LAURIE M. TISCH CENTER FOR FOOD, EDUCATION & POLICY
PROGRAM IN NUTRITION
TEACHERS COLLEGE COLUMBIA UNIVERSITY

Linking Food & Nutrition to Science Education

A Resource Guide for New York City Teachers to Incorporate Food and Nutrition Education into the NYC Pre-Kindergarten to 8th grade Science Scope and Sequence

April 2023

LAURIE M. TISCH CENTER FOR FOOD, EDUCATION & POLICY
PROGRAM IN NUTRITION
TEACHERS COLLEGE COLUMBIA UNIVERSITY

The Center cultivates research about connections between a just, sustainable food system and healthy eating and translates it into recommendations and resources for educators, policy makers, and community advocates. The Center focuses on schools as critical levers for learning and social change.

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Suggested Citation

Olarte D, Koch P, McCarthy JE, Harb A Bresee C. Linking Food & Nutrition to Science Education: A Resource Guide for New York City Teachers to Incorporate Food and Nutrition Education into the New York City Pk-8 Science Scope and Sequence. Laurie M. Tisch Center for Food, Education & Policy, Program in Nutrition, Teachers College, Columbia University. April, 2023.

Thank you to the New York City Council for providing funding for the Food Ed Hub which made publication of this resource possible.

For more information about this resource or the Laurie M. Tisch Center for Food, Education & Policy, please contact tischfoodcenter@tc.columbia.edu.

www.tc.edu/tisch

LINKING FOOD & NUTRITION TO SCIENCE EDUCATION

Linking Food & Nutrition to Science Education is a guide is for Pre-Kindergarten to 8th grade (PK-8) teachers and food educators excited to incorporate food and nutrition education (food ed) into daily classroom instruction.

This guide contains food ed lessons and activities that align with the New York State Science Learning Standards, matched to the 2022 New York City Science Scope and Sequence for each grade.

Linking Food & Nutrition to Science Education was developed by the Food Ed Hub, a project of the Laurie M. Tisch Center for Food, Education and Policy, Program in Nutrition, Teachers College, Columbia University, in partnership with GrowNYC School Gardens.

About the Food Ed Hub

The Food Ed Hub is a project of the Laurie M. Tisch Center for Food, Education and Policy (Tisch Food Center) that fosters coordination among New York City (NYC) food ed organizations, helping to align resources, increase efficiency, avoid duplication, and identify best practices to bring to scale. The Food Ed Hub also hosts workshops, professional development, as well as organizes an annual Food Ed Career Fair and Awards Ceremony. Advocacy for the Food Ed Hub began in 2016 with the collection of the data for the A is for Apple Report. The Food Ed Hub was funded in FY 2020 by the New York City Council, and the Food Ed Hub is the home of the Food Ed Coalition, a diverse group of advocates, program leaders, school community members, and other stakeholders, that works for ensure all NYC students have access to quality food ed and, sustainably-produced, culturally-responsive, healthy school food.

About the Tisch Food Center

The Tisch Food Center is based out of the Teachers College Program in Nutrition, which founded the field of nutrition education in 1909 and has been conducting cutting edge research, providing education, and shaping policy for roughly 113 years. We conduct research on food ed practice and policy. We translate our research into resources for educators, policy makers, and advocates to give people power to demand healthy, just, sustainable food.

About GrowNYC School Gardens

GrowNYC School Gardens inspires, promotes, and facilitates the creation of sustainable gardens in public schools throughout New York City. The program was created in 2010 under the name "Grow to Learn" and since then, has established a network of over 800 school gardens in all five boroughs.

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Dedicated to the food education programs across New York City
that work tirelessly to help students build healthier lives

TABLE OF CONTENTS

LETTER FROM THE FACULTY DIRECTOR

April 2023

Great food and nutrition education is a critical ingredient in the recipe for a healthy school community. Through food and nutrition education, students have exciting and engaging experiences gardening, cooking, and critically thinking about our food supply. Students gain knowledge and skills to make food choices that promote health, ecological sustainability, and social justice. They gain confidence to navigate our challenging food environments and persuasive marketing of unhealthy foods.

They become food citizens who have the power to demand healthy, just, and sustainable food for themselves and everyone, no matter where they live or their background.

All NYC students, no matter their age, borough, or background, deserve to have access to great food and nutrition education. The many organizations running nutrition education programs throughout NYC, as well as around the country, provide expertise and resources in gardening, cooking, nutrition science, media literacy and much more. Their work complements the expertise of teachers and builds school capacity.

We are grateful to the staff of GrowNYC School Gardens and many members of the NYC Food Ed Coalition who worked alongside us on the development of this guide.

This guide incorporates food and nutrition education into the NYC Pre-Kindergarten to 8th grade Science Scope and Sequence to be an inspiration and resource for educators to incorporate food and nutrition education in their science classes to pave the way for all NYC students to get more great nutrition education.

If you have any suggestions for additions to this guide, edits or there are missing or broken web links, please email us at tischfoodcenter@tc.columbia.edu or you can email me directly at pak14@tc.columbia.edu

Sincerely,

Pamela Koch

Pamela Koch, EdD, RDN
Mary Swartz Rose Associate Professor of Nutrition Education
Faculty Director, Laurie M. Tisch Center for Food, Education & Policy
Co-Director, Center for Sustainable Futures

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Photographer Whitney Kidder

INTRODUCTION

Everything we do in life surrounds food, so it makes sense to incorporate more food ed into the daily lives of students. Science is the perfect place to begin increasing their exposure and respect for food. Teachers can do this by adding food and nutrition lessons to the science curriculum. This may be new lessons, augmenting required lessons or adding on activities to existing lessons that allow students to apply what they have learned.

Effective food education makes teaching come to life and activates deep learning for students. Food is daily part of our lives, making it an easy lens through which students can understand the world. For example, in physical, earth systems, and life science, food can help students better understand about light, sound, plants, animals, growth, reproduction, decomposition, and energy.

In pre-kindergarten through second grade, many science lessons focus on the structure and function of organisms—humans, plants, and animals; on life cycles, weather, and the environment. To open students' minds, as well as their palates, teachers can use engaging, hands-on experiences in food and nutrition such as cooking, tasting, and gardening to teach these science topics.

I**n third through fifth grade**, students can make more sophisticated connections. For example, students can understand how the anatomy and physiology of animals and plants relates to their experiences with food in the garden, cooking classroom, school cafeteria or day-to-day lives. As in younger grades, teachers can use hands-on experiences with cooking fruits and vegetables to help students learn how energy is the life source of all living things and necessary for human function. Lessons can be expanded upon to help students understand the difference between good calories and bad calories. By understanding and applying these comparisons to scientific topics such as traits, inheritance, energy, and the environment, students will begin to understand our food system and its complexities, and may connect how much marketing may dictate their food choices.

In middle school, science lessons focus on weather, its patterns, and changes that affect plant growth and the environment. Earth systems science in the context of food can play a large role in how students come to understand how the planet functions from its soil to its core.

Ultimately, this guide will help teachers provide more and better food ed within their science units, whatever the grade.

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Used with permission from Wellness in the Schools.

ABOUT THIS GUIDE

This guide links to lessons that developed by food ed organizations and used in New York City schools. Each lesson is matched to New York State performance expectations and to New York City Scope and Sequence units. Some lessons are from food ed organizations, like Edible Schoolyard NYC, NY Common Pantry, and Common Threads, based in New York. Others are from organizations based elsewhere, such as Chicago's Pilot Light and Washington DC's FRESHFARM FoodPrints.

This guide was created in collaboration with GrowNYC School Gardens. GrowNYC compiled lessons related to gardening, and the Food Ed Hub compiled lessons related to food, nutrition, and cooking. GrowNYC School Gardens and the Tisch Food Center have a longstanding relationship, working together to bring quality food ed to NYC students.

Icons for Performance Expectations (PEs)

PEs Specific to Garden-based lessons

PEs marked with this icon are especially appropriate for garden-based lessons. These PEs may also be appropriate for more general food and nutrition education lessons as well. Grow NYC School Gardens identified these PEs.

PEs for Food and Nutrition Education

PEs marked with this icon are appropriate for food and nutrition education more generally. This may include lessons that involve cooking, food exploration, food justice, nutrition, or other topics.

Thank you to all of the organizations who contributed lessons to be included in this guide.

Ag in the Classroom

Center for Science in the Public Interest

Common Pantry

Common Threads

DOE Office of Sustainability

Edible Schoolyard NYC

FoodCorps

FOODMASTER

FRESHFARM FoodPrints

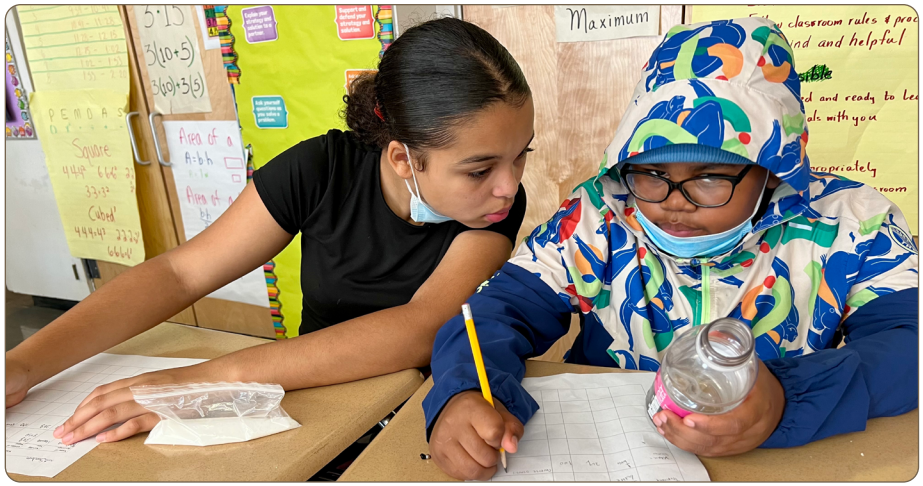
Pilot Light

Recycling Champions

Tisch Food Center

USDA Serving Up MyPlate

Zero Waste Schools



Used with permission from Coalition for Healthy School Food.

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HOW TO USE THIS GUIDE

Lesson Spotlights provide an overview of food ed lessons to help to get you started in teaching food education.

