate **fruits** and **vegetables**!
Fresh are fabulous, and so are:

f r o z e n

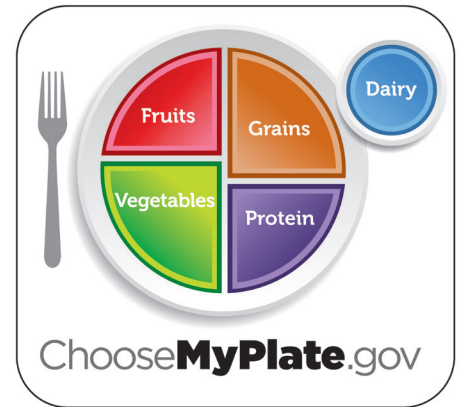
c a n n e d

d r i e d

Also try:

a p p l e s a u c e

f r u i t s a l a d



Have **grains**! Great choices are:

b r e a d

p a s t a

c e r e a l

r i c e

t o r t i l l a s

Plant Food Mysteries Answer Sheet (cont.)

To eat mostly plants (cont.)

Make some of your protein **plant-based**! Try:

b e a n s

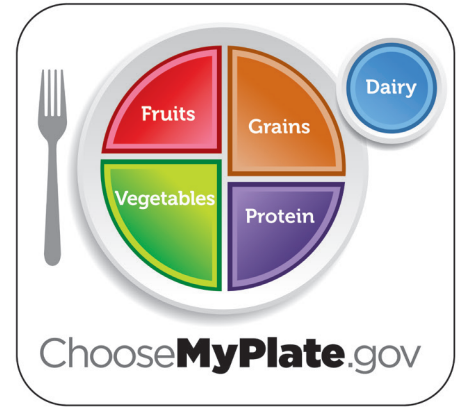
n u t s

s e e d s

h u m m u s

p e a n u t b u t t e r

t r a i l m i x



Name _____

Date _____

Food Rules Lesson 7

Lesson 7: **Rooting for Plants**

Food Rule: _____

Eat food. Not too much. Mostly plants.

Family Tips

- Make half your plate fruits and vegetables. Make another quarter a grain like rice, bread, or pasta. Make the final quarter a protein source: beans, nuts, seeds, meat, fish, poultry, or eggs.
- Eat all different parts of plants: seeds, roots, stems, leaves, fruits, and flowers.
- Try making a trail mix with nuts, seeds, dried fruit, and cereal. Put it in small resealable bags to have around as a grab-and-go snack.

Food Rules from Previous Lessons

Eat Food.

- 1 Eat food you can picture growing in nature.
- 2 Eat food with ingredients that a third grader could pronounce.
- 3 Avoid products that make health claims.

Not Too Much.

- 4 Avoid foods you see advertised on television.
- 5 Choose smaller plates and glasses.
- 6 Make water your beverage of choice. Sweeten and salt your food yourself.

In Defense of Food film clip that accompanies this lesson:

Going Farming!

Watch at <http://bit.ly/idofclip7>

Learn more about *In Defense of Food* at:

pbs.org/indefenseoffood

Activity Sheet

Name _____

Date _____

Mostly Plants Action Plan

A great way to eat mostly plants is to know different plant-based foods that you would like to have for meals and snacks. For the breakfast, lunch, dinner, and snacks section below, circle foods you already eat and those you would like to eat. You can circle as many as you want. If there are other options you would like, write them into the blanks. Use this list to give you ideas as you make food choices.

Remember when you have fruits and vegetables you can have fresh, frozen, dried or canned.

Breakfast

Fruits

strawberries
blueberries
orange
apple
banana

Grains

cereal^a
oatmeal
roll
bagel^a
bread^a

Protein

almonds
peanuts
peanut butter^b
peanuts
sunflower seeds

Lunch

Fruits

peach
nectarine
grapes
apple
kiwi

Vegetables

broccoli
green beans
collard greens
salad
cucumbers

Grains

bread^a
rice^c
tortillas^a
pasta^a
crackers^a

Protein

beans
cashews
peanut butter^b
hummus
bean soup

Footnotes:

^a Look for products that say "whole grains" or the word "whole" such as whole wheat flour in the ingredient list. Also pay attention to the amount of sugar.

^b Try to find peanut butter whose only ingredients are peanuts and salt.

^c Try brown rice instead of white rice when you can.

Activity Sheet

Name _____

Date _____

Mostly Plants Action Plan (cont.)

Dinner

Fruits:

orange
pears
cantaloupe
watermelon
plum

Vegetables:

cauliflower
spinach
butternut squash
beets
asparagus

Grains:

bread^a
rice^c
tortillas^a
pasta^a
quinoa

Protein:

beans
cashews
peanut butter^b
hummus
bean soup

Snack

Fruits:

apple
orange
banana
blueberries
honey dew

Vegetables:

carrots
peppers
celery
snow peas
cucumber

Grains:

cereal^a
cereal bars^a
pita bread^a
oatmeal
crackers^a

Protein:

hummus
walnuts
sunflower seeds
pumpkin seeds
trail mix

Action Plan

Add a plant-based food that you usually do not eat.

Twice in the next week, I will have _____
write in a plant-based food here

at _____
choose when: breakfast, lunch, dinner or snack

Footnotes:

^a Look for products that say "whole grains" or the word "whole" such as whole wheat flour in the ingredient list. Also pay attention to the amount of sugar.

^b Try to find peanut butter whose only ingredients are peanuts and salt.

^c Try brown rice instead of white rice when you can.

Edible Plants

Allow students to share all the plant parts that they have already tried or are familiar with and help them to categorize them. You can supplement with this list below.

Seeds	Roots	Stems	Leaves	Flowers	Fruit
Sunflower seeds Sesame seeds Pumpkin seeds Beans (all varieties) Lentils Peas Walnuts Pecans Almonds Peanuts Wheat Rice Chickpeas	Carrots Beets Parsnips Radishes Daikon Turnip Celeriac Rutabaga Jicama	Asparagus Potato ^a Celery Hearts of Palm Rhubarb Bamboo shoots Broccoli stems Ginger ^a Taro	Lettuce Collard greens Cilantro Parsley Basil Cabbage Spinach Beet greens Swiss chard Bok choy Kale Leek Onion ^b	Cauliflower Broccoli Artichoke Squash blossoms Marigolds ^c	Strawberry Orange Cucumber ^d Kiwi Cantaloupe Avocado ^d Apple Pineapple Bell peppers ^d Eggplant ^d Squash ^d Tomato ^d Tomatillo ^d Chili pepper ^d Zucchini ^d Melons Tangerine Lemon Lime Berries Pears Cherries Peaches Green beans ^e Snow peas ^e Sugar snap peas ^e

Footnotes:

- Ginger and potatoes – even though we may think of them as roots since they are under the soil, they are actually underground stems!
- Onions – even though we may think of an onion as a root because it grows under the soil, the part we eat is actually a leaf.
- Marigold flowers – some flowers, like marigolds, are pretty to look at and tasty to eat.
- When we think about the parts of plants we eat, we are thinking like a plant scientist, or botanist. To a botanist, anything that has seeds or a pit inside is the fruit of the plant. Many things that are vegetables to a chef are a fruit when we are thinking about them as a plant part.
- Pods with seeds inside are a fruit when we think about them as a plant part.

Visualizing Plant Part Salad

Discovering that there are so many parts of the plant that are edible and delicious can make eating mostly plants much easier. Below is a recipe for a plant part salad that uses all parts of the plant discussed in this lesson: seeds, roots, stems, leaves, flowers, and fruits.

SEEDS. Student may have tried sesame seeds in Lesson 1 as part of hummus or in Lesson 6 in the Chinese popcorn shaker mix.

LEAVES. As the name indicates, a **spring onion**, or **scallion**, is part of the onion family. The little white bulb grows underground and the light green leaves shoot up from the ground. You can eat them both. Just cut off the tiny roots at the base of the bulb.

ROOTS. Most of us think of **carrots** as being orange, but did you know that they also come in other colors like white, yellow, red, and purple?

FRUITS. **Cranberry** is a fruit that grows on dwarf shrubs. At first the berries are white. They turn red as they ripen.



FLOWERS AND STEMS. As the name implies, the top of the **cauliflower** is a flower, but the stalk is a stem.

LEAVES. **Parsley** is an herb. We typically eat the leaves of the plant.

SEEDS. **Wild rice** is native to North America, and grew wild in the upper great lakes of the U.S. and Canada. It is in the grass family. Native Americans would harvest wild rice by using beater sticks to knock the ripe seeds off the grass into the bottoms of their canoes.

SEEDS. Students may have tried **edamame** in Lesson 1. As with all beans, it is a seed.

Making Plant Part Salad During Class

Place this page by the salad making station. Makes enough for 10–15.



Salad ingredients	Salad materials
<ul style="list-style-type: none"> • Cooked wild rice • Spring onions (scallions) • Edamame • Carrots • Cauliflower • Parsley • Dried cranberries • Sesame seeds 	<ul style="list-style-type: none"> • Large bowl • Large spoon • 2 graters (for carrots) • 2 plastic knives (for cauliflower) • 2 cutting boards or large paper plates (for slicing cauliflower) • 2 pairs kitchen scissors (for spring onion) • Small bowl (for torn parsley) • Set of measuring cups • Set of measuring spoons

Directions for Salad

- ☐ 1. Add wild rice to the large mixing bowl.
- ☐ 2. Use the kitchen scissors to cut the 3 spring onions into small pieces, from the green tip to the white stem. Do not use the roots. Add spring onions to the large mixing bowl.
- ☐ 3. Measure 2 cups edamame. Add them to the large mixing bowl.
- ☐ 4. Grate 2 carrots. Add grated carrots to the large mixing bowl.
- ☐ 5. Break ½ head cauliflower into bite-sized pieces. Cut any pieces you can't break. Add cauliflower to the large mixing bowl.
- ☐ 6. Tear parsley leaves into small pieces, placing them in a small bowl. Measure out 1 heaping cup and add it to the large mixing bowl.
- ☐ 7. Measure ¾ cup dried cranberries and add them to the large mixing bowl.
- ☐ 8. Measure 2 tablespoons sesame seeds and add them to the large mixing bowl.
- ☐ 9. Add the dressing to the salad and gently stir the entire mixture until all ingredients are combined.

Making Plant Part Salad During Class (cont.)

Place this page by the salad making station.