LESSON SPOTLIGHT — WHAT A WASTE BY PILOT LIGHT

Pilot Light

Pilot Light is a food ed organization based in Chicago that helps children to make healthy food choices by connecting classroom lessons to the foods they eat at home, in school and their communities. Because research shows that healthy students achieve academic success, the program is based on collaborations between professional chefs and teachers. They use food as an effective method of teaching and improving the health of students and their academic outcomes.

Check It Out

What A Waste is a great food and nutrition lesson to expose students to a higher level of thinking about food. Pilot Light lessons are applicable to PK–8th grade and relate to numerous science performance expectations.

Sample Performance Expectations:

3-LS2-1. Construct an argument that some animals form groups that help members survive.

5-LS2-1. Develop a model to describe the movement of matter among plants (producers), animals (consumers), decomposers, and the environment.

Lesson Details

Language: English

Time: ~1 hour over multiple days

Grades 3-5

Goal

Students will understand the impact of food waste and will learn ways to reduce food waste through recipes that utilize food scraps. Through the activities, students will gain a greater understanding of how humans can reuse food to help the planet and those we share it with to survive.

Overview

What a Waste is a multi-day lesson, allowing students to immerse themselves in knowledge of food waste and reusability to improve the environment. As an example to broaden their learning on groups helping members survive, the students will watch a video created by Pilot Light called "What A Waste" followed by a discussion based on when the students threw out food in the recent past. Teachers and students can calculate how much food waste their family averages and students can research how food waste effects the environment. They can also seek alternative methods to using food scraps. Students will present on their findings including the economic impact of food waste and alternative uses for food scraps.

For teachers and students, Pilot Light provides related background information on food. This includes links to resources from the National Resource Defense Council and the Food and Agriculture Organization to assist in lesson planning and understanding. The basic understanding can help students with building knowledge and skills and self-efficacy to make effective changes to minimize food waste.

Activity Highlights

Students can use food scraps to make at-home kitchen cleaner and/or make bruised applesauce.

– 10 –

The **Performance Expectations (PEs) Relevant to Food Ed** lists the specific PEs by unit that can be covered through food ed lessons.

FIFTH GRADE — PERFORMANCE EXPECTATIONS RELEVANT TO FOOD ED

We reviewed all the Performance Expectations for Fifth Grade Science. Below we list those that can be addressed through food education.

» Unit 1: Physical and Chemical Changes (9 weeks)

- 5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances the total amount of water is conserved.
- 5-PS1-3. Make observations and measurements to identify materials based on their properties.
- 5-PS1-4. Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

» Unit 2: Matter and Energy in Ecosystems (9 weeks)

- 5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.
- 5-LS2-1. Develop a model to describe the movement of matter among plants (producers), animals (consumers), decomposers, and the environment.
- 5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

» Unit 3: Earth Systems Science (9 weeks)

- 5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
- 5-ESS2-2. Describe and graph the amounts of saltwater and fresh water in various reservoirs to provide evidence about the distribution of water on earth.
- 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect earth's resources and environment.
- 5-PS2-1. Support an argument that the gravitational force exerted by earth on objects is directed down.

» Unit 4: Stars and the Solar System (9 weeks)

- 5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from earth.
- 5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

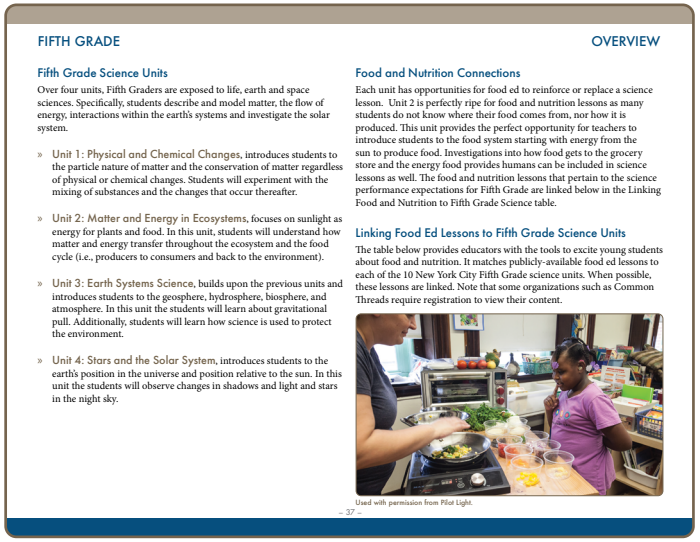
Used with permission from FoodCorps.

PEs especially appropriate for garden-based activities. May also be used for food and nutrition education more generally.

PEs appropriate for general food and nutrition education.

– 38 –

The **Overview** for each grade lists and describes the NYC science units for that grade and connections to food and nutrition Education.



FIFTH GRADE — OVERVIEW

Fifth Grade Science Units

Over four units, Fifth Graders are exposed to life, earth and space sciences. Specifically, students describe and model matter, the flow of energy, interactions within the earth's systems and investigate the solar system.

» Unit 1: Physical and Chemical Changes, introduces students to the particle nature of matter and the conservation of matter regardless of physical or chemical changes. Students will experiment with the mixing of substances and the changes that occur thereafter.

» Unit 2: Matter and Energy in Ecosystems, focuses on sunlight as energy for plants and food. In this unit, students will understand how matter and energy transfer throughout the ecosystem and the food cycle (i.e., producers to consumers and back to the environment).

» Unit 3: Earth Systems Science, builds upon the previous units and introduces students to the geosphere, hydrosphere, biosphere, and atmosphere. In this unit the students will learn about gravitational pull. Additionally, students will learn how science is used to protect the environment.

» Unit 4: Stars and the Solar System, introduces students to the earth's position in the universe and position relative to the sun. In this unit the students will observe changes in shadows and light and stars in the night sky.

Food and Nutrition Connections

Each unit has opportunities for food ed to reinforce or replace a science lesson. Unit 2 is perfectly ripe for food and nutrition lessons as many students do not know where their food comes from, nor how it is produced. This unit provides the perfect opportunity for teachers to introduce students to the food system starting with energy from the sun to produce food. Investigations into how food gets to the grocery store and the energy food provides humans can be included in science lessons as well. The food and nutrition lessons that pertain to the science performance expectations for Fifth Grade are linked below in the Linking Food and Nutrition to Fifth Grade Science table.

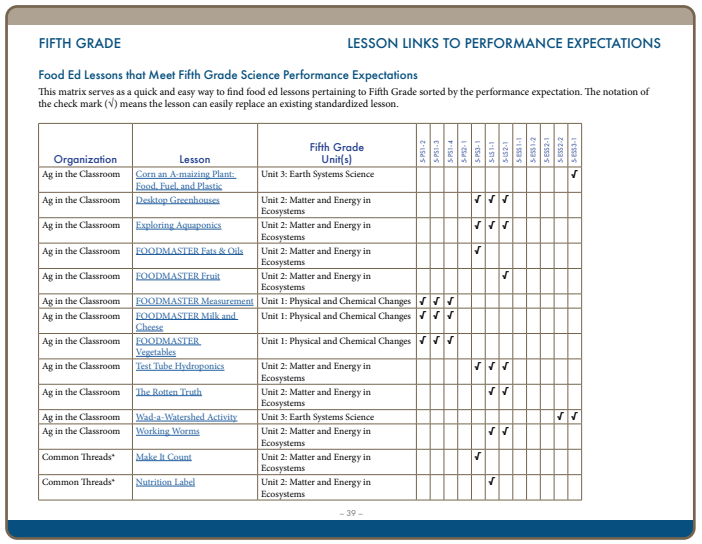
Linking Food Ed Lessons to Fifth Grade Science Units

The table below provides educators with the tools to excite young students about food and nutrition. It matches publicly-available food ed lessons to each of the 10 New York City Fifth Grade science units. When possible, these lessons are linked. Note that some organizations such as Common Threads require registration to view their content.

Used with permission from Pilot Light.

– 37 –

The **Lesson Links to Performance Expectations** shows the specific PEs that can be addressed with each lesson, with links to lessons when available.



FIFTH GRADE — LESSON LINKS TO PERFORMANCE EXPECTATIONS

Food Ed Lessons that Meet Fifth Grade Science Performance Expectations

This matrix serves as a quick and easy way to find food ed lessons pertaining to Fifth Grade sorted by the performance expectation. The notation of the check mark (√) means the lesson can easily replace an existing standardized lesson.

Organization	Lesson	Fifth Grade Unit(s)	5-PS1-2	5-PS1-3	5-PS1-4	5-PS2-1	5-PS3-1	5-LS1-1	5-LS2-1	5-ESS1-1	5-ESS1-2	5-ESS2-1	5-ESS2-2	5-ESS3-1
Ag in the Classroom	Corn an A-maizing Plant: Food, Fuel, and Plastic	Unit 3: Earth Systems Science												√
Ag in the Classroom	Desktop Greenhouses	Unit 2: Matter and Energy in Ecosystems					√	√	√					
Ag in the Classroom	Exploring Aquaponics	Unit 2: Matter and Energy in Ecosystems					√	√	√					
Ag in the Classroom	FOODMASTER Fats & Oils	Unit 2: Matter and Energy in Ecosystems					√							
Ag in the Classroom	FOODMASTER Fruit	Unit 2: Matter and Energy in Ecosystems							√					
Ag in the Classroom	FOODMASTER Measurement	Unit 1: Physical and Chemical Changes	√	√	√									
Ag in the Classroom	FOODMASTER Milk and Cheese	Unit 1: Physical and Chemical Changes	√	√	√									
Ag in the Classroom	FOODMASTER Vegetables	Unit 1: Physical and Chemical Changes	√	√	√									
Ag in the Classroom	Test Tube Hydroponics	Unit 2: Matter and Energy in Ecosystems					√	√	√					
Ag in the Classroom	The Rotten Truth	Unit 2: Matter and Energy in Ecosystems						√	√					
Ag in the Classroom	Wad-a-Watershed Activity	Unit 3: Earth Systems Science											√	√
Ag in the Classroom	Working Worms	Unit 2: Matter and Energy in Ecosystems						√	√					
Common Threads*	Make It Count	Unit 2: Matter and Energy in Ecosystems					√							
Common Threads*	Nutrition Label	Unit 2: Matter and Energy in Ecosystems						√						

– 39 –

Pilot Light

Pilot Light is a food ed organization based in Chicago that helps children to make healthy food choices by connecting classroom lessons to the foods they eat at home, in school and their communities. Because research shows that healthy students achieve academic success, the program is based on collaborations between professional chefs and teachers. They use food as an effective method of teaching and improving the health of students and their academic outcomes.