Dressing ingredients	Dressing materials
<ul style="list-style-type: none"> • Kosher salt • Black pepper • Sesame oil • Rice vinegar • Honey 	<ul style="list-style-type: none"> • Small bowl • Fork • Large plate • Set of measuring cups • Set of measuring spoons

Directions for Dressing

- ☐ 1. Measure ingredients over the large plate to prevent spills.
- ☐ 2. Put 1 teaspoon kosher salt, and 1 teaspoon black pepper into the small bowl.
- ☐ 3. Add 5 tablespoons sesame oil.
- ☐ 4. Add $\frac{1}{4}$ cup rice vinegar.
- ☐ 5. Add 2 teaspoons honey.
- ☐ 6. Mix dressing with a fork until blended.
- ☐ 7. Add dressing to the salad and gently stir entire mixture until ingredients are combined.



Name _____

Date _____

Take Home Plant Part Salad Recipe

(fill in name of recipe voted on in class)

Ingredients

- 1½ cups wild rice, cooked according to package directions
- 3 medium spring onions (scallions), sliced
- 2 cups cooked and shelled edamame
- 2 medium carrots, grated
- 2 cups cauliflower, chopped
- 1 cup parsley leaves, torn into small pieces
- ¾ cup dried cranberries
- 2 tablespoons sesame seeds
- 1 teaspoon kosher salt
- 1 teaspoon black pepper
- 5 tablespoons sesame oil
- ¼ cup rice vinegar
- 2 teaspoons honey

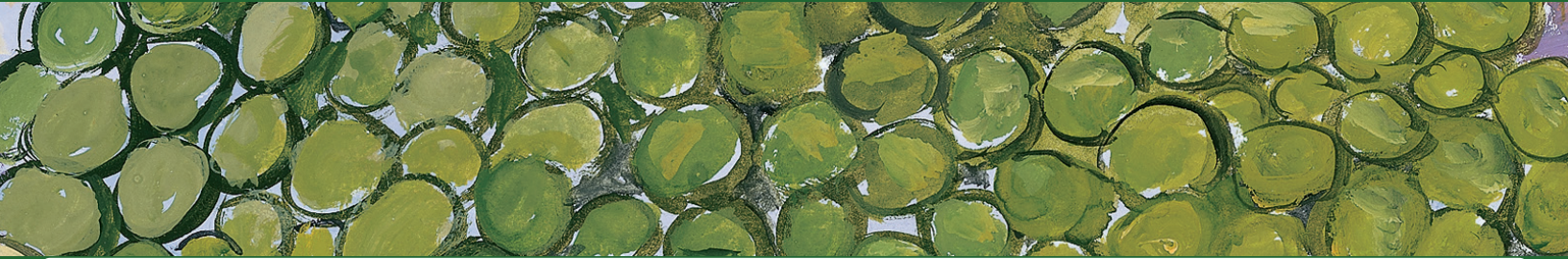


Time: Active time 20 minutes

Makes 5-6 cups

Directions

1. In a large bowl, combine cooked wild rice, spring onions, edamame, carrots, cauliflower, parsley, cranberries, and sesame seeds. Stir to combine.
2. In a small bowl, combine kosher salt, black pepper, sesame oil, rice vinegar, and honey. Whisk with a fork until well blended. Drizzle dressing over the rice mixture.
3. Stir to combine.
4. Enjoy!



LESSON 8:

COLOR YOUR WORLD

First Bite

The colors on our plate can make all the difference in how excited we are to eat. Think about a meal of rice, grilled chicken breast, cauliflower, and a glass of milk. Sure, it is nutritionally balanced, but it looks drab.

Now picture the plate with black beans mixed with the rice, red peppers stir-fried with the chicken breast, and broccoli mixed with the cauliflower. That plate has colors that pop and is even more nutritious.

Colorful History

Our ancestors had to eat a wide variety of colors to survive. Historically humans hunted and gathered their foods. By necessity they moved from place to place. Once a particular area became depleted people had to move to new hunting and gathering grounds and find new sources of food. This often meant eating different kinds of plants with different colors of foods.^{1,2} Because of this history, our bodies have evolved to function optimally when we eat a wide variety of colors. People who eat a variety of plant-based foods tend to be healthier in general and have lower rates of diseases like heart disease and cancer than people who eat fewer and less varied plant-based foods.^{3,4}

The diet quality of Americans is far from optimal, with less than a quarter of us regularly meeting the dietary recommendations for fruits and vegetables.⁵ Instead, Americans eat a large proportion of dud foods. Essentially we are eating products made from ingredients derived from mostly soy, corn, rice, and wheat, as well as large amounts of added sugar, salt, and fat, which add little nutritional value.⁶

Great Ways to Eat Our Colors

One way to eat colors is to shop for colors. When we are in the grocery store we can choose colorful fruits and vegetables, especially seeking out those with the deepest,

richest shades of green, blue, purple, red, orange, and yellow. We can choose beans with deep, rich colors and whole grains such as brown rice and steel cut oats that have more color.

We might also try shopping at farmers markets. In the United States, the number of farmers markets has been rapidly increasing over the last 20 year and they are available in more and more communities. Farmers markets may carry traditional foods in unique colors, such as purple and yellow carrots and blue potatoes. Shopping at farmers markets can also help us to eat seasonally which can be more affordable when prices drop for crops that are abundant. During warmer months farmers markets typically stock leafy greens vegetables, orange tomatoes, and many other colorful foods. During colder months they offer a wide variety of colorful root vegetables and winter squashes. Shopping at farmers markets also has the added benefits of supporting local farmers, building the regional economy, and fostering a sense of community.

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LESSON 8: COLOR YOUR WORLD

Aim

Build confidence and desire to eat mostly plants.

Food Rule

Eat your colors.

Film Clip

Vegetable Surprise

Objectives

Students will be able to:

- identify a variety of different colored fruits and vegetables that they could eat;
- express increased enthusiasm for eating different colored fruits and vegetables;
- appreciate the taste of different colored fruits and vegetables; and
- demonstrate increased confidence in their ability to add different colored fruits and vegetables to their diets.

Overview

This lesson begins with a guessing game to expose students to a variety of fruits and vegetables. After brainstorming fresh fruits and vegetables in each color category, students discuss what it means to eat their colors. Students then examine what they eat and think about ways to eat more colors through plant-based foods. Next, students learn the Food Rule “Eat your colors,” and discuss how they can make eating plant-based foods into a habit. Finally, students watch an *IDOF* film clip in which other kids get excited about trying plant-based foods, before making and eating a colorful dish themselves.

Materials

In this guide

- **5 Color Salad** preparation sheet p. 247
- **Secret Garden** cards p. 252
- **Color Columns** activity sheet p. 256
- **Food Rules Lesson 8** activity sheet p. 257
- **Eat Your Colors Action Plan** activity sheet p. 258
- **Making 5 Color Salad During Class** lesson resource p. 259
- **Take Home 5 Color Salad Recipe** activity sheet p. 260

Other materials

- *IDOF* film clip 8: Vegetable Surprise and AV equipment
- All ingredients and cooking materials from **5 Color Salad** preparation sheet p. 247
- Countertop cleaner
- Paper towels
- Tape

For each small group

- Sheet chart paper
- Several markers

For each student:

- Pencil
- Plate
- Fork



Before You Begin: Total prep time: approximately two hours

Within a few days before lesson

1. Purchase ingredients and gather cooking materials. See **5 Color Salad** preparation sheet p. 247 for details.
2. Review the entire lesson.

Within a day before lesson

3. Print and cut out cards:
 - **Secret Garden** cards p. 252, one set for each small group.
4. Print one copy per student of each activity sheet:
 - **Color Columns** activity sheet p. 256
 - **Food Rules Lesson 8** activity sheet p. 257
 - **Eat Your Colors Action Plan** activity sheet p. 258
 - **Take Home 5 Color Salad Recipe** activity sheet p. 260
5. **Brainstorming fruits and vegetables:** On the board or chart paper draw a table with 5 columns: red, orange, yellow, green, and blue/purple. See the **Color Columns** activity sheet for details.
6. **Viewing IDOF film clip:**
 - Set up AV equipment and space for film viewing.
 - Find IDOF film clip 8: Vegetable Surprise at <http://bit.ly/idofclip8>
7. **Preparing 5-color salad:**
 - Print **Making 5 Color Salad During Class** lessons resource p. 259, at least 2 copies to be placed at the cooking station. Print more copies if you have a large class.
 - Clean all food preparation and eating surfaces with countertop cleaner.
 - Set up the salad making station with ingredients and cooking materials. See **Making 5 Color Salad During Class** lessons resource for details.
8. **Culminating project:** Have all students' culminating projects ready for them to work on.

5 Color Salad

Students make 5 Color Salad to learn about the variety in colors of plant-based foods.

Shop for ingredients

This makes enough for 10-15 students. Double ingredients if you have over 15 students.

- Mixed beans (need 2 15-oz. can)
- Peppers (3 different colors, if available in your grocery store)
- Small head of red cabbage (need $\frac{1}{4}$ head)
- Small bunch parsley (need 1 cup leaves)
- Corn kernels (frozen is best, need 2 cups)
- Celery (need 3 stalks)
- Olive oil (need $\frac{1}{4}$ cup)
- 2 lemons (need 3 tablespoons lemon juice)
- Kosher salt (need $\frac{1}{2}$ teaspoon)
- Cumin (need 2 teaspoons)
- Cayenne pepper (need a pinch)

Gather equipment

- Medium bowl (for drained mixed beans)
- Large bowl
- Large spoon
- 3 plastic knives
- 3 cutting boards or large paper plates (for slicing peppers)
- 3 pairs of scissors (for cutting cabbage)
- Small bowl (for torn parsley)
- Citrus juicer (for lemons)
- Small bowl (for lemon juice)
- Set of measuring cups
- Set of measuring spoons

Complete advanced preparation of ingredients

- **Beans:** Open cans of mixed beans, drain liquid, and rinse with water. Put in a medium bowl for students.
- **Peppers:** Wash, slice in half, and pull out seeds in the center.
- **Red cabbage:** Wash, cut off one fourth, and separate leaves.
- **Parsley:** Wash and dry leaves, cut off and discard stems.
- **Corn:** Rinse to thaw frozen corn kernels.
- **Celery:** Rinse stalks.
- **Lemons:** Cut in half.





Procedure

Total lesson time: 120 min (2 60-min. parts)

Part 1 (60 min.)

1. Check in on Action Plans (5 min.)

Remind students that in Lesson 7 they completed the **Mostly Plants Action Plan** activity sheet p. 237 where they made a plan to eat more plant-based foods. Ask students to share their successes. Compliment students on the changes they have been able to make. Ask students to share challenges. Encourage peer-to-peer interaction about how to overcome challenges. Remind students to keep working on their current and previous action plans.

2. Review Capture It Piece (5 min.)

Ask students to get out their *Capture It* piece, assigned in Lesson 7, to capture a plant-based food in their home or community that they like to eat. Have students join you in a sharing circle.

Ask for volunteers to share their *Capture It* pieces. If anybody has more than one *Capture It* piece, instruct them to select one. Once all the students who wish to share have done so, ask students what they learned from doing their own *Capture It* and from sharing.

3. Guess the Fruit or Vegetable (10 min.)

Tell students they will play a guessing game called secret garden. Write three prompts on the board or chart paper: *What color is it? What does it taste like? What is the texture?* Tell students they will each be assigned a fruit or vegetable. They have to guess what it is based on their peers' answers to these three questions. Tell students that when answering the questions for their peers not to give away the fruit or vegetable. For example, if their peer has a card with carrot, do not say, "it tastes 'carrot-y.'"

Select one **Secret Garden** card p. 252 to demonstrate, calling on students to answer your three questions.

Divide the class into small groups and provide each group with a set of **Secret Garden** cards placed facedown. Have all students in the group draw cards at the same time and hold their cards word side out on their foreheads. Tell students to have one person ask the three questions and guess the food. If correct, put the card face up, if incorrect, face down. The next person in the group asks the questions and so on. When each student has gone, everyone draws another card. Give students 10 minutes



Procedure (cont.)

to play the game. The student in the group that has the most correct guesses wins. Allow groups to keep the **Secret Garden** cards for the next activity.

4. Brainstorm Fruits and Vegetables (10 min.)

Tell students to work in their small groups to come up with as many fruits and vegetables in each color category, red, orange, yellow, green, and blue/purple, as possible. Provide each student with a **Color Columns** activity sheet p. 256 and a pencil. Once they are done, have groups write the total number of fruits and vegetables per color in the space at the bottom of each column. If you have not already, draw the table from the **Color Columns** activity sheet on board or chart paper.

Determine the group with the most fruits and vegetables in the red column. Have that group come to the front of the room and ask their classmates to call out fruits and vegetables that are red. Write them onto the board or chart paper in the red column. Also include what the group had on its sheet.

Students should then, ask their peers the following discussion questions:
Are there any fruits or vegetables from this list that you have not tried?
Which fruits and vegetables from this list are foods that your family cooks at home? Which is your favorite?

Repeat this activity for each color column.

5. Learn the Food Rule (5 min.)

Explain to students that the Food Rule for this lesson is, “Eat your colors.” Distribute the **Food Rules Lesson 8** activity sheet p. 257 and have students write in the Food Rule. Encourage students to take home the sheet and discuss the Food Rule with their families.

6. Brainstorm How to Eat More Colors (15 min.)

Provide each small group with a sheet of chart paper and several markers. Have them brainstorm specific ways that they can add a variety of colors of fruits and vegetables to their meals and snacks. Have them record their ideas on chart paper. Remind them to be specific, similar to their action plans. For example, “take 3 different colored vegetables at the salad bar at school lunch” is more specific than “eat vegetables at school.” Explain that each group will share one idea. Give groups about 5–10 minutes and then have each group tape its chart paper to a wall. Allow each group to share one of its favorite ideas. If time allows, have each group share a second idea. Encourage students to look at all the ideas generated by all groups.

Probing Questions: *Have you ever heard of the terms “eat your colors?” What do you think it mean?*

Procedure (cont.)

7. Make An Action Plan (5 min.)

Distribute the ***Eat Your Colors Action Plan*** activity sheet p. 258 and a pencil to each student. Encourage them to come up with specific ways they will add more colors of fruits and vegetables in the next week (e.g., on Mondays, I will add one red apple to my lunch. Or, I will add lettuce and cucumbers to a sandwich on Friday afternoons). They can use ideas generated from the previous activity or think of new strategies.

8. Watch **IDOF Film Clip 8: Vegetable Surprise** (10 min.)



Have students join you in an area of the room set up for video viewing. Play the **IDOF** film clip 8: Vegetable Surprise that shows how kids around the country are having fun trying plant-based foods. Following the clip, have a discussion with students to explore the idea that the more times you try a new food, the more likely you are to enjoy it.

Why do you think kids tend to be afraid to try new fruits and vegetables? How does the teacher in the film help them get over their fears? (By encouraging them to try new things.) Can you think of a fruit or vegetable that you once didn't like but like now? What helped you to overcome your dislike? If you were going to make up your own pizza toppings what three toppings would you add to eat your colors?

Probing Questions What color are carrots? Did you know that there are purple, yellow, white, and red carrots too?! How about potatoes? Did you know there are purple, yellow, and red potatoes?

Part 2 (60 min.)

9. Prepare Five Color Salad (40 min.)



Have students clean their hands and join you in an area of the room set up for food preparation.

Explain to students that they are going to have an opportunity to make a salad with different colored fruits and vegetables. Remind students that eating your colors is a way to have a wide variety of plant-based foods.

Use the ***Making 5 Color Salad During Class*** lesson resource p. 259 to lead this activity.

After the salad is made, have everyone gather to eat the salad. Share and have a conversation. Students can use descriptive words to describe the salad. Ask students, *are there any plant-based foods you would like to add to the salad? Is there anything you would like to have more of? Or less of?* Distribute the ***Take Home 5 Color Salad Recipe*** activity sheet p. 260 and encourage students to make this recipe at home with their families.



Procedure (cont.)

10. Work on Culminating Projects (20 min.)

Throughout the curriculum students have done creative projects. In Lesson 1 they created a dud food pharm skit. In Lesson 4 they created a television commercial for a food. They have created three *Capture It* pieces to help them reflect on their food environments. Allow students to spend the remainder of the lesson working on one or more of these projects. They will share these as culminating projects during the last session.



Cards

Secret Garden

Print one set for each small group.

orange

pineapple

red
pepper

potato

cucumber

edamame



Secret Garden (cont.)

eggplant

grape

cauliflower

cherry

yellow
pepper

papaya



Secret Garden (cont.)

corn

peach

cranberry

pumpkin

blueberry

turnip



Secret Garden (cont.)

mushroom

mango

avacado

green
pepper

plum

carrot



Activity Sheet

Name_____

Date_____

Color Columns

In five minutes write down as many fruits and vegetables that you can think of for each color within the columns below. Then tally up all the fruits and vegetables that you came up with for each color and write the totals in the boxes at the bottom.

<div>Red</div> <div></div>	<div>Orange</div> <div></div>	<div>Yellow</div> <div></div>	<div>Green</div> <div></div>	<div>Blue/Purple</div> <div></div>
<div>Total</div> <div></div>	<div>Total</div> <div></div>	<div>Total</div> <div></div>	<div>Total</div> <div></div>	<div>Total</div> <div></div>



Activity Sheet

Name _____

Date _____

Food Rules Lesson 8

Lesson 8: **Color Your World**

Food Rule: _____

Eat food. Not too much. Mostly plants.

Family Tips

- Look for fruits and vegetables that are deep, rich shades of green, blue, purple, red, orange and yellow. Deeper colors have more of the special compounds in plant-based foods that make them so healthy.
- Try to serve meals with plenty of colors. They will be more visually appealing, more delicious, and more nutritious.
- If there is a farmers market in your community, shop there when you can.

Food Rules from Previous Lessons

Eat Food.

- 1 Eat food you can picture growing in nature.
- 2 Eat food with ingredients that a third grader could pronounce.
- 3 Avoid products that make health claims.

Not Too Much.

- 4 Avoid foods you see advertised on television.
- 5 Choose smaller plates and glasses.
- 6 Make water your beverage of choice. Sweeten and salt your food yourself.

Mostly Plants.

- 7 If it came from a plant eat it. If it was made in a plant, don't.

In Defense of Food film clip that accompanies this lesson:

Vegetable Surprise

Watch at <http://bit.ly/idofclip8>

Learn more about *In Defense of Food* at:

pbs.org/indefenseoffood

Activity Sheet

Name _____

Date _____

Eat Your Colors Action Plan

Now that you know of all the different fun colors that fruits and vegetables come in, create an action plan to help you eat more colors!

My Action Plan: (example)

I am going to eat a: red tomato by adding it to my sandwich.
(color) (plant-based food) (a food I eat)

Time of day (check one):

- ☐ At breakfast
- ☐ In the morning
- ☒ At lunch
- ☐ In the afternoon
- ☐ At dinner
- ☐ In the evening

Days of the week (check as many as you like):

- ☐ Sunday
- ☐ Monday
- ☒ Tuesday
- ☐ Wednesday
- ☒ Thursday
- ☐ Friday
- ☐ Saturday

My Action Plan:

I am going to eat a: _____ by adding it to _____.
(color) (plant-based food) (a food I eat)

Time of day (check one):

- ☐ At breakfast
- ☐ In the morning
- ☐ At lunch
- ☐ In the afternoon
- ☐ At dinner
- ☐ In the evening

Days of the week (check as many as you like):

- ☐ Sunday
- ☐ Monday
- ☐ Tuesday
- ☐ Wednesday
- ☐ Thursday
- ☐ Friday
- ☐ Saturday

Making 5 Color Salad During Class

Place this page by the salad making station.

Salad ingredients	Salad materials
<ul style="list-style-type: none"> • Mixed beans • Peppers • Red cabbage • Parsley • Corn • Celery • Olive oil • Lemons • Cumin • Salt • Cayenne pepper 	<ul style="list-style-type: none"> • Large bowl • Large spoon • 3 plastic knives (for peppers and celery) • 3 pairs of scissors (for shredding red cabbage) • Cutting board or paper plates (for peppers and celery) • Small bowl (for torn parsley) • Citrus juicer • Small bowl (for lemon juice) • Set of measuring cups • Set of measuring spoons

Directions for Salad

- ☐ 1. Add 2 cans mixed beans to large bowl.
- ☐ 2. Cut 3 peppers into small pieces. Add peppers to large bowl.
- ☐ 3. Cut 3 stalks celery into small pieces. Add celery to large bowl.
- ☐ 4. Use scissors to cut cabbage leaves into thin strips. Add cabbage strips to the large bowl.
- ☐ 5. Tear parsley leaves into small pieces, placing them in a small bowl. Measure out 1 heaping cup and add it to the large bowl.
- ☐ 6. Measure 2 cups corn kernels. Add corn to the large bowl.
- ☐ 7. Juice lemons with citrus juicer. Measure 3 tablespoons lemon juice and add to small bowl.
- ☐ 8. Measure $\frac{1}{4}$ cup olive oil and add to the small bowl.
- ☐ 9. Measure 2 teaspoons cumin and add to the small bowl.
- ☐ 10. Measure $\frac{1}{2}$ teaspoons of salt and add to the small bowl.
- ☐ 11. Take 1 pinch of cayenne pepper and add to the small bowl.
- ☐ 12. Use one of the measuring spoons to stir the lemon juice mixture.
- ☐ 13. Pour lemon juice mixture over salad in large bowl. Stir everything together with large spoon.