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PILOT LIGHT
THE FOOD EDUCATION CENTER

What a Waste

Students will understand the impact of food waste and learn ways to reduce food waste through recipes that utilize food scraps.

What Pilot Light Teachers are saying:

“Students tracked food waste, and developed a class recipe using commonly wasted foods. Students created individual recipes to add to a classroom cookbook for our advocacy project.” - 5th grade teacher

Lesson Topics:

Food waste and the environment

Curricular Connections:

Common Core Math:
Grades 3-5 Number and Operations in Base Ten

Next Generation Science Standards:
Grades 3-5: LS2.A: Interdependent Relationships in Ecosystems
Grades 3-5: LS2.B: Cycles of Matter and Energy Transfer in Ecosystems

Activity Highlights

Students can use food scraps to make at-home kitchen cleaner and/or make bruised applesauce.

HARVEST SALSA BY EDIBLE SCHOOLYARD NYC

Edible Schoolyard NYC

Edible Schoolyard NYC is a food ed program based on Alice Waters' idea of edible education. The program provides young students with positive, impactful opportunities to taste and learn about fruits and vegetables. Their lessons offer hands-on experiences with edible plants while teaching students to read and follow a recipe, hone basic kitchen skills, and assemble a dish or meal.

Check it out

Harvest Salsa is a great introductory lesson to food and nutrition as children are more likely to eat what they prepare. Edible Schoolyard NYC lessons are applicable to grade levels K-5 and relate to many science performance expectations throughout this document.

Performance Expectations:

3-ESS2-3. Plan and conduct an investigation to determine the connections between weather and water processes in Earth systems.

Lesson Details

Language: English

Time: 45-90 minutes

Grade: 4th

Goal

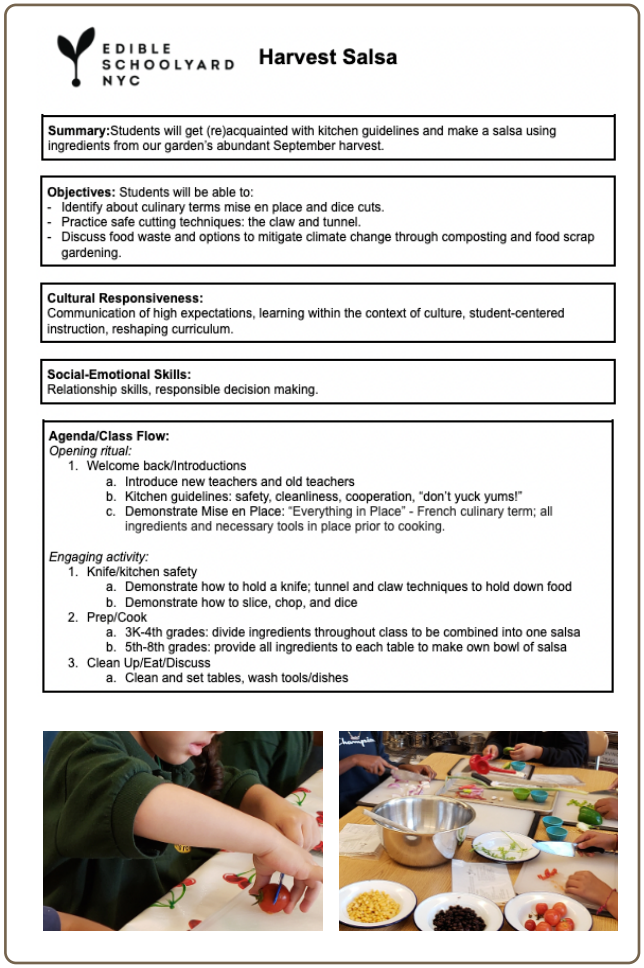
Students will learn how to make salsa and discuss the abundance of September's harvest. Students will practice counting, adding, and sorting while learning basic knife skills.

Overview

Teachers help students cut and then observe the differences between cut versus whole ingredients. Teachers talk about the seasonality of the fruits and vegetables in the salsa and what the plants need in order to grow. Teachers may wish to read a story related to human impact on the planet. Students use their senses to smell, taste, and feel the ingredients as they help the teacher to prepare the salsa. As students try the salsa, teachers can encourage students to generate ideas to help reduce the impact of humans on living things in our environment.

Activity Highlights

Teachers can create a scavenger hunt for the students to find the ingredients around the classroom. Additionally, teachers can find a favorite story about human impact on the planet. Some examples include "Bee and Me" by Alison Jay and "The Water Princess" by Susan Verde.



EDIBLE SCHOOLYARD NYC **Harvest Salsa**

Summary: Students will get (re)acquainted with kitchen guidelines and make a salsa using ingredients from our garden's abundant September harvest.

Objectives: Students will be able to:
- Identify about culinary terms mise en place and dice cuts.
- Practice safe cutting techniques: the claw and tunnel.
- Discuss food waste and options to mitigate climate change through composting and food scrap gardening.

Cultural Responsiveness:
Communication of high expectations, learning within the context of culture, student-centered instruction, reshaping curriculum.

Social-Emotional Skills:
Relationship skills, responsible decision making.

Agenda/Class Flow:
Opening ritual:
1. Welcome back/Introductions
   a. Introduce new teachers and old teachers
   b. Kitchen guidelines: safety, cleanliness, cooperation, "don't yuck yums!"
   c. Demonstrate Mise en Place: "Everything in Place" - French culinary term; all ingredients and necessary tools in place prior to cooking.

Engaging activity:
1. Knife/kitchen safety
   a. Demonstrate how to hold a knife; tunnel and claw techniques to hold down food
   b. Demonstrate how to slice, chop, and dice
2. Prep/Cook
   a. 3K-4th grades: divide ingredients throughout class to be combined into one salsa
   b. 5th-8th grades: provide all ingredients to each table to make own bowl of salsa
3. Clean Up/Eat/Discuss
   a. Clean and set tables, wash tools/dishes

Pre-K Science Units

Over New York City's ten units, pre-kindergarteners explore and engage in physical, life, and earth systems science lessons. Students are encouraged to question, observe, and engage in hands-on learning and investigation.

» **Unit 1: Welcome to Pre-K** encourages students to explore and understand themselves and their world. This unit is meant to spark students' curiosity as they begin to ask questions, make predictions, and draw conclusions.

» **Unit 2: My Five Senses** continues with the exciting use of the five senses to continue exploring and understanding themselves and the world. This unit continues to spark students' curiosity through asking questions, making predictions, and drawing conclusions about taste, touch, smell, hearing, and sight.

» **Unit 3: All About Us** aims to help young students learn more about themselves, their friends, and family. This unit demonstrates to children what makes them unique and important.

» **Unit 4: Where We Live** builds upon Unit 3 by focusing on the diverse spaces and people that inhabit New York City. Students consider their living spaces and those of others they know. They will then turn their attention toward animals to investigate their homes.

» **Unit 5: Transportation** focuses on the methods that people use to move from one place to another. This unit allows students to observe objects and phenomena (i.e. vehicles and other methods of transportation) in their classrooms and communities.

» **Unit 6: Light** focuses on light, shadows, and darkness. Hands-on activities provide young students the opportunity to deeply understand man-made and natural light sources while providing the opportunity to make predictions and think about the world in an abstract way.

» **Unit 7: Water** exposes students to all aspects, uses, and properties of water. Hands-on activities and explorations provide the opportunity to observe water in their environments and understand how water is a vital part of our everyday lives. The students also observe seasonal changes and weather.

» **Unit 8: Plants** incorporates hands-on activities that prompt students to observe, engage, and explore plants in their environment. As in the water unit, young students will observe how plants grow and change over time, depending on the season.

» **Unit 9: Babies** allows young students the opportunity to study both animal and human babies. The students continue to develop independence, become aware of who they are, and what they are capable of doing.

» **Unit 10: Transformation** finishes the year with students reflecting on how things change over time. This unit allows the young students to apply their year-long knowledge and skills as they prepare for future transitions.

Food and Nutrition Connections

Young students are the most pliable when it comes to developing healthy habits. Providing food ed that meets Pre-K science performance expectations for each unit, teachers can expose and motivate young students to have hands-on and minds-on experiences with gardening and cooking that can develop healthy habits. When healthy habits start young, it is easier to maintain them as children get older. In particular, Units 6, 7, and 8, which focus on light, water, and plants, help young learners build connections between science lessons and fruits and vegetables.

Linking Food Ed Lessons to Pre-K Science Units

The table below provides educators with the tools to excite young students about food and nutrition. It matches publicly-available food ed lessons to each of the 10 New York City Pre-K science units, with links to the lessons. Note that some organizations such as Common Threads require registration and $25 fee to view their content.

Used with permission from Teachers College Community Garden.

Used with permission from Edible Schoolyard NYC. Photographer Jen Harris.

PRE-KINDERGARTEN

PERFORMANCE EXPECTATIONS RELEVANT TO FOOD ED

Below we list the Performance Expectations for Pre-Kindergarten New York City Science Units, noting those that can be address through food and nutrition education.

» Unit 1: Welcome to Pre-K

P-PS1-1. Ask questions and use observations to test the claim that different kinds of matter exist as either solid or liquid.

» Unit 2: My Five Senses

P-PS4-1. Plan and conduct investigations to provide evidence that sound is produced by vibrating materials.

» Unit 3: All About Us

P-LS1-1. Observe familiar plants and animals (including humans) and describe what they need to survive.

P-LS1-2. Plan and conduct an investigation to determine how familiar plants and/or animals use their external parts to help them survive in the environment.

» Unit 4: Where We Live

P-ESS1-1. Observe and describe the apparent motions of the Sun, moon, and stars to recognize predictable patterns.

P-ESS2-1. Ask questions, make observations, and collect and record data using simple instruments to recognize patterns about how local weather conditions change daily and seasonally.

» Unit 5: Transportation

P-PS2-1. Use tools and materials to design and build a device that causes an object to move faster with a push or a pull.

» Unit 6: Light

P-PS3-1. Plan and conduct an investigation to determine the effect of sunlight on Earth's surface.

» Unit 7: Water

P-ESS2-1. Ask questions, make observations, and collect and record data using simple instruments to recognize patterns about how local weather conditions change daily and seasonally.

P-PS1-1. Ask questions and use observations to test the claim that different kinds of matter exist as either solid or liquid.