Name_____

Date_____

Take Home 5 Color Salad Recipe

Ingredients

- 15 ounce can of mixed beans, drained and rinsed
- 2 peppers (different colors if possible), de-seeded and chopped
- ½ cup red cabbage, shredded
- ½ cup chopped parsley leaves
- 1 cups frozen corn, rinsed to thaw
- 2 stalks celery, chopped
- 2 tablespoons olive oil
- 1½ tablespoons lemon juice
- 1 teaspoons cumin
- ¼ teaspoon salt
- pinch of cayenne pepper

Makes 5–6 cups

Directions

1. Place all ingredients in a large bowl. Stir to combine. Enjoy!





LESSON 9:

LETTUCE TURNIP THE BEET

First Bite

Michael Pollan encourages people to “Eat more like the French. Or the Japanese. Or the Italians. Or the Greeks.” These cultures have developed ways of eating that have kept them healthy for a very long time.¹⁻³ Many cultures’ traditional diets are healthy. Okinawans’ plant-based diet is thought to lead to both reduced risk of diet-related disease and to long lives.⁴ A Mediterranean diet with plenty of fruits, vegetables, legumes, fish, olive oil, and minimal amounts of red meat seems to protect against heart disease.⁵ In contrast, the Western diet is associated with high rates of chronic diseases.⁶

Change Takes Time and Effort

Changing our eating habits means more than adding or taking away certain foods or nutrients. It requires thoughtful changes to our dietary practices and habits. Creating action plans with small, specific goals, such as having an apple instead of chips as an after school snack, is one successful method for changing how we eat.⁷ This is why students create action plans throughout the *IDOF Curriculum*. When we monitor our progress toward our goals and discuss what was easy and hard about changing our eating behaviors, we increase our chances of long-term success.

Cooking Matters

Cooking for ourselves is another great way to Eat food. Not too much. Mostly plants. When we cook, we are more likely to eat whole food.⁸ We are also more likely to sit down, focus on enjoying our meals, and turn off distractions such as television, radio, videogames, or books. Families who eat meals together typically report being closer, and adolescents who eat with their

families are less likely to start smoking, taking drugs and engaging in other high-risk behaviors.⁹ Student can be encouraged to cook and eat the recipes they prepared during the *IDOF Curriculum* with their families.

Follow the Rules...Most of the Time

The Food Rules are catchy, memorable ways to help us eat well. Students can continue to follow the Food Rules in their lives. Yet, people are more successful at eating well for the long term when they are not too restrictive or obsessed with what they eat. So, follow the rules most of the time.

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LESSON 9:

LETTUCE TURNIP THE BEET

Aim

Create practical strategies to keep following the Food Rules, most of the time.

Food Rule

Eat more like the French do.

Film Clip

Secrets of the French

Objectives

Students will be able to:

- discuss a plant-based food from their own culture;
- strategize solutions to barriers to eating healthy by providing advice to others;
- assess their own abilities to make healthy changes; and
- prepare and share a plant-based dish with their peers.

Overview

In this lesson, students wrap up *Mostly Plants*. By sharing a favorite plant-based food from their own family or culture and watching an *IDOF* film clip, they gain appreciation for how other cultures eat. Then they work in small groups to review challenges faced by other kids who are trying to eat healthfully. Students revisit their action plans and consider how to make them routine. They prepare a poster board with their culminating project to be displayed during the celebration in Lesson 10. Students look back on everything they've learned and see how they have become food defenders. Finally, after making a plant-based dish, they sit and enjoy it together to practice the Food Rule, "Eat more like the French do."

Materials

In this guide

- *Melon Mint Parfait* preparation sheet p. 264
- *Food Rules Lesson 9* activity sheet p. 269
- *Scenario* cards p. 270
- *Consider This* cards p. 271
- *Give Advice* lesson resource p. 272
- *Taking Action* activity sheet p. 274
- *Making Melon Mint Parfait During Class* lesson resource p. 278
- *I am a Food Defender* activity sheet p. 277
- *Take Home Melon Mint Parfait* activity sheet p. 279

Other materials

- *IDOF* film clip 9: Secrets of the French and AV equipment

Other materials (cont.)

- All ingredients and cooking materials from the *Melon Mint Parfait* preparation sheet p. 264

- Countertop cleaner
- Paper towels
- Markers
- Glue sticks
- Colored pencils or markers

For each student:

- Index card
- Pencil
- Poster board (about 28"x22")
- Culminating projects they are working on (e.g., *Capture It*, poem, skit, ad)
- Clear plastic cup
- Spoon

To learn more about *In Defense of Food*, visit pbs.org/indefenseoffood. Funding was provided by the National Science Foundation and PBS.



Before You Begin: Total prep time: approximately two hours

Within a few days before lesson

1. Purchase ingredients and gather cooking materials. See *Melon Mint Parfait* preparation sheet p. 264 for details.
2. Review the entire lesson.

Within a day before lesson

3. Print and cut out cards:
 - *Scenario* cards p. 270, one set for each small group
 - *Consider This* cards p. 271, one set for each small group
4. Print one copy per student of each activity sheet:
 - *Food Rules Lesson 9* activity sheet p. 269
 - *Taking Action* activity sheet p. 274
 - *I am a Food Defender* activity sheet p. 277
5. Viewing IDOF film clip:
 - Set up AV equipment and space for film viewing.
 - Find IDOF film clip 9: Secrets of the French at <http://bit.ly/idofclip9>
6. Culminating project: Have all students' culminating projects ready for them to work on.
7. Preparing melon mint parfait:
 - Print *Making Melon Mint Parfait During Class* lessons resource p. 278, at least 2 copies to be placed at the cooking station. Print more copies if you have a large class.
 - Clean all food preparation and eating surfaces with countertop cleaner.
 - Set up the parfait making station with ingredients and cooking materials. See *Making Melon Mint Parfait During Class* lessons resource for details.

Melon Mint Parfait

Students will make a Melon Mint Parfait and shared a plant-based snack together. This is enough for 10–15 students to taste ½ cup portions. Adjust amounts for the number of students you have.

Shop for ingredients

- Melon (purchase whole or peeled and cut; get cantaloupe, honey dew, watermelon, or a combination, need 4 cups)
- Citrus fruit (purchase whole or peeled and cut; get grapefruit, oranges, or both, need 2 cups)
- Mixed fruit (choose any fruit not already used, need 2 cups)
- Small bunch of mint (need ½ cup)
- Plain yogurt (need 2 cups)
- Granola (need 1 cup)
- Nuts or seeds (e.g., pistachios, almonds, or sunflower seeds, need 1 cup)
- Honey (need ½ cup)

Gather materials

- Large bowl
- Large spoon
- 3 plastic knives
- 3 plastic cutting boards or paper plates (for cutting fruit)
- 4 small spoons
- Set of measuring cups
- Set of measuring spoons

Complete advanced preparation of ingredients

- **Melon:** If purchased whole: peel, de-seed, and cut into bite-sized pieces.
- **Citrus fruit:** If purchased whole: peel, de-seed, and cut into bite-sized pieces.
- **Mixed fruit:** Wash, prepare as appropriate. Students will cut into bite-sized pieces.
- **Mint:** Wash, cut and discard stems.



Procedure

Total lesson time: 120 min. (two 60-min. parts)

Part 1 (60 min.)

1. Check in on Action Plans (5 min.)

Remind students that in Lesson 8 they completed the ***Eat Your Colors Action Plan*** activity sheet p. 258 in which they make a plan for adding more plant-based foods to what they eat. Ask students to share any successes. Compliment students on the changes they have made. Ask students to share challenges. Encourage peer-to-peer advice to overcome challenges. Remind students to keep working on current and previous action plans.

2. Explore How Your Culture Eats (5 min.)

Explain to students that different families and cultures have favorite or special foods. Share a favorite plant-based food from your own family or culture, perhaps something that was made on special occasions or by a grandparent or great-grandparent.

Provide students with an index card and a pencil and give them 2 minutes to write down one special plant-based food from their family or culture. If students are done before others, have them draw a picture of the food on the back on their index card.

Once everyone is done, ask for a few volunteers to share their plant-based foods and hold a brief discussion using the questions in the sidebar.

3. Watch *IDOF* Film Clip 9: Secrets of the French (7 min.)



Have students join you in an area of the room set up for video viewing. Play *IDOF* film clip 9: Secrets of the French. Introduce the film clip as an exploration of another culture's way of eating. After watching the film clip host a discussion. *What would you imagine a dinner in France to be like?*

What types of things do the French do that are less common in America? (Eat slower, eat smaller portions, make eating into an occasion, follow a routine to eat at the same times everyday, eat more foods and fewer dud foods.)

What types of things do you think Americans do differently? (Eat faster, snack often, eat on the go, eat larger portions, eat more dud foods.)

Probing Questions: What country or culture is your plant-based food from? When do you or your family eat it? What do you like about it?



Procedure (cont.)

How do you think culture influences what and how people eat? (Culture can influence the specific foods people eat, when they eat, who they eat with, where they eat, how much they eat.)

4. Learn the Food Rule (3 min.)

Write the Food Rule on the board or chart paper: “Eat more like the French do.” Explain that this means embracing some French food routines (e.g., making eating a group occasion, eating slowly, eating smaller portions, and eating more foods and fewer dud foods). Many other cultures around the world have similar routines. The full meaning of this Food Rule is not limited to the food culture of France. There is a lot students can learn from the range of family and cultural food traditions they’ve shared with each other.

Encourage students to ask their parents, grandparents, and great-grandparents about some of these traditions and to look for opportunities to practice them.

Distribute the **Food Rules Lesson 9** activity sheet *p.269* to the class and have students write in this lesson’s Food Rule. Encourage them to discuss this Food Rule with their families. They will use **Food Rules Lesson 9** activity sheet in their next activity.

5. Solve Challenges to Eating Healthfully (20 min.)

Explain that, like them, youth around the country experience challenges as they try to eat healthfully.

Divide students into small groups. Provide each group with one set of both the **Scenario** and **Consider This** cards *p. 270 and p. 271 respectively*. Also remind them to keep their **Food Rules Lesson 9** activity sheet handy.

Explain that the **Scenario** cards present real life situations of middle and high school students from across the U. S. Tell students that their job, as food defenders, is to come up with advice for the person who said the quote. Encourage them to think about and use all of what they have learned throughout the *IDOF Curriculum*.

Explain that the **Consider This** cards provide questions to generate advice ideas. They do not have to answer all the **Consider This** card questions for each scenario. Suggest that they choose 2–3 per scenario. Use the **Give Advice** lesson resource *p. 272* to provide suggestions to groups that are stumped.

Give groups about 10–12 minutes to discuss the scenarios, and then allow the groups to share their scenario and advice.



Procedure (cont.)

6. Make Personal Food Policies (20 min.)

Remind students that throughout the *IDOF Curriculum*, they have made and followed-up on action plans.

Discuss the progress your class has made to change how they eat. Based on conversations you have had about their action plans and the ideas they generated in the previous activity, praise their thoughtful efforts to change their eating. Use specific examples if possible. Acknowledge that change can be hard and takes time and effort, especially in food environments with many dud foods and few foods.

Provide students with ***Taking Action*** activity sheets p. 274 and pencils and tell them they will continue to work in the same small groups. Explain that this sheet has spaces for them to fill in the action plans that they created in previous lessons. Tell the students the last page is for them to think about two changes they want to make as part of their routine. These can be called personal food policies: a short list of things they will regularly do to follow the lesson themes: Eat food. Not too much. Mostly plants.

After students complete filling out the ***Taking Action*** activity sheet, have the groups discuss what has been easy about making changes and what has been hard. Encourage students to discuss strategies for how to be successful at making changes.

Then hold a class discussion, using the questions in the sidebar. Encourage students to stay in touch and continue to help each other make their action plans part of their daily routine.

Encourage students to take home their completed ***Taking Action*** activity sheet and share with their families.

Probing Questions:

Were you able to follow your action plan? Were some changes easier than others? What can you do to help you continue to follow these actions plans over the next week, next month and onwards? Do you think you made any changes that are now habits (you just do the healthful behavior automatically)? Why? Why not? Which ones? Which could you work on?

Part 2 (60 min.)

7. Create Culminating Project Posters (20 min.)

Remind students that the Lesson 10 is the final lesson and celebration. They will have the opportunity to share their culminating projects. Now, they will take stock of what they've learned on the road to becoming food defender.

Provide each student with the ***I am a Food Defender*** activity sheet p. 277 and a pencil. Encourage students to reflect on what they have learned and look over the ***Food Rules Lesson 9*** and ***Taking Action*** activity sheets as they complete the questions on the ***I am a Food Defender*** activity sheet.

Place glue sticks and markers in an accessible area. When students have completed the ***I am a Food Defender*** activity sheet, provide them with

Procedure (cont.)

a sheet of poster board and instruct them to glue their ***I am a Food Defender*** activity sheet and their culminating project (e.g., *Capture It*, poem) to the poster board. Tell students that everyone's poster boards will be hung on the wall during the culminating celebration.

8. Prepare Melon Mint Parfait (40 min.)



Explain that students have an opportunity to make a simple yet delicious, mostly plant-based dish. Like the French, and many other cultures, they will sit down with others, enjoy their food, and eat small portions.

Have students clean their hands and join you in an area of the room set up for food preparation. Use the ***Making Melon Mint Parfait During Class*** lesson resource p. 278 to lead this activity.

Once the parfaits are complete, have students sit together to enjoy their creation. Encourage them to use descriptive words to describe how it tastes, smells, looks, feels in their mouths, and sounds when they eat it. Discuss what ingredients they especially liked, and what they might want to include next time they make this.

Distribute copies of the ***Take Home Melon Mint Parfait*** activity sheet p. 279 to students and encourage them to make the recipe at home with their families.



Activity Sheet

Name _____

Date _____

Food Rules Lesson 9

Lesson 9: **Lettuce Turnip the Beet**

Food Rule: _____

Eat food. Not too much. Mostly plants.

Family Tips

- Most traditional cultural recipes are healthy, especially those with lots of plant-based ingredients. Cook and eat dishes from your family's culture whenever you can.
- Think about the healthy changes your family has made and be proud. Plan for how you can make these changes permanent habits.
- Cook and eat as a family at least once a week. Family meals are a great way to stay close and share conversation.

Food Rules from Previous Lessons

Eat Food.

- 1 Eat food you can picture growing in nature.
- 2 Eat food with ingredients that a third grader could pronounce.
- 3 Avoid products that make health claims.

Not Too Much.

- 4 Avoid foods you see advertised on television.
- 5 Choose smaller plates and glasses.
- 6 Make water your beverage of choice. Sweeten and salt your food yourself.

Mostly Plants.

- 7 If it came from a plant eat it. If it was made in a plant, don't.
- 8 Eat your colors.

In Defense of Food film clip that accompanies this lesson:

Secrets of the French

Watch at <http://bit.ly/idofclip9>

Learn more about *In Defense of Food* at:

pbs.org/indefenseoffood

Scenario

Cut out one set for each small group.

1. "My parents buy the food. So when there is junk food around, I eat it. It's what's available."¹
- 7th grade, female

Scenario Card

2. "When I get home from school, I'm so hungry. I think I should eat some fruits, but then I see chips ... they're easier... it just feels like the easier thing to do."²
- 6th grade, male

Scenario Card

3. "I don't eat lunch ...Some of my friends don't eat their lunch; they just take snacks and stuff, so everyone else finishes in like 5 minutes."³
- 8th grade, female

Scenario Card

1. Student in *IDOF Curriculum* Pilot Class, personal communication, October 19, 2015.

2. Bauer, K. W., Yang, Y. W., & Austin, S. B. (2004). "How can we stay healthy when you're throwing all of this in front of us?" Findings from focus groups and interviews in middle schools on environmental influences on nutrition and physical activity. *Health Education & Behavior*, 31(1), 34-46.

3. O'dea, J. A. (2003). Why do kids eat healthful food? Perceived benefits of and barriers to healthful eating and physical activity among children and adolescents. *Journal of the American Dietetic Association*, 103(4), 497-501.



Cards

Consider This

Cut out one set for each small group.

<p>Could choosing foods instead of dud foods help? How?</p> <p>Consider This Card</p>	<p>Could sharing any of the Food Rules help? Which ones? Why?</p> <p>Consider This Card</p>
<p>Could convincing someone help? Who? How?</p> <p>Consider This Card</p>	<p>Could making an action plan help? What could the plan be?</p> <p>Consider This Card</p>
<p>Could small sizing it help? How?</p> <p>Consider This Card</p>	<p>Could eating before you get too hungry help? How? What could the plan be?</p> <p>Consider This Card</p>

Give Advice

Scenario card #1

"My parents buy the food. So when there is junk food around, I eat it. It's what's available." - 7th grade female

Possible solutions (from the Consider This cards):

Could choosing foods instead of dud foods help? How?

Look around your home. What foods are available? Are their fruits, nuts, seeds, and other foods that make good snacks? If so, try those when you want a snack.

Could convincing someone help? Who? How?

Tell the person who does the food shopping for your home what foods (instead of dud foods) you would like them to buy for snacks. Use appeals to the heart and mind. Once the food shopper is convinced give him or her a specific shopping list, such as: apples, grapes, carrots, peppers, sunflower seeds, and peanuts.

Could small sizing it help? How?

If you are hungry and the only thing around are dud foods (as in this scenario), have a small portion. If you are still hungry, have a little more.

Could sharing any of the Food Rules help? Which ones? Why?

Share and discuss these Food Rules with the food shopper: "Eat food you can picture growing in nature." "Eat foods with ingredients that a third grader could pronounce." "Avoid products that make health claims." Many of the other Food Rules might also work.

Could making an action plan help? What could the plan be?

If it is hard to resist dud foods, make an action plan to have a specific food (e.g., a fruit, vegetable, seeds or nuts) on certain days in the next week.

Could eating before you get too hungry help? How? What could the plan be?

Yes, eating before you get too hungry makes it easier to resist dud foods. Bring foods with you to have as snacks before you are very hungry.

Scenario card #2

"When I get home from school, I'm so hungry. I think I should eat some fruits, but then I see chips ... they're easier... it just feels like the easier thing to do." - 6th grade male

Possible solutions (from the Consider This cards):

Could choosing foods instead of dud foods help? How?

There are lots of easy snacks that are crunchy or salty such as chips. You could grab a handful of pepitas, granola, or crackers with hummus.

Give Advice (cont.)

Could convincing someone help? Who? How?

Ask the person who does the food shopping for your home to keep dud foods like chips out of the house. Ask them to help you cut up fruits and vegetables to keep in the refrigerator so they are easy to grab when you get home.

Could small sizing it help? How?

If you really want some chips, try putting a few in a small bowl or plate. Close and put the bag away before you start eating.

Could sharing any of the Food Rules help? Which ones? Why?

Use the Food Rule, “Choose smaller plate and cups” as a reminder to have a smaller serving of chips. “Sweeten and salt your own food” can guide you to dip carrots in a little honey or sprinkle some salt on cucumber slices. This can make these food snacks more satisfying.

Could making an action plan help? What could the plan be?

Decide at the beginning of the week on which days you would select fruits or other foods instead of chips for a snack. Use the action plan to help you make choices.

Could eating before you get too hungry help? How? What could the plan be?

If we wait until we are really hungry then it is harder to eat less or follow an action plan. Pack a piece of fruit that you can eat on the way home from school so the chips don’t look so tempting when you get home.

Scenario card #3

“I don’t eat lunch...Some of my friends don’t even eat their lunch; they just take snacks and stuff, so everyone else finishes in like 5 minutes.” 2 – 8th grade female

Possible solutions (from the Consider This cards):

Could choosing foods instead of dud foods help? How?

Bringing a yummy plant-based dish to share with your friends might convince them to sit and eat lunch.

Could convincing someone help? Who? How?

Come up with a convincing argument for why it is a good idea for your friends to sit down and enjoy a meal with you. Use appeals to the heart and mind.

Could sharing any of the Food Rules help? Which ones? Why?