» Unit 8: Plants

P-LS1-2. Plan and conduct an investigation to determine how familiar plants and/or animals use their external parts to help them survive in the environment.

P-LS3-1. Develop a model to describe that some young plants and animals are similar to, but not exactly like, their parents.

» Unit 9: Babies

P-LS3-1. Develop a model to describe that some young plants and animals are similar to, but not exactly like, their parents.

» Unit 10: Transformation

P-ESS1-1. Observe and describe the apparent motions of the Sun, moon, and stars to recognize predictable patterns.

P-ESS2-1. Ask questions, make observations, and collect and record data using simple instruments to recognize patterns about how local weather conditions change daily.

PEs especially appropriate for garden-based activities. May also be used for food and nutrition education more generally.

PEs appropriate for general food and nutrition education.

Food Ed Lessons that Meet PK Science Performance Expectations

This matrix serves as a quick and easy way to find food ed lessons pertaining to Pre-K sorted by the performance expectation. The notation of the check mark (√) means the lesson can replace an existing lessons that are used to meet this performance expectation.

Organization	Lesson	Pre-K Unit(s)	P-PS1-1	P-PS2-1	P-PS3-1	P-PS4-1	P-LS1-1	P-LS1-2	P-LS3-1	P-ESS1-1	P-ESS2-1
Ag in the Classroom	A is for Apple	Unit 2: My Five Senses				√					
Ag in the Classroom	Animal or Plant?	Unit 3: All About Us Unit 8: Plants Unit 9: Babies					√	√	√		
Ag in the Classroom	Be a DetEGGtive!	Unit 9: Babies							√		
Ag in the Classroom	Eating Plants	Unit 8: Plants						√			
Ag in the Classroom	Exploring Texture in the Garden	Unit 3: All About Us					√				
Ag in the Classroom	Fruit and Vegetable Bingo	Unit 3: All About Us					√				
Ag in the Classroom	The Amazing Honey Bee	Unit 3: All About Us					√	√			
Ag in the Classroom	A Garden Plot: The Tale of Peter Rabbit	Unit 3: All About Us					√				
Ag in the Classroom	Snappy Stems	Unit 3: All About Us					√	√			
Ag in the Classroom	Dig 'Em Up	Unit 3: All About Us Unit 8: Plants					√	√			
Ag in the Classroom	People and Plants Need Nutrients	Unit 3: All About Us					√				
Ag in the Classroom	Plant Tops and Bottoms	Unit 3: All About Us					√				
Ag in the Classroom	The Soil We Grow In	Unit 3: All About Us					√	√			
Common Threads*	Facts on Fat	Unit 1: Welcome to Pre-K Unit 3: All About Us Unit 7: Water	√				√	√			

continued on next page.

Organization	Lesson	Pre-K Unit(s)	P-PS1-1	P-PS2-1	P-PS3-1	P-PS4-1	P-LS1-1	P-LS1-2	P-LS3-1	P-ESS1-1	P-ESS2-1
Common Threads*	Fruits & Vegetables	Unit 1: Welcome to Pre-K Unit 3: All About Us Unit 7: Water	√				√	√			
Common Threads*	Make it Count	Unit 3: All About Us					√	√			
Common Threads*	The Chef's Plate	Unit 2: My Five Senses				√					
Edible Schoolyard NYC	Plant Part Salad	Unit 3: All About Us					√	√			
Edible Schoolyard NYC	Plant Part Salad 5 – Sweet and Spicy	Unit 8: Plants						√			
Edible Schoolyard NYC	Root Vegetable Curry	Unit 3: All About Us					√	√			
Edible Schoolyard NYC	Southwest Salad	Unit 3: All About Us					√	√			
FRESHFARM FoodPrints	Eating the Whole Grain	Unit 3: All About Us Unit 8: Plants					√	√			
FRESHFARM FoodPrints	Exploring with Our Five Senses	Unit 2: My Five Senses				√					
FRESHFARM FoodPrints	Goodbye Winter, Hello Spring	Unit 6: Light Unit 7: Water Unit 10: Transformation			√						√
FRESHFARM FoodPrints	Introduction to Plant Parts	Unit 3: All About Us					√	√			
FRESHFARM FoodPrints	Pollinators at Work	Unit 3: All About Us					√	√			
FRESHFARM FoodPrints	Worms in the Garden	Unit 3: All About Us					√	√			
Tisch Food Center, Center for Science in the Public Interest	Food Day Lesson: Mostly Plants	Unit 3: All About Us					√				

* To access all lessons created by Common Threads, you will need to create an account and pay a one-time $25 fee. The link provided here goes to the pre-K landing page.

Kindergarten Science Units

Over four units, kindergarteners take on the role of scientist by observing and investigating the weather, the environment, liquids and solids, and pushes and pulls. Throughout the units, children begin to make more sense of the natural world surrounding them.

» Year-long Unit: Weather Study, is a focus on weather meant to introduce young students to pattern analysis and qualitative (i.e. sunny, hot, cold, rainy) and quantitative (i.e. number of sunny days observed) data collection. Through observation and documentation of weather patterns, this study culminates with a compilation of weather-based data. It is also expected that this unit will help students learn to follow expectations and establish daily routines.

» Unit 1: Solids and Liquids, opens young students to the concept of properties of matter and introduces them to the nature of science as a way to make sense of the world. Cause and effect are at the heart of this unit as the young students apply their experiences with water and begin to understand how water may be a liquid or a solid depending on the temperature.

» Unit 2: Push Me, Pull Me, compares and explains the effects of pushes and pulls on an object. The young students continue acting as scientists using a variety of methods to explore and understand how forces influence the speed and direction of an object.

» Unit 3: Our Environment, introduces young students to the concept that scientific knowledge is based on empirical evidence. In this unit, the students will study and observe interactions of living things in their environments. Students will be encouraged to look at their local environment and consider ways to improve conditions for land, air, water, animals and plants.

» Unit 4: Our Weather, is the conclusion to the year-long weather study. This unit highlights the importance of technology used to forecast and prepare for severe weather conditions. Additionally, the students observe temperature and its effect on the Earth's surface. The young students will design and create inventions that will protect the earth against the heat and light from the sun.

Food and Nutrition Connections

Because children are impressionable, the inclusion of food ed lessons will help young students to understand the importance of healthy eating. It will also help them begin to incorporate some healthy eating habits. Teachers can help by including some or all of the food and nutrition lessons for this grade to inspire children to grow up healthy and successful, while they investigate and explore the scientific world around them.

Food ed fits nicely into three of the four units in Kindergarten. For instance, Unit 4 provides a great opportunity for young students to learn how maple syrup is made from sap. They also learn about how and where maple trees are grown. .

Linking Food Ed Lessons to Kindergarten Science Units

The table below provides educators with the tools to excite young students about food and nutrition. It matches publicly-available food ed lessons to each of the 10 New York City Kindergarten science units, with links to the lessons. Note that some organizations such as Common Threads require registration and $25 fee to view their content.

We reviewed all the Performance Expectations for Kindergarten Science. Below we list those that can be addressed through food education.

» Unit 1: Solids and Liquids (9 weeks)

K-PS1-1. Plan and conduct an investigation to test the claim that different kinds of matter exist as either solid or liquid, depending on temperature.

» Unit 2: Push Me, Pull Me (9 weeks)

K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.

K-PS2-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.

» Unit 3: Our Environment (9 weeks)

K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time.

K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.

K-ESS3-3. Communicate solutions that will reduce the impact of humans on living organisms and nonliving things in the local environment.

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

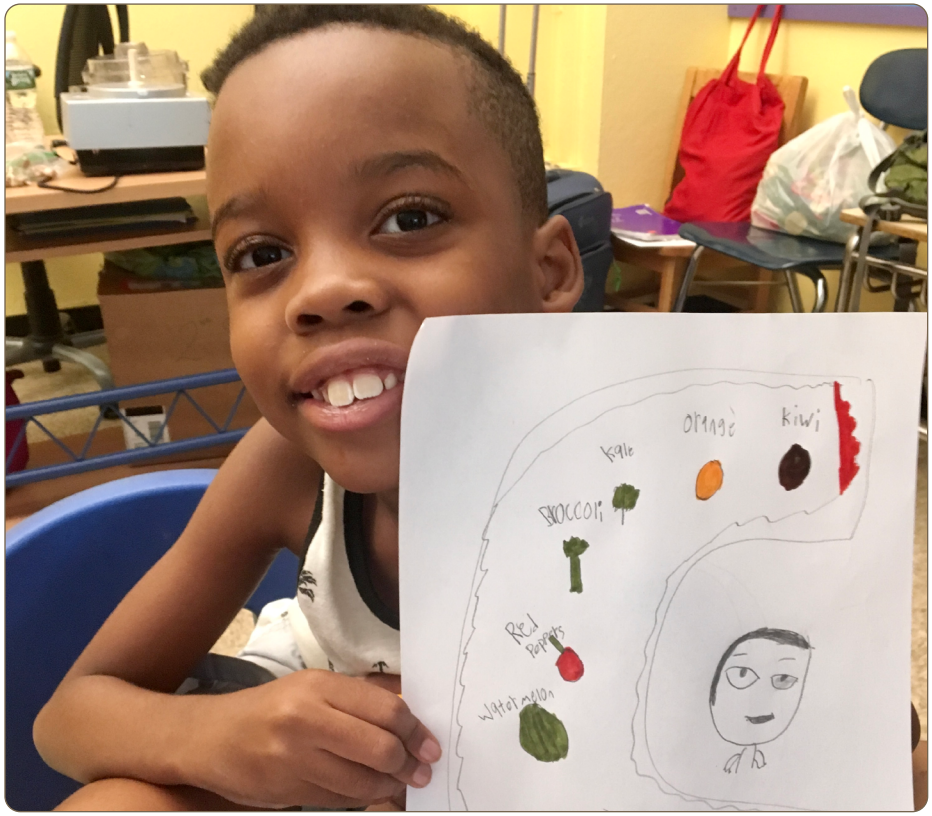
K-PS3-1. Make observations to determine the effect of sunlight on Earth's surface.

» Unit 4: Our Weather (9 weeks)

K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time.

K-ESS3-2. Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.

K-PS3-2. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.



Used with permission from Coalition for Healthy School Food.

PEs especially appropriate for garden-based activities. May also be used for food and nutrition education more generally.

PEs appropriate for general food and nutrition education.