Share the “Eat more like the French do” Food Rule. In France, and other cultures around the world, eating is an occasion when people take time to enjoy their foods, even during school lunch!

Could making an action plan help? What could the plan be?

Make a plan with your friends to sit and eat lunch together on certain days in the next week.



Activity Sheet

Name _____

Date _____

Taking Action

Remember your action plans? Fill in what you decided to do for each below. If you do not remember, fill in something you want to do now.

Lessons 3 and 6

Eat a food instead of a dud food.

I tried to eat _____ instead of _____.
(food) (dud food)

If you had a second action plan to eat a food instead of a dud food, fill it in here.

I tried to eat _____ instead of _____.
(food) (dud food)

Discuss with your group what was **easy** and what was **hard** about eating the food instead of the dud food.

Lesson 5

Small size a dud food.

The dud food I tried to small size was _____.

My typical portion size: _____. My new small sized portion: _____.

Discuss with your group what was **easy** and what was **hard** about small sizing the dud food.



Activity Sheet

Name _____

Date _____

Taking Action (cont.)

Lesson 7

Add a plant-based food you do not typically eat.

I tried to eat _____ at _____.
(plant-based food) (breakfast, lunch, dinner or snack?)

Discuss with your group what was **easy** and what was **hard** about adding the plant-based food.

Lesson 8

Eat your colors.

I tried to add a _____ _____.
(color) (plant-based food)

The food I tried to add it to: _____.
(food I usually eat, e.g., sandwich, cereal)

Discuss with your group what was **easy** and what was **hard** about adding the plant-based food to something you usually eat.



Activity Sheet

Name _____

Date _____

Taking Action (cont.)

Personal Food Policies

These are your habits that help you to Eat food. Not too much. Mostly plants.

Below are several examples:

- I carry a reusable water bottle in my backpack so I always have water to drink and I am less likely to stop and buy a dud food like soda.
- I make oatmeal for breakfast and top it with fruit and yogurt. I also add peanut, soy, or sun butter when I want extra creaminess.
- I take the salad bar at lunch and try to have at least three different colored fruits and vegetables.
- I carry fruit, nuts, or homemade trail mix in my backpack so I always have a snack with me.
- I plan at least one night each week when I cook and eat with my family.
- I take a small plate, and once I am done eating, I wait a few minutes to decide if I want seconds.
- I order small sizes when I eat at fast food places.
- I shop at the farmers market when I can.
- I try to make my meal portions look like MyPlate.

Write two of your personal food policies.

- _____

- _____

Share your personal food policies with your family and have them develop some personal food policies too!



Activity Sheet

Name _____

Date _____

I am a Food Defender

Complete the activity sheet below by filling out each box with your answers. Then share with your peers in the culminating celebration in Lesson 10.

My definition of food is

One of my favorite plant-based foods is

My goal* for the next year is

Eating more foods and fewer dud foods will help you reach your goal.

One way I have changed how I eat is

One way I still want to change how I eat is

* Your goal is something you want to get better at in the next year, such as playing a musical instrument, playing a sport, dancing, writing poetry, cooking, or gardening. Example 1: In the next year, I want to get better at keeping a basil and parsley plant alive in my window sill. Example 2: In the next year, I want to get better at my baseball swing.

Making Melon Mint Parfait During Class

Place this page by the salad making station.

Salad Ingredients	Salad Materials
<ul style="list-style-type: none"> • Melon • Citrus fruit • Mixed fruit • Mint • Yogurt • Granola • Nuts or seeds • Honey 	<ul style="list-style-type: none"> • Large bowl • Large spoon • 3 plastic knives • 3 cutting boards or 3 large paper plates • 4 spoons (for yogurt, granola, nuts or seeds, and honey) • Set of measuring cups • Set of measuring spoons

Directions for Salad:

- ☐ 1. Add cut up melon and citrus fruit to the large mixing bowl.
- ☐ 2. Use the plastic knives to cut mixed fruit into bite-sized pieces. Add cut fruit to the large mixing bowl.
- ☐ 3. Tear the mint into small pieces. Add mint to the large mixing bowl.
- ☐ 4. Stir all the ingredients in the large mixing bowl together to combine.
- ☐ 5. Layer the elements of the parfait in each students' tasting cup in the following order:
 - a. $\frac{1}{4}$ cup fruit salad
 - b. 3 spoonfuls yogurt
 - c. $\frac{1}{4}$ cup fruit salad
 - d. 3 spoonfuls of granola
 - e. 3 spoonfuls yogurt
 - f. 2 spoonfuls nuts or seeds
 - g. Honey drizzled over the top



Name _____

Date _____

Take Home Melon Mint Parfait Recipe: Eat Mostly Plants

Ingredients

- 2 cups fresh melon (cantaloupe, honeydew, watermelon, or a combination) cut into bite-sized pieces
- 1 cup citrus fruit (grapefruit, oranges, or a combination) peeled and cut into bite-sized pieces
- 1 cup mixed fruit (such as berries, apples, pears, bananas) cut into bite-sized pieces
- ½ cup chopped fresh mint leaves
- 1 cup plain, unsweetened yogurt
- ½ cup granola
- ½ cup nuts or seeds (such as pistachios, almonds, cashews, or sunflower seeds), chopped if necessary
- ¼ cup honey



Makes 4 servings

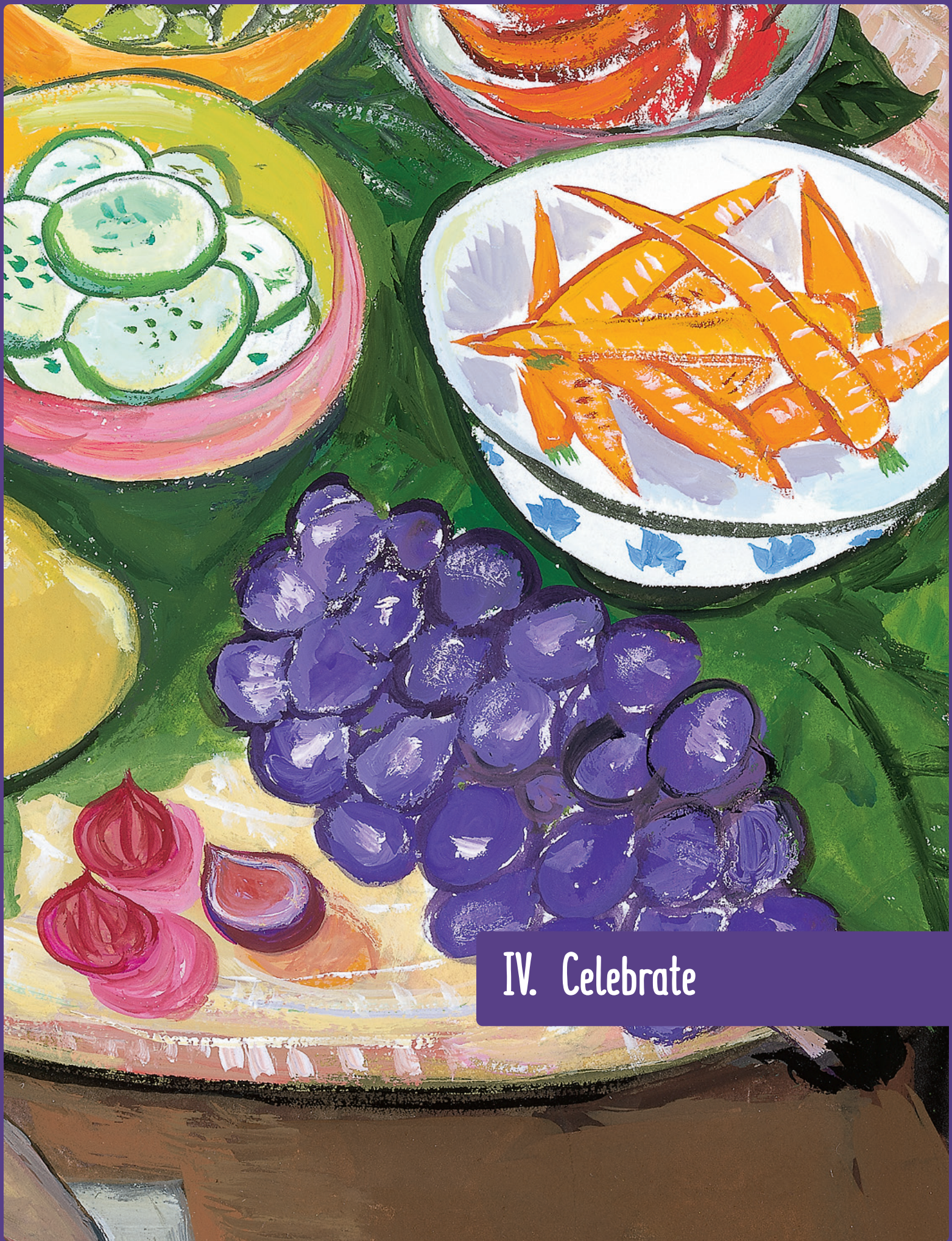
Time: Active time 20 minutes

Directions

1. Combine melon, citrus fruit, mixed fruit, and mint in a large mixing bowl.
2. Layer the parfait elements in 4 clear glasses. Follow this order:
 - ½ cup fruit salad
 - 2 tablespoons yogurt
 - ½ cup fruit salad
 - 2 tablespoons granola
 - 2 tablespoons yogurt
 - 2 tablespoons nuts or seeds
 - Honey drizzled over the top
3. Enjoy!







IV. Celebrate



LESSON 10:

EAT FOOD. NOT TOO MUCH. MOSTLY PLANTS.

First Bite

It is difficult for us to be healthy eaters when we live in a food environment where cheap and tasty dud foods are everywhere around us. But gradually, the dud food industry is starting to change.¹ Young people are helping to drive these changes. But while they are a positive sign, the changes so far have not been enough and are not reaching everyone equally.

From Dud Foods Back to Foods?

There is no question that highly processed foods make up a large portion of our diets: according to a recent study, they now comprise some 61% of everything we eat.² But the food industry and its marketing tactics are being questioned by young people. A recent survey revealed that 42% of millennials, aged 20 to 37, don't trust large food companies.³ One way the companies are responding is by removing additives from popular products. For instance, General Mills is dropping all artificial colors and flavors from its cereals. And consumption of some dud foods is on a downward trend. Per capita soda sales are down 25 percent since 1998.⁴ However, to a large extent, food companies are only making minor changes. What is needed is a more substantial overhaul of products and supply chains away from highly processed ingredients and toward healthy, real foods.