Food Ed Lessons that Meet Kindergarten Science Performance Expectations

This matrix serves as a quick and easy way to find food ed lessons pertaining to Kindergarten sorted by the performance expectation. The notation of the check mark (√) means the lesson can replace an existing lessons that are used to meet this performance expectation.

Organization	Lesson	Kindergarten Unit(s)	K-PS1-1	K-PS2-1	K-PS2-2	K-PS3-1	K-PS3-2	K-LS1-1	K-ESS2-1	K-ESS2-2	K-ESS3-1	K-ESS3-2	K-ESS3-3
Ag in the Classroom	Eating Plants	Unit 3: Our Environment						√		√	√		√
Ag in the Classroom	Farming in a Glove	Unit 3: Our Environment				√		√					
Ag in the Classroom	Freshest Fruits	Unit 3: Our Environment						√		√	√		√
Ag in the Classroom	From Sap to Syrup	Unit 3: Our Environment Unit 4: Our Weather				√	√		√			√	
Ag in the Classroom	Fruit & Veggie Bingo	Unit 3: Our Environment						√					
Ag in the Classroom	The Amazing Honeybee	Unit 3: Our Environment				√		√		√			
Ag in the Classroom	People and Plants Need Nutrients	Unit 3: Our Environment				√		√					
Ag in the Classroom	The Soil We Grow In	Unit 3: Our Environment				√		√		√			√
Common Threads*	Fats and Oils	Unit 3: Our Environment						√					
Common Threads*	Fruits and Vegetables	Unit 3: Our Environment						√					
Common Threads*	Healthy Hydration	Unit 3: Our Environment						√					
Common Threads*	Make It Count	Unit 3: Our Environment						√					
Common Threads*	Protein	Unit 3: Our Environment						√					
Common Threads*	The Chef's Plate	Unit 3: Our Environment						√					
Common Threads*	Whoa, Slow and Go Foods	Unit 3: Our Environment						√					
Common Threads*	Whole Grains	Unit 3: Our Environment						√					
Edible Schoolyard NYC	Harvest Salsa	Unit 3: Our Environment						√					√
FoodCorps	Bean Buddies	Unit 3: Our Environment						√					
FoodCorps	Fabulous Five: What a Plant Needs to Thrive	Unit 3: Our Environment						√					
FoodCorps	Let Us Grow Lettuce!	Unit 3: Our Environment						√					

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Organization	Lesson	Kindergarten Unit(s)	K-PS1-1	K-PS2-1	K-PS2-2	K-PS3-1	K-PS3-2	K-LS1-1	K-ESS2-1	K-ESS2-2	K-ESS3-1	K-ESS3-2	K-ESS3-3
FoodCorps	Perfect Parfaits	Unit 3: Our Environment						√					
FoodCorps	Sunflower House	Unit 3: Our Environment						√					
FoodCorps	Who Eats What?	Unit 3: Our Environment						√					
FRESHFARM FoodPrints	Bringing Food from Farm to Table	Unit 3: Our Environment						√			√		√
FRESHFARM FoodPrints	Compost Stew	Unit 3: Our Environment						√		√	√		√
FRESHFARM FoodPrints	Exploring Soil	Unit 3: Our Environment						√					
FRESHFARM FoodPrints	Growing Vegetable Soup	Unit 3: Our Environment						√		√	√		√
FRESHFARM FoodPrints	Life Cycles	Unit 3: Our Environment						√		√	√		√
FRESHFARM FoodPrints	Plant Survival	Unit 3: Our Environment						√		√	√		√
FRESHFARM FoodPrints	Tree Conservation	Unit 3: Our Environment											√
FRESHFARM FoodPrints	The Seasons of the Garden	Unit 3: Our Environment Unit 4: Our Weather				√	√		√			√	
Tisch Food Center, Center for Science in the Public Interest	Food Day Lesson: Eat Real	Unit 3: Our Environment											√
Tisch Food Center, Center for Science in the Public Interest	Food Day Lesson: Mostly Plants	Unit 3: Our Environment									√		

* To access all lessons created by Common Threads, you will need to create an account and pay a one-time $25 fee. The link provided here goes to the kindergarten landing page.

First Grade Science Units

Over three units, First Graders observe patterns in the behavior of human beings, in light and sound and in the solar system. They will also observe the differences and similarities in offspring and their parents.

» **Unit 1: Exploring Light and Solar Patterns**, exposes young students to the availability of light and our ability to see objects. Investigations and observations of the effects of placing objects into light will be planned and carried out during this unit.

» **Unit 2: Light, Sound and Waves**, builds upon the prior unit and introduces young students to the relationship between sound and vibrating materials while maintaining and reinforcing the idea that sight is dependent on light. In this unit, the students will design, build and improve a device to solve a communication problem.

» **Unit 3: Structures and Behaviors in Living Things**, builds upon the previous two units by helping young students to develop a connection between light and sound and how essential they are to living things. This unit will help students understand the idea of structure and function and how plants and animals use their external parts to meet their needs for survival and growth.

Food and Nutrition Connections

In First Grade, food and nutrition lessons fit very well into Unit 3, Structures and Behaviors of Living Things. Just as First Graders learn the needs of plants and animals, they can apply this knowledge toward themselves. As children prepare for years of growth and schooling, they should be equipped with the food and nutrition-related knowledge and skills to fuel themselves. Food and nutrition education can help students build healthy eating habits that will last a lifetime.

Linking Food Ed Lessons to First Grade Science Units

The table below provides educators with the tools to excite young students about food and nutrition. It matches publicly-available food ed lessons to each of the 10 New York City First Grade science units, with links to the lessons. Note that some organizations such as Common Threads require registration and $25 fee to view their content.

Used with permission from FoodCorps.

We reviewed all the Performance Expectations for First Grade Science. Below we list those that can be addressed through food education.

» Unit 1: Exploring Light and Solar Patterns (12 weeks)

1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.

1-PS4-2. Make observations (firsthand or from media) to construct an evidence-based account that objects can be seen only when illuminated.

1-PS4-3. Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.

» Unit 2: Light, Sound and Waves (12 weeks)

1-ESS1-1. Use observations of the Sun, moon, and stars to describe patterns that can be predicted.

1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.

1-PS4-1. Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.

1-PS4-2. Make observations (firsthand or from media) to construct an evidence-based account that objects can be seen only when illuminated.

1-PS4-4. Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.

» Unit 3: Structures and Behaviors in Living Things (12 weeks)

1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.

1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

Used with permission from Edible Schoolyard NYC. Photographer Jen Harris.

PEs especially appropriate for garden-based activities. May also be used for food and nutrition education more generally.

PEs appropriate for general food and nutrition education.

Food Ed Lessons that Meet First Grade Science Performance Expectations

This matrix serves as a quick and easy way to find food ed lessons pertaining to First Grade sorted by the performance expectation. The notation of the check mark (√) means the lesson can replace an existing lessons that are used to meet this performance expectation.

Organization	Lesson	First Grade Unit(s)	1-PS4-1	1-PS4-2	1-PS4-3	1-PS4-4	1-LS1-1	1-LS1-2	1-LS3-1	1-ESS1-1	1-ESS1-2
Ag in the Classroom	Animal or Plant?	Unit 3: Structures and Behaviors in Living Things					√	√	√		
Ag in the Classroom	Eating Plants	Unit 3: Structures and Behaviors in Living Things					√				
Ag in the Classroom	Freshest Fruits	Unit 3: Structures and Behaviors in Living Things					√				
Common Threads*	Facts on Fat	Unit 3: Structures and Behaviors in Living Things							√		
Common Threads*	Fruits and Vegetables	Unit 3: Structures and Behaviors in Living Things							√		
Common Threads*	Healthy Hydration	Unit 3: Structures and Behaviors in Living Things							√		
Common Threads*	Make It Count	Unit 3: Structures and Behaviors in Living Things							√		
Common Threads*	Protein	Unit 3: Structures and Behaviors in Living Things							√		
Common Threads*	The Chef's Plate	Unit 3: Structures and Behaviors in Living Things							√		
Common Threads*	Whoa, Slow, Go Foods	Unit 3: Structures and Behaviors in Living Things							√		
Common Threads*	Whole Grains	Unit 3: Structures and Behaviors in Living Things							√		

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Organization	Lesson	First Grade Unit(s)	1-PS4-1	1-PS4-2	1-PS4-3	1-PS4-4	1-LS1-1	1-LS1-2	1-LS3-1	1-ESS1-1	1-ESS1-2
Edible Schoolyard NYC	Chinese Scrambled Eggs and Soybean Dumplings	Unit 3: Structures and Behaviors in Living Things					√	√	√		
Edible Schoolyard NYC	Plant Part Salad	Unit 3: Structures and Behaviors in Living Things					√				
Edible Schoolyard NYC	Plant Part Salad - French Dressing	Unit 3: Structures and Behaviors in Living Things					√				
FoodCorps	Bean Buddies	Unit 3: Structures and Behaviors in Living Things					√				
FoodCorps	Imaginary Plants	Unit 3: Structures and Behaviors in Living Things					√				
FoodCorps	Looking Closely at Leaves	Unit 3: Structures and Behaviors in Living Things							√		
FoodCorps	Plant Part Mystery	Unit 3: Structures and Behaviors in Living Things					√				
FoodCorps	Plant Part Scavenger Hunt	Unit 3: Structures and Behaviors in Living Things					√				
FoodCorps	Plant Part Wraps	Unit 3: Structures and Behaviors in Living Things					√				
FoodCorps	Planting a Tops and Bottoms Bed	Unit 3: Structures and Behaviors in Living Things					√				
FoodCorps	Root View Cups	Unit 3: Structures and Behaviors in Living Things					√				
FRESHFARM FoodPrints	Edible Plant Parts	Unit 3: Structures and Behaviors in Living Things					√				
FRESHFARM FoodPrints	Exploring Leaf Families	Unit 3: Structures and Behaviors in Living Things						√	√		
FRESHFARM FoodPrints	Plant Adaptation	Unit 3: Structures and Behaviors in Living Things					√	√	√		

* To access all lessons created by Common Threads, you will need to create an account and pay a one-time $25 fee. The link provided here goes to the first grade landing page.

Second Grade Science Units

Over three units, Second Graders will grasp the basics of earth science by learning about land, water, plants and animals and how they relate to life on earth. Specifically, young students will learn about water, it's properties, biodiversity and its role in shaping the planet.

» Unit 1: Properties and Patterns of Water, studies water and it's connection to life on earth. The young students will look for patterns where water is found on earth as either a solid or liquid. Additionally, they will explore and investigate heating and cooling and how that affects the observable changes of solids and liquids.

» Unit 2: The Changes to Land Over Time, will help young students develop an understanding for energy and matter and the breakdown of materials. This unit exposes them to the forms and rates of changes to the earth's surface, with an emphasis on wind and water as catalysts for those changes. This unit provides the opportunity for the students to design solutions that will slow the rate of change and then interpret their results.

» Unit 3: Plant and Animal Interactions, focuses on the necessities of plants, and how plants and animals rely on each other for survival. In this unit, young students will learn how the shape of a structure relates to its function and will develop models based on improving the structure and function of plants.

Food and Nutrition Connections

Just like plants and animals, humans rely on water, sunlight and other humans for survival. This makes food and nutrition lessons greatly applicable to many of the science performance expectations in Second Grade. At this age, young students formulate their eating habits and patterns. Teachers can help young students to choose healthier beverages both at school and at home. Unit 1 introduces the concept of the importance of hydration for humans, plants and animals a like. For example, drinking water and/or unsweetened beverages such a low-fat milk are great habits for young students to learn.

Food and nutrition education enables students to have experiential learning that gets them excited to make healthy food choices while learning about the physical, life and earth sciences as well.

Linking Food Ed Lessons to Second Grade Science Units

The table below provides educators with the tools to excite young students about food and nutrition. It matches publicly-available food ed lessons to each of the 10 New York City Second Grade science units, with links to the lessons. Note that some organizations such as Common Threads require registration and $25 fee to view their content.

We reviewed all the Performance Expectations for Second Grade Science. Below we list those that can be addressed through food education.

» Unit 1: Properties and Patterns of Water (12 weeks)

- 2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.
- 2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid.
- 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.
- 2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
- 2-PS1-4. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.

» Unit 2: The Changes to Land Over Time (12 weeks)

- 2-ESS1-1. Use information from several sources to provide evidence that Earth events can occur quickly or slowly.
- 2-ESS2-1. Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
- 2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.
- 2-PS1-2. Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.
- 2-PS1-3. Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.

» Unit 3: Plant and Animal Interactions (12 weeks)

- 2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow.
- 2-LS2-2. Develop a simple model that illustrates how plants and animals depend on each other for survival.

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PEs especially appropriate for garden-based activities. May also be used for food and nutrition education more generally.

PEs appropriate for general food and nutrition education.

Food Ed Lessons that Meet Second Grade Science Performance Expectations

This matrix serves as a quick and easy way to find food ed lessons pertaining to Second Grade sorted by the performance expectation. The notation of the check mark (√) means the lesson can easily replace an existing standardized lesson.

Organization	Lesson	Second Grade Unit(s)	2-PS1-1	2-PS1-2	2-PS1-3	2-PS1-4	2-LS2-1	2-LS2-2	2-LS4-1	2-EESS1-1	2-ESS2-1	2-ESS2-2	2-ESS2-3
Ag in the Classroom	Animal or Plant?	Unit 1: Properties and Patterns of Water Unit 3: Plant and Animal Interactions						√	√				
Ag in the Classroom	Desktop Greenhouses	Unit 1: Properties and Patterns of Water	√										
Ag in the Classroom	Eating Plants	Unit 3: Plant and Animal Interactions					√						
Ag in the Classroom	Exploring Aquaponics	Unit 3: Plant and Animal Interactions					√	√					
Ag in the Classroom	Farming in a Glove	Unit 3: Plant and Animal Interactions					√	√					
Ag in the Classroom	Freshest Fruits	Unit 3: Plant and Animal Interactions					√						
Common Threads*	Facts on Fat	Unit 1: Properties and Patterns of Water	√										
Common Threads*	Fruits and Vegetables	Unit 1: Properties and Patterns of Water	√										
Common Threads*	Healthy Hydration	Unit 1: Properties and Patterns of Water	√										
Common Threads*	Make It Count	Unit 1: Properties and Patterns of Water	√										
Common Threads*	Protein	Unit 1: Properties and Patterns of Water	√										
Common Threads*	The Chef's Plate	Unit 1: Properties and Patterns of Water	√										
Common Threads*	Whoa, Slow, Go Foods	Unit 1: Properties and Patterns of Water	√										
Common Threads*	Whole Grains	Unit 1: Properties and Patterns of Water	√										

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Organization	Lesson	Second Grade Unit(s)	2-PS1-1	2-PS1-2	2-PS1-3	2-PS1-4	2-LS2-1	2-LS2-2	2-LS4-1	2-EESS1-1	2-ESS2-1	2-ESS2-2	2-ESS2-3
Edible Schoolyard NYC	Plant Part Salad	Unit 3: Plant and Animal Interactions					√						
Edible Schoolyard NYC	Plant Part Salad - French Dressing	Unit 3: Plant and Animal Interactions					√						
FoodCorps	Bee a Bee!	Unit 3: Plant and Animal Interactions						√					
FoodCorps	Biodiversity in the Garden	Unit 1: Properties and Patterns of Water							√				
FoodCorps	How Seeds Travel	Unit 3: Plant and Animal Interactions					√	√					
FoodCorps	Insect Homes	Unit 1: Properties and Patterns of Water							√				
FoodCorps	Plant a Rainbow	Unit 1: Properties and Patterns of Water							√				
FoodCorps	Planting for Beneficial Insects	Unit 3: Plant and Animal Interactions					√	√					
FoodCorps	Saving Seeds	Unit 3: Plant and Animal Interactions					√	√					
FRESHFARM FoodPrints	Pollination and Flowering Plants	Unit 3: Plant and Animal Interactions						√					
Pilot Light	Fish and the Ecosystem – A World Without Fish	Unit 3: Plant and Animal Interactions						√					
Pilot Light	Noodles Around the World	Unit 1: Properties and Patterns of Water	√										
Pilot Light	Food Sources and Origins	Unit 1: Properties and Patterns of Water							√			√	√
Pilot Light	Why We Need Seaweed	Unit 1: Properties and Patterns of Water										√	√
Tisch Food Center, Center for Science in the Public Interest	Food Day Lesson: Mostly Plants	Unit 3: Plant and Animal Interactions						√					

* To access all lessons created by Common Threads, you will need to create an account and pay a one-time $25 fee. The link provided here goes to the second grade landing page.

Third Grade Science Units

Over four units, Third Graders gain an understanding of life cycles, interdependence of organisms, how the earth affects the life cycles of organisms, followed by a unit on the physical sciences and cause and effect.

» **Unit 1: Inheritance and Variation**, focuses on the inheritance of traits and how they can be affected by the environment. The students also explore and understand the pattern of cause and effect among organisms in their environment.

» **Unit 2: Interdependence**, focuses on organisms' environments and the effects of the environment. In this unit, the students will look at evidence and construct arguments for how living in groups is beneficial to survival. They will also study weather and design solutions for dangerous weather.

» **Unit 3: Change Over Time**, focuses on environmental change. In this unit, the students analyze fossils to understand how weather and climate are indicative of characteristics of organisms. They gather evidence and make evidence-based claims on organisms' ability to survive, move to new locations, adapt or die-off. The students continue to gather and analyze weather-related data to make predictions on how the weather affects the environment.

» **Unit 4: Interacting Forces**, focuses on how different objects interact and how forces react to each other. In this unit the students will observe and predict patterns of motion and investigate cause and effect of electricity and magnetism.

Food and Nutrition Connections

Three of the four units provide opportunities for food ed lessons to meet Third Grade science performance expectations. Food and nutrition naturally fits into environmental and earth science studies, especially when looking at changes over time. Teachers can influence healthy eating habits in their students by exploring areas of the planet and investigating foods that organisms depend on for survival in their environments. Investigations into inherited traits in plants that we eat is also a great opportunity for students to learn about parents and offspring.

Linking Food Ed Lessons to Third Grade Science Units

The table below provides educators with the tools to excite young students about food and nutrition. It matches publicly-available food ed lessons to each of the 10 New York City Third Grade science units, with links to the lessons. Note that some organizations such as Common Threads require registration and $25 fee to view their content.

Used with permission from Common Threads.

We reviewed all the Performance Expectations for Third Grade Science. Below we list those that can be addressed through food education.

» Unit 1: Inheritance and Variation (9 weeks)


3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.


3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.


3-LS2-1. Construct an argument that some animals form groups that help members survive.


3-LS3-1. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.


3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment.

» Unit 2: Interdependence (9 weeks)


3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.


3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.


3-LS2-1. Construct an argument that some animals form groups that help members survive.


3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.


3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

» Unit 3: Change Over Time (9 weeks)


3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.


3-ESS2-2. Obtain and combine information to describe climates in different regions of the world.


3-ESS2-3. Plan and conduct an investigation to determine the connections between weather and water processes in Earth systems.


3-LS4-1. Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.


3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

» Unit 4: Interacting Forces (9 weeks)


3-PS2-1. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.


3-PS2-2. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.


PEs especially appropriate for garden-based activities. May also be used for food and nutrition education more generally.


PEs appropriate for general food and nutrition education.

Food Ed Lessons that Meet Third Grade Science Performance Expectations

This matrix serves as a quick and easy way to find food ed lessons pertaining to Third Grade sorted by the performance expectation. The notation of the check mark (√) means the lesson can easily replace an existing standardized lesson.