At the same time, some people are already buying and eating more real foods, including whole fruit, whole grains, nuts, and legumes.⁵ But while diet quality has steadily improved for wealthier people, it has diminished for people in poverty. In fact, the gap has doubled between 2000 and 2010.^{5,6}

How can we accelerate this positive shift in our food and help extend it to everyone? We can continue to support and encourage people to join the “food movement.” People everywhere are demanding better food. As a result, the number of farmers’ markets has grown from 200 in the 1970s to over 8,000 today, and cities are promoting incentives to make fresh local produce more affordable and accessible.^{7,8} In schools across the

country, farm to school programs that connect students with gardens, local food, and nutrition education are flourishing.⁹ National policies are changing too. Advocates from parents to pediatricians are demanding that federal laws support healthy food for children of all ages and incomes. On social media, the new FNV campaign features celebrities promoting fruits and vegetables to young people.

Our Challenge

Today's youth may be snack food shoppers now. But they are the restaurant-goers, grocery store shoppers, and farmers market customers of tomorrow. They are also future voters. What they think about food and the food system matters. Our hope is that today's young people can contribute to a world in which it is possible for everyone to Eat food. Not too much. Mostly plants. Our challenge is to provide them with the motivation, resources, skills, and environments that support healthy choices for all.

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6. Hambil, J. (2014, September 2) The Food Gap Is Widening. *The Atlantic*. online. Accessed 11/4/15.
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9. USDA Farm to School Program (2015, October 20). *New USDA Data Show Growing Farm to School Efforts Help to Reduce Plate Waste, Increase Student Participation in Healthier School Meal Programs*. [Press Release 0292.15].



LESSON 10:

EAT FOOD. NOT TOO MUCH. MOSTLY PLANTS.

Aim

Celebrate and share what students have learned throughout the *IDOF Curriculum*.

Food Rule

Break the rules once in a while.

Film Clip

Join the movement

Objectives

Students will be able to:

- describe what they have learned about being food defenders;
- express an increased desire to follow the Food Rules and an understanding of why it's OK to break the rules once in a while;
- present projects that they have worked on through the curriculum; and
- express increased enjoyment of food and desire to cook and eat with friends and family.

Overview

This lesson begins with students reviewing questions from Lesson 1 *Getting to Know You Bingo* activity sheet. Then they become aware of how many other people are joining the food movement by watching the *IDOF* film clip. Drawing on what they have learned they provide one piece of advice to help their peers to continue to Eat food. Not too much. Mostly plants. Then, students receive advice from other middle school students trying to eat healthfully. To celebrate, students share their culminating projects, learn the final Food Rule, review all the Food Rules, enjoy a pizza party, and review what they have learned.

Materials

In this guide

- *Pizza Party* preparation sheet p. 285
- *Getting to Know You Bingo* activity sheet (from Lesson 1) p. 32
- *Get Advice* cards p. 290
- *Food Defenders* lesson resource p. 292
- *Food Rules Lesson 10* activity sheet p. 293
- *Be the Change* activity sheet p. 294
- *Advocacy Project Ideas* lesson resource p. 295

Other materials

- *IDOF* film clip 10: Join the Movement and AV equipment
- Chart paper
- Tape
- Countertop cleaner
- Paper towels

Other materials (cont.)

- Ingredients from the *Pizza Party* preparation sheet p. 285
 - Pizzas (see *Before You Begin* for details)
 - 2 2-quart pitchers
- For each student:**
- Envelope
 - 5" x 7" index card
 - Pencil
 - Marker
 - Culminating project poster (made in Lesson 9)
 - Culminating projects (e.g., scripts for skits, *Capture It* pieces, ads)
 - Plate
 - Cup
 - Napkin
 - Sheet of paper

To learn more about *In Defense of Food*, visit pbs.org/indefenseoffood. Funding was provided by the National Science Foundation and PBS.



Before You Begin: Total prep time: approximately two hours

Within a few days before lesson

1. Purchase toppings for the pizza. See **Pizza Party** preparation sheet p. 285 for details.
2. Locate a restaurant to order pizza from. Order from a local pizzeria (instead of a chain pizza restaurant), if possible.
3. Review the entire lesson.

Within a day before lesson

4. **Print and cut out cards:**
 - **Get Advice** cards p. 290, enough sets for each student to get one card. Place each card in an envelope and seal the envelope.
5. **Print one copy per student of each activity sheet:**
 - **Food Rules Lesson 10** activity sheet p. 293
 - **Be the Change** activity sheet p. 294
6. **Coming full circle activity:** Print and review the **Getting to Know You Bingo** activity sheet p. 32 (Lesson 1) .
7. **Viewing IDOF film clip:**
 - Set up AV equipment and space for film viewing.
 - Find IDOF film clip 10: Join the Movement at <http://bit.ly/idofclip10>
8. **Sharing culminating projects:**
 - Hang up each student's culminating celebration poster around the room for students to congregate around. You can also have students do this at the beginning of the lesson.
 - Print one copy of the **Food Defenders** lesson resource p. 292., write all students' names on the sheet, and hang it up in the classroom.
9. **Pizza party celebration:**
 - Prepare pizza toppings. See **Pizza Party** preparation sheet p. 285 for details.
 - Order pizza, enough for each person to have 2 slices. Plan delivery time for the second half of the lesson.
 - Clean all food preparation and eating surfaces with countertop cleaner.
 - Set out pizza, pizza toppings, plates and napkins.
 - Fill pitchers with cold water and add one prepared fruit to each pitcher. See **Pizza Party** preparation sheet p. 285 for details. It is best to add fruit before class starts, so the fruit flavors infuse the water.



Preparation Sheet

Pizza Party

To celebrate and eat together, students eat pizza after adding a variety of toppings.

Shop for ingredients

Toppings for 10-15 students to put on their pizza slices. Choose 4–5 toppings.

- 6 medium or 3 large tomatoes
- Olives (need 1 cup)
- Peas (frozen, need 1 cup)
- Arugula (need 6 cups)
- Olive oil (need 1 tablespoon)
- Pesto (need 2 cups)
- Basil leaves (need 2 cups)
- 3 bell peppers
- 3 mild chili peppers
- Mushrooms (need 2 cups)

Fruit for infused water. Choose 2 fruits.

- 4 lemons
- 4 limes
- Strawberries (need 2 cups)
- Cucumber
- Watermelon (need 2 cups)

Gather materials

- Plastic storage containers (for prepared pizza toppings)
- 2 1-quart resealable bags

Complete advanced preparation of ingredients

Wash all vegetables and fruit before preparing.

Vegetables for pizza topping: After completing preparation, place in plastic storage containers to bring to class.

- **Tomatoes:** Slice thinly
- **Olives:** Drain if necessary.
- **Peas:** Thaw
- **Arugula:** Place in bowl and drizzle with 1 tablespoon of olive oil. Lightly toss.
- **Pesto:** If it has nuts, make a label for the pesto, indicating type of nuts in it.
- **Basil:** Wash and dry thoroughly. Remove stems and discard. Keep leaves whole.
- **Bell peppers:** Slice thinly
- **Mild chili peppers:** Slice thinly.
- **Mushrooms:** Slice thinly

Fruit for infused water: After completing preparation, place in resealable bags to bring to class.

- **Lemons:** Slice thinly
- **Limes:** Slice thinly.
- **Strawberries:** Slice thinly.
- **Cucumbers:** Slice thinly.
- **Watermelon:** Cut into small cubes.



Procedure

Lesson time: 120 min. (two 60-min. parts)

Part 1 (60 min.)

1. Come Full Circle (5 min.)

Have students think back to what they knew about food when the program began. Remind them of the bingo game they played at the beginning of the *IDOF Curriculum*.

Read a few questions from the ***Getting to Know You Bingo*** activity sheet p. 32 out loud and ask students to stand if they can answer yes to the questions. After each question is read, have the students look around to see how many of their fellow classmates are standing.

Remind them that at the beginning of the program it was much harder to find someone who had “thought about how food helps them,” “watched a food documentary,” or “ordered a small instead of a large,” but now they can look around and see many people standing up. Explain that although change is hard, they have come a long way and should be proud of themselves.

2. Watch *IDOF* Film Clip 10: Join the Movement (15 min.)

Have students join you in an area of the room set up for video viewing. Play *IDOF* film clip 10 that discusses the rise of the food movement. Following the film hold a discussion.

What does it mean to have a system that makes us eat the wrong things? (Our food environment encourages us to eat dud foods, often in large portions. They are available everywhere, inexpensive, attractive, convenient, and engineered to be irresistible. And they are heavily advertised, because they make lots of money for the companies that produce them.)

What do you think voting with your fork means? (Foods that people spend money on stores will stock more.) What kinds of things will you buy to vote with your fork? What kinds of things won't you buy?

3. Give and Get Advice (10 min.)

Ask students to take a minute to think about some of the things that they have done and learned during the *IDOF Curriculum* that have helped them to eat more foods and fewer dud foods.

Provide each student with an index card and marker. Instruct them to write down one piece of advice on the index card to share with their

You may wish to save some of the index cards of advice that students generate in this activity to provide the next generation of *IDOF* students in envelopes. Once the celebration is done, remove the cards that you think provide good advice and store them in a safe place.



Procedure (cont.)

peers. Ask students to be specific in their advice. It can be a Food Rule, or something they make up.

Once students are done, invite them to tape their index card onto the chart paper. Review each students' piece of advice. If students have phones with cameras allow them to take a photo of the chart paper with the advice so they can remember it.

Distribute an envelope containing a **Get Advice** card p. 290 to each student. Explain that in each envelope is a piece of paper with advice from another middle school student. Allow students to open their envelopes to see what advice they received.

4. Share Culminating Projects (25 min.)

This last lesson celebrates that every student in the program has officially become a food defender. Explain that they now have an opportunity to share what they have done to become a food defender. Move around as a class to each student's poster and have each student present a poem, an ad for a food, a *Capture It Piece*, his or her definition of food, his or her favorite food, and/or a eating behavior change he or she has made.

Once everyone has had an opportunity to present, point out the **Food Defenders List** lesson resource p. 292 hanging in the classroom. Show students that it has the names of the food defenders they have learned about. Since they are now also food defenders, their names have been added to the list. As they have seen, people like Jessica Alba, Cam Newton, Colin Kaepernick, Kristen Bell, and Stephen Curry have all joined the food movement. All around the country, others like them and like the students are becoming food defenders and fighting for change.

Congratulate everyone on their successes and participation.