Organization	Lesson	Third Grade Unit(s)	3-PS2-1	3-PS2-2	3-LS1-1	3-LS2-1	3-LS3-1	3-LS3-2	3-LS4-1	3-LS4-2	3-LS4-3	3-LS4-4	3-ESS2-1	3-ESS2-2	3-ESS2-3	3-ESS3-1
Ag in the Classroom	Apple Science: Comparing Apples and Onions	Unit 1: Inheritance and Variation			√		√	√								
Ag in the Classroom	Exploring Aquaponics	Unit 1: Inheritance and Variation			√											
Ag in the Classroom	Honey Bees: A Pollination Simulation	Unit 1: Inheritance and Variation			√	√										
Ag in the Classroom	Inherited Traits in the Living Corn Necklace	Unit 1: Inheritance and Variation					√	√								
Ag in the Classroom	Peas in a Pod	Unit 1: Inheritance and Variation					√	√								
Ag in the Classroom	Wad-a-Watershed Activity	Unit 2: Interdependence Unit 3: Change Over Time									√		√		√	√
Common Threads*	Facts on Fat	Unit 2: Interdependence									√					
Common Threads*	Fruits and Vegetables	Unit 1: Inheritance and Variation			√											
Common Threads*	Healthy Hydration	Unit 2: Interdependence									√					
Common Threads*	Nutrition Labels	Unit 2: Interdependence									√					
Common Threads*	Protein	Unit 2: Interdependence									√					
Common Threads*	The Chef's Plate	Unit 2: Interdependence									√					
Common Threads*	Whole Grains	Unit 2: Interdependence									√					
Edible Schoolyard NYC	Harvest Salsa	Unit 2: Interdependence Unit 3: Change Over Time													√	√

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Organization	Lesson	Third Grade Unit(s)	3-PS2-1	3-PS2-2	3-LS1-1	3-LS2-1	3-LS3-1	3-LS3-2	3-LS4-1	3-LS4-2	3-LS4-3	3-LS4-4	3-ESS2-1	3-ESS2-2	3-ESS2-3	3-ESS3-1
FoodCorps	Exploring Our Worm Bin	Unit 2: Interdependence Unit 3: Change Over Time				√					√	√				
FoodCorps	Plant Families	Unit 1: Inheritance and Variation					√	√								
FoodCorps	How Seeds Travel	Unit 1: Inheritance and Variation					√	√								
FoodCorps	That's Life!	Unit 1: Inheritance and Variation			√											
FoodCorps	Worm Bin Wonders	Unit 2: Interdependence									√					
FRESHFARM FoodPrints	Investigating Plant Traits	Unit 1: Inheritance and Variation Unit 2: Interdependence			√	√	√	√								
FRESHFARM FoodPrints	What Makes Healthy Soil	Unit 2: Interdependence Unit 3: Change Over Time									√	√				
Pilot Light	Fish & the Ecosystem: A World Without Fish	Unit 2: Interdependence Unit 3: Change Over Time											√	√	√	√
Pilot Light	Maple Syrup and Climate	Unit 3: Change Over Time										√				
Pilot Light	Meat and Climate Change	Unit 2: Interdependence Unit 3: Change Over Time													√	√
Pilot Light	You Are What You Eat	Unit 2: Interdependence								√	√					
Pilot Light	What A Waste	Unit 1: Inheritance and Variation Unit 2: Interdependence Unit 3: Change Over Time				√									√	√
Pilot Light	Why We Need Seaweed	Unit 2: Interdependence Unit 3: Change Over Time											√	√	√	√
USDA Serving Up MyPlate via NY Common Pantry	The Science of "Sometimes" Foods	Unit 2: Interdependence								√	√					
USDA Serving Up MyPlate via NY Common Pantry	You Be the Chef	Unit 2: Interdependence								√	√					

* To access all lessons created by Common Threads, you will need to create an account and pay a one-time $25 fee. The link provided here goes to the third grade landing page.

Fourth Grade Science Units

Over five units, Fourth Graders will learn about energy and energy transfer related to physical science, mechanical systems and earth science. The students will study light energy and sight, and energy transfer by applying physical science and mechanical systems. Moving into earth sciences, they will also focus on energy, natural resources and the earth's processes to minimize the effects of natural processes on humans.

» Unit 1: Interacting Forces, focuses on light as a means of transferring information. In this unit, students will continue to understand structure and function and how animals use their senses to gather, process and respond to information. They will apply this information to light energy and sight and develop models that supports their understanding of behavior, structure, survival, growth and reproduction.

» Unit 2: Transfer of Energy and Information, gives students the opportunity to take a step further and investigate how energy transfers through matter and can pass on information. In this unit, the students will begin to understand conservation of energy and will design devices that transfer energy from one form to another.

» Unit 3: Energy, Motion and Collisions, builds upon the previous two chapters by examining energy and matter, energy and motion and forces. In this unit students will investigate energy transfer through collisions and understand how the speed and energy of an object work together.

» Unit 4: Changes on the Earth's Surface, focuses on waves and other natural processes as forms of energy that change the earth's surface and landscape over time.

» Unit 5: Impacts of Natural Processes, builds upon Unit 4 by investigating how natural processes affects humans and how human's use of natural resources affects the environment. In this unit, the students will learn about earthquakes, plate tectonics and volcanoes and how they influence life on earth.

Food and Nutrition Connections

Units 1, 2 and 5 provide opportunities for food and nutrition lessons to replace other standardized lessons. As in previous grades, food and nutrition lessons fit well into earth science studies and environmental studies. Teachers can focus on plants that we eat as earth's natural processes are discussed and investigated in class. The use of food for calories as a means of energy is also a great way to help students understand and determine healthy and unhealthy foods.

Linking Food Ed Lessons to Fourth Grade Science Units

The table below provides educators with the tools to excite students about food and nutrition. It matches publicly-available food ed lessons to each of the 10 New York City Fourth Grade science units, with links to the lessons. Note that some organizations such as Common Threads require registration and $25 fee to view their content.

We reviewed all the Performance Expectations for Fourth Grade Science. Below we list those that can be addressed through food education.

» Unit 1: Interacting Forces (9 weeks)

4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-LS1-2. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

» Unit 2: Transfer of Energy and Information (8 weeks)

4-PS3-2. Make observations to provide evidence that energy is conserved as it is transferred and/or converted from one form to another.

4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

4-PS4-3. Generate and compare multiple solutions that use patterns to transfer information.

» Unit 3: Energy, Motion and Collisions (7 weeks)

4-PS3-3. Ask questions and predict outcomes about the changes in energy that occur when objects collide.

» Unit 4: Changes on Earth's Surface (6 weeks)

4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.

4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

» Unit 5: Impacts of Natural Processes (8 weeks)

4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features.

4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

Used with permission from FRESHFARM FoodPrints.

PEs especially appropriate for garden-based activities. May also be used for food and nutrition education more generally.

PEs appropriate for general food and nutrition education.

Food Ed Lessons that Meet Fourth Grade Science Performance Expectations

This matrix serves as a quick and easy way to find food ed lessons pertaining to Fourth Grade sorted by the performance expectation. The notation of the check mark (√) means the lesson can easily replace an existing standardized lesson.

Organization	Lesson	Fourth Grade Unit(s)	4-PS3-2	4-PS3-3	4-PS3-4	4-PS4-3	4-LS1-1	4-LS1-2	4-ESS1-1	4-ESS2-1	4-ESS2-2	4-ESS3-1	4-ESS3-2
Ag in the Classroom	Eggs: Protein MVP	Unit 1: Interacting Forces					√	√					
Ag in the Classroom	Enjoying the Harvest	Unit 1: Interacting Forces					√						
Ag in the Classroom	FOODMASTER Fruits	Unit 2: Transfer of Energy and Information	√										
Ag in the Classroom	FOODMASTER Meat, Poultry & Fish	Unit 1: Interacting Forces					√	√					
Ag in the Classroom	Plant-Soil Interactions	Unit 1: Interacting Forces					√						
Ag in the Classroom	Wad-a-Watershed	Unit 5: Impacts of Natural Processes											√
Common Threads*	Facts on Fat	Unit 1: Interacting Forces					√						
Common Threads*	Healthy Hydration	Unit 1: Interacting Forces					√						
Common Threads*	Nutrition Labels	Unit 1: Interacting Forces					√						
Common Threads*	Protein	Unit 1: Interacting Forces					√						
Common Threads*	The Chef's Plate	Unit 1: Interacting Forces					√						
Common Threads*	Whole Grains	Unit 1: Interacting Forces					√						
FoodCorps	Getting to Know the Garden	Unit 1: Interacting Forces						√					
FRESHFARM FoodPrints	Pollination and Plant Reproduction	Unit 1: Interacting Forces					√						
FRESHFARM FoodPrints	Root Systems and Erosion	Unit 4: Changes on Earth's Surface							√	√			
FRESHFARM FoodPrints	Sprouting Seeds and Growing Clones	Unit 1: Interacting Forces					√						

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Organization	Lesson	Fourth Grade Unit(s)	4-PS3-2	4-PS3-3	4-PS3-4	4-PS4-3	4-LS1-1	4-LS1-2	4-ESS1-1	4-ESS2-1	4-ESS2-2	4-ESS3-1	4-ESS3-2
Pilot Light	Bread	Unit 2: Transfer of Energy and Information	√										
Pilot Light	Fish and the Ecosystem: A World Without Fish	Unit 1: Interacting Forces					√						
USDA Serving Up MyPlate via NY Common Pantry	The Science of "Sometimes" Foods	Unit 1: Interacting Forces						√					
USDA Serving Up MyPlate via NY Common Pantry	You Be the Chef	Unit 1: Interacting Forces						√					

* To access all lessons created by Common Threads, you will need to create an account and pay a one-time $25 fee. The link provided here goes to the fourth grade landing page.

Fifth Grade Science Units

Over four units, Fifth Graders are exposed to life, earth and space sciences. Specifically, students describe and model matter, the flow of energy, interactions within the earth's systems and investigate the solar system.

» **Unit 1: Physical and Chemical Changes**, introduces students to the particle nature of matter and the conservation of matter regardless of physical or chemical changes. Students will experiment with the mixing of substances and the changes that occur thereafter.

» **Unit 2: Matter and Energy in Ecosystems**, focuses on sunlight as energy for plants and food. In this unit, students will understand how matter and energy transfer throughout the ecosystem and the food cycle (i.e., producers to consumers and back to the environment).

» **Unit 3: Earth Systems Science**, builds upon the previous units and introduces students to the geosphere, hydrosphere, biosphere, and atmosphere. In this unit the students will learn about gravitational pull. Additionally, students will learn how science is used to protect the environment.

» **Unit 4: Stars and the Solar System**, introduces students to the earth's position in the universe and position relative to the sun. In this unit the students will observe changes in shadows and light and stars in the night sky.

Food and Nutrition Connections

Each unit has opportunities for food ed to reinforce or replace a science lesson. Unit 2 is perfectly ripe for food and nutrition lessons as many students do not know where their food comes from, nor how it is produced. This unit provides the perfect opportunity for teachers to introduce students to the food system starting with energy from the sun to produce food. Investigations into how food gets to the grocery store and the energy food provides humans can be included in science lessons as well.

Linking Food Ed Lessons to Fifth Grade Science Units

The table below provides educators with the tools to excite students about food and nutrition. It matches publicly-available food ed lessons to each of the 10 New York City Fifth Grade science units, with links to the lessons. Note that some organizations such as Common Threads require registration and $25 fee to view their content.

Used with permission from Pilot Light.

We reviewed all the Performance Expectations for Fifth Grade Science. Below we list those that can be addressed through food education.

» Unit 1: Physical and Chemical Changes (9 weeks)

- 5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances the total amount of water is conserved.
- 5-PS1-3. Make observations and measurements to identify materials based on their properties.
- 5-PS1-4. Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

» Unit 2: Matter and Energy in Ecosystems (9 weeks)

- 5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.
- 5-LS2-1. Develop a model to describe the movement of matter among plants (producers), animals (consumers), decomposers, and the environment.
- 5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

Used with permission from FoodCorps.

» Unit 3: Earth Systems Science (9 weeks)

- 5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
- 5-ESS2-2. Describe and graph the amounts of saltwater and fresh water in various reservoirs to provide evidence about the distribution of water on earth.
- 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect earth's resources and environment.
- 5-PS2-1. Support an argument that the gravitational force exerted by earth on objects is directed down.

» Unit 4: Stars and the Solar System (9 weeks)

- 5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from earth.
- 5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

PEs especially appropriate for garden-based activities. May also be used for food and nutrition education more generally.

PEs appropriate for general food and nutrition education.

Food Ed Lessons that Meet Fifth Grade Science Performance Expectations

This matrix serves as a quick and easy way to find food ed lessons pertaining to Fifth Grade sorted by the performance expectation. The notation of the check mark (√) means the lesson can easily replace an existing standardized lesson.

Organization	Lesson	Fifth Grade Unit(s)	5-PS1-2	5-PS1-3	5-PS1-4	5-PS2-1	5-PS3-1	5-LS1-1	5-LS2-1	5-ESS1-1	5-ESS1-2	5-ESS2-1	5-ESS2-2	5-ESS3-1
Ag in the Classroom	Corn an A-maizing Plant: Food, Fuel, and Plastic	Unit 3: Earth Systems Science												√
Ag in the Classroom	Desktop Greenhouses	Unit 2: Matter and Energy in Ecosystems					√	√	√					
Ag in the Classroom	Exploring Aquaponics	Unit 2: Matter and Energy in Ecosystems					√	√	√					
Ag in the Classroom	FOODMASTER Fats & Oils	Unit 2: Matter and Energy in Ecosystems					√							
Ag in the Classroom	FOODMASTER Fruit	Unit 2: Matter and Energy in Ecosystems							√					
Ag in the Classroom	FOODMASTER Measurement	Unit 1: Physical and Chemical Changes	√	√	√									
Ag in the Classroom	FOODMASTER Milk and Cheese	Unit 1: Physical and Chemical Changes	√	√	√									
Ag in the Classroom	FOODMASTER Vegetables	Unit 1: Physical and Chemical Changes	√	√	√									
Ag in the Classroom	Test Tube Hydroponics	Unit 2: Matter and Energy in Ecosystems					√	√	√					
Ag in the Classroom	The Rotten Truth	Unit 2: Matter and Energy in Ecosystems						√	√					
Ag in the Classroom	Wad-a-Watershed Activity	Unit 3: Earth Systems Science											√	√
Ag in the Classroom	Working Worms	Unit 2: Matter and Energy in Ecosystems						√	√					

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Organization	Lesson	Fifth Grade Unit(s)	5-PS1-2	5-PS1-3	5-PS1-4	5-PS2-1	5-PS3-1	5-LS1-1	5-LS2-1	5-ESS1-1	5-ESS1-2	5-ESS2-1	5-ESS2-2	5-ESS3-1
Common Threads*	Make It Count	Unit 2: Matter and Energy in Ecosystems					√							
Common Threads*	Nutrition Label	Unit 2: Matter and Energy in Ecosystems						√						
Common Threads*	Protein	Unit 2: Matter and Energy in Ecosystems						√						
Common Threads*	The Chef's Plate	Unit 2: Matter and Energy in Ecosystems						√						
Common Threads*	Whole Grains	Unit 2: Matter and Energy in Ecosystems						√						
FoodCorps	Break It Down	Unit 2: Matter and Energy in Ecosystems							√					
FoodCorps	Cycle of a Nutrient	Unit 2: Matter and Energy in Ecosystems							√					
FoodCorps	Putting the Garden to Bed	Unit 2: Matter and Energy in Ecosystems							√					
FoodCorps	Rotting Away, Day by Day	Unit 2: Matter and Energy in Ecosystems							√					
FoodCorps	Web of Life	Unit 2: Matter and Energy in Ecosystems					√		√					
FoodCorps	What Do Plants Eat?	Unit 2: Matter and Energy in Ecosystems						√						
FoodCorps	World Travels of Food	Unit 3: Earth Systems Science												√
FRESHFARM FoodPrints	Food Chains	Unit 2: Matter and Energy in Ecosystems					√		√					

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Organization	Lesson	Fifth Grade Unit(s)	5-PS1-2	5-PS1-3	5-PS1-4	5-PS2-1	5-PS3-1	5-LS1-1	5-LS2-1	5-ESS1-1	5-ESS1-2	5-ESS2-1	5-ESS2-2	5-ESS3-1
Pilot Light	Astronomy – Out of this World Food	Unit 4: Stars and the Solar System								√	√			
Pilot Light	Bread	Unit 1: Physical and Chemical Changes	√	√	√									
Pilot Light	Fish and the Ecosystem- A World Without Fish	Unit 3: Earth Systems Science											√	
Pilot Light	Meat & Climate Change	Unit 3: Earth Systems Science												√
Pilot Light	The Green in Me	Unit 1: Physical and Chemical Changes	√	√	√									
Pilot Light	Unusual Food Options	Unit 3: Earth Systems Science												√
Pilot Light	What a Waste	Unit 2: Matter and Energy in Ecosystems							√					
Pilot Light	Why We Need Seaweed	Unit 3: Earth Systems Science											√	√
Tisch Food Center, Center for Science in the Public Interest	Food Day Lesson: Mostly Plants	Unit 2: Matter and Energy in Ecosystems							√					

* To access all lessons created by Common Threads, you will need to create an account and pay a one-time $25 fee. The link provided here goes to the fifth grade landing page.

Sixth Grade Science Units

Over five units, Sixth Graders will gain a basic understanding of energy transfer and transformation. The students will understand that all living and non-living matter is made of energy. They will investigate electric circuits, magnetism, energy in ecosystems and its relationship with the environment. The students will engage in designing projects that affect energy transfer, maintain environmental stability and/or decrease the effects of catastrophic events. The sixth-grade study of ecosystems offer students the opportunity to understand how all living things are connected by energy and how nonliving things effect the flow of energy.

» **Unit 1: Electricity and Magnetism**, focuses on magnetic forces and electric forces that are not necessarily observable. Additionally, the students will develop a greater understanding of scale, proportion, quantity, system models, energy and matter, stability and change.

» **Unit 2: Engineering and Energy Transformations**, introduces students to the concept of insulation to minimize heat loss. In this unit, the students will design and build solutions to keeping themselves or food warm in the winter and cool in the summer.

» **Unit 3: Ecosystems**, aims to have the students evaluating the best solutions for preserving biodiversity. They will construct arguments about how matter and energy cycle through living and non-living ecosystems.

» **Unit 4: Investigating Weather and Climate**, provides the opportunity for students to apply their knowledge about energy and matter to weather and climate. In this unit, the students will develop a deeper understanding of weather phenomena and how it pertains to climate change.

» **Unit 5: Human Impact on Earth's Climate**, builds upon the previous units by offering students the opportunity to reflect on climate change and propose ideas that may reverse some of its sources. In this unit, the students will look at historic global weather patterns and design methods for reversing human impact on the increasing climate.

Food and Nutrition Connections

Food ed lessons meet Sixth Grade performance expectations in units two through five. The performance expectations in unit 5 are particularly open to food ed. Similar to the units found in Fifth Grade science, Unit 5 for Sixth Grade is greatly applicable to lessons that showcase how climate change effects our food system and the food we eat.

Linking Food Ed Lessons to Sixth Grade Science Units

The table below provides educators with the tools to excite students about food and nutrition. It matches publicly-available food ed lessons to each of the 10 New York City Sixth Grade science units, with links to the lessons. Note that some organizations such as Common Threads require registration and $25 fee to view their content.

Used with permission from Common Threads

SIXTH GRADE

PERFORMANCE EXPECTATIONS RELEVANT TO FOOD ED

We reviewed all the Performance Expectations for Sixth Grade Science. Below we list those that can be addressed through food education.

» Unit 1: Electricity and Magnetism (6 weeks)

MS-PS2-5. Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.

» Unit 2: Engineering and Energy Transformations (8 weeks)

MS-PS1-6. Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy during a chemical and/or physical process.

MS-PS3-3. Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.

MS-PS3-4. Plan and conduct an investigation to determine the relationships among the energy transferred, the type of matter, the mass and the change in the temperature of the sample of matter.

» Unit 3: Ecosystems (9 weeks)

MS-LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms in a variety of ecosystems.

MS-LS2-3. Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

MS-LS2-5. Evaluate competing design solutions for maintaining biodiversity and protecting ecosystem stability.

» Unit 4: Investigating Weather and Climate (8 weeks)

MS-ESS2-4. Develop a model to describe the cycling of water through earth's systems driving by energy from the sun and the force of gravity.

MS-ESS2-5. Collect data to provide evidence for how motions and complex interactions of air masses results in changes in weather conditions.

MS-ESS2-6. Develop and use a model to describe how unequal heating and rotation of earth cause patterns of atmospheric and oceanic circulation that determine regional climates.

MS-PS1-7. Use evidence to illustrate that density is a property that can be used to identify samples of matter.

» Unit 5: Human Impact on Earth's Climate (5 weeks)

MS-ESS3-2. Analyze and interpret data on natural hazards to forecast future catastrophic event and inform the development of technologies to mitigate their effects.

MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

MS-ESS3-5. Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

PEs especially appropriate for garden-based activities. May also be used for food and nutrition education more generally.

PEs appropriate for general food and nutrition education.

Food Ed Lessons that Meet Sixth Grade Science Performance Expectations

This matrix serves as a quick and easy way to find food ed lessons pertaining to Sixth Grade sorted by the performance expectation. The notation of the check mark (√) means the lesson can easily replace an existing standardized lesson.

Organization	Lesson	Sixth