Part 2 (60 min.)

5. Learn the Food Rule (5 min.)

Provide each student with the **Food Rules Lesson 10** activity sheet p. 293. Direct students to the Lesson 10 Food Rule, "Break the rules once in a while." Ask, *what do you think this means?* (Allow students to share ideas.)

Explain that the Food Rules are a guide. Being too strict about always following the rules is not realistic or pleasurable. That is why they learned to "Eat more like the French do" and also appreciate the pleasure of food. Remind students that the Food Rules can help them eat more foods and fewer dud foods. This will help them reach their goals, make their



Procedure (cont.)

own informed decisions about what they eat, decrease their chances of developing diseases such as diabetes, and keep them healthy.

Encourage students to take the **Food Rules Lesson 10** activity sheet home as a way to remember all of the Food Rules. Suggest that the students continue to discuss the Food Rules with their families.

6. Get Involved in the Food Movement (15 min.)

Remind students in the *IDOF* film clip they saw people around the country getting involved in the food movement. Ask, *do you see the food movement happening in your community?* Have students describe what is happening in their community.

Explain that one way to get involved in the food movement is to advocate for better food to be made available and affordable for all people. *What would you like to change in your neighborhoods or communities to make it easier to: Eat food. Not too much. Mostly plants.? What could you do to initiate these changes?* (Ask local store owners to stock healthy and affordable snacks. Ask their schools to remove dud foods from vending machines. Ask their principal to remove unhealthy food advertisements from their school.)

Distribute the **Be the Change** activity sheet p. 294 to each student. Either work as a whole class, or have students work in a small groups to come up with projects. The projects can be to change the environment at their home, their school, their community, or other location. Use the **Advocacy Project Ideas** lesson resource p. 295 for ideas.

7. Have a Pizza Party Celebration (30 min.)

Tell students that to celebrate how much they have accomplished, they are having a party. Invite students to take a slice of pizza and choose one or more topping to put on their pizza.

Have everyone sit down and eat together. Use the questions in the sidebar as conversation starters.

Encourage students to try new toppings if they have a second slice. Also encourage students to add plant-based toppings when they have pizza at home.

8. Review *IDOF Curriculum* (15 min.)

Ask students to create one question on something they learned during *IDOF* for their peers. Provide each student with a blank sheet of paper and a pencil to write their question.

Probing Questions: *What can you do to prepare and eat more meals with your friends and family? What advice do you have for friends who have not gone through the IDOF Curriculum? What are some of your best memories from the IDOF Curriculum?*



Procedure (cont.)

Once they are done, have them hand the sheets to you. As you collect them make an onion ball. Crumple the first sheet into a ball so the question is folded into the center of the ball. One by one wrap the sheets around the ball until you have formed an onion ball of layered questions.

Bring everyone together in a circle to play a game of onion ball. Peel the first sheet of paper (the outer layer of the onion ball) and read the question out loud. Have students stand if they know the answer. Select a student to call out the answer. If correct throw the ball to that student. Have the student peel off the next layer and following the same procedure to read the question, have a student answer it and toss the ball. Continue until the ball is gone.

To review the onion ball activity in Lesson 2, see [Before You Begin #10 p. 53](#) and [Procedure #7 p. 57](#).

9. Encourage Students to Continue Defending Food

Congratulate students on all they accomplished and the positive changes they have made in themselves, their families, and their communities. Encourage them to continue to Eat food. Not too much. Mostly Plants. and follow the Food Rules now, and also long into the future.



Cards

Get Advice

Print enough sets for each student to get one card. Place each card in an envelope and seal the envelope.

<p>To be a food defender:</p> <p>"Eat at least one fruit and vegetable each day."¹</p>	<p>To be a food defender:</p> <p>"Have a better variety of fruit and vegetables at home."¹</p>
<p>To be a food defender:</p> <p>"Eat three meals a day."²</p>	<p>To be a food defender:</p> <p>"Eat at the dinner table so you don't get distracted."³</p>
<p>To be a food defender:</p> <p>"Tell your friends about healthy eating. If they're going to eat junk food, just tell them to eat just a little bit, and then eat a banana to fill them up."³</p>	<p>To be a food defender:</p> <p>"Your family has a big influence on what you eat, so talk to them about how to set a good example."³</p>



Get Advice (cont.)

<p>To be a food defender:</p> <p>“Take a piece of fruit or vegetables, instead of taking a packet of chips to school.”³</p>	<p>To be a food defender:</p> <p>“Go to the supermarket to help Mom buy food and help make it with her.”³</p>
<p>To be a food defender:</p> <p>“Bring food with you so you’re not tempted with junk food.”³</p>	<p>To be a food defender:</p> <p>“Set a goal. I have a goal to drink two bottles of water per day, when I get home from school everyday. My mom gives me a bottle. I drink it right away and I have half of that goal accomplished.”⁴</p>

1. Davison, J., Share, M., Hennessy, M., Knox, B.S. (2015). Caught in a ‘spiral’. Barriers to healthy eating and dietary health promotion needs from the perspective of unemployed young people and their service providers. *Appetite*;85:146-154.

2. Croll, J.K., Neumark-Sztainer, D., Story, M. (2001). Healthy eating: what does it mean to adolescents? *Journal of nutrition education*;33(4):193-198.

3. Stephens, L.D., McNaughton, S.A., Crawford, D., Ball, K. (2015). Nutrition promotion approaches preferred by Australian adolescents attending schools in disadvantaged neighbourhoods: a qualitative study. *BMC Pediatrics*;15:61.

4. Jara, E.A. (2009). Improving School Lunch in Communities of Color: A Case Study of Promising Middle School Food Practices. Berkeley: Public Health, University of California.



Food Defenders

Jessica Alba

Cam Newton

Colin Kaepernick

Kristen Bell

Stephen Curry

Michael Pollan

Anthony Scavotto



Activity Sheet

Name _____

Date _____

Food Rules Lesson 10

Lesson 10: **Eat food. Not too much. Mostly plants.**

Food Rule: _____

Eat Food. Not Too Much. Mostly Plants.

Family Tips

- Find out about how people are promoting good food in your community, such as discounts for purchasing fruits and vegetables at farmers markets, or improving school meals. Get involved however you can.
- Try to make healthy choices for your family. Also know it's OK to break the rules once in a while.
- Celebrate healthy changes you have made, and keep making small changes—they add up to big health benefits.

Food Rules from Previous Lessons

Eat Food.

- 1 Eat food you can picture growing in nature.
- 2 Eat food with ingredients that a third grader could pronounce.
- 3 Avoid products that make health claims.

Not Too Much.

- 4 Avoid foods you see advertised on television.
- 5 Choose smaller plates and glasses.
- 6 Make water your beverage of choice. Sweeten and salt your food yourself.

Mostly Plants.

- 7 If it came from a plant eat it. If it was made in a plant, don't.
- 8 Eat your colors.
- 9 Eat more like the French do.

In Defense of Food film clip that accompanies this lesson:

Join the Movement

Watch at <http://bit.ly/idofclip10>

Learn more about *In Defense of Food* at:

pbs.org/indefenseoffood



Activity Sheet

Name_____

Date_____

Be the Change

Now that you are a food defender, you can become part of the food movement. How would you like to change the food available in your home, your school, or your community?

(title of your project)

Steps to complete your project	Completion Date

How would you know if your project is successful?

Adapted from the Food Day School Curriculum. Used with permission.

Advocacy Project Ideas

At home

- **Home Inventory:** Make an inventory of foods and dud foods you have in your home. Talk with your family about buying more foods and fewer dud foods and how you can work with your family to find ways to apply the Food Rules and the family tips that were on all the Food Rule activity sheets.

HOME INVENTORY

Foods you have in your home	Dud foods you have in your home

- **Family Action Plans:** Create family action plans, similar to the personal action plans you have made. Come up with a plan for how you will help your family be successful at making changes.
- **Family Cooking Night:** Plan a day to go to a farmers market or supermarket to buy some fresh fruits and vegetables. Follow The Kids Cook Monday and make Monday evening the night for the family to cook and eat together. Also, look up other online sources of great recipes.

At school

- **School Water Fountain Inventory:** Make a list of working and non-working water fountains in your school. Write a letter to your school principal asking that non-working water fountains be

SCHOOL WATER FOUNTAIN INVENTORY

Location	Working?		Notes
	Yes	No	

Advocacy Project Ideas (cont.)


fixed, stating reasons why it is important to have access to water in school.

- **Healthy Fundraisers:** Talk to your school principal and members of the Parent Teacher Association (PTA) to get a list of school fundraisers. Research healthy fundraisers and present these ideas to administrators and parents. Check out <http://www.cspinet.org/new/200702141.html> to help you get started.
- **Healthy Classroom Celebrations, Snacks, and Rewards:** Come up with a list of foods, not dud foods, for your class to have during celebrations and other classroom events. Encourage your teacher and peers to make them into a classroom food policy.
- **Start a School Garden:** Find out what it would take to start a school garden and talk with parents and school administrators about steps to take. Check out <http://aggie-horticulture.tamu.edu/kindergarden/child/school/sgintro.htm> to get started.

In the community

- **Community Water Fountains:** Inventory how many working vs. non-working water fountains are in your community and nearby parks. Write a letter to the city or town mayor or other individuals responsible for getting non-working water fountains fixed and for getting new water fountains installed.
- **Increase Healthful Foods in Local Stores:** Walk around your neighborhood and search online to find the places that sell food in your community. Determine which stores could potentially stock more food and fewer dud foods. You might also encourage the use of smaller sizes of dud foods. Come up with a plan on how to talk to store owners about making this switch. Let them know that you and your friends will buy the foods! It is a good idea to start with a store where you already go frequently.
- **Start a Farmers Markets:** If your community does not have a farmers market, look online for organizations that run farmers markets in your city or state and ask what you would need to do to get a farmers market started in your community.





This curriculum, a companion to the PBS documentary *In Defense of Food*, uses activities and film clips to give young people aged 10 to 14 new tools to think critically about food. Students prepare delicious recipes, create performance poetry and participate in peer-to-peer learning to investigate the question, "What should I eat to be healthy?" As they progress through the ten lessons, they will discover what Michael Pollan means by his now-famous answer: Eat Food. Not Too Much. Mostly Plants.

For more information, please email eatfood@kikim.com
pbslearningmedia.org/collection/in-defense-of-food/
facebook.com/indefenseoffoodthemovie
twitter.com/idofmovie
kikim.com
tc.edu/tisch

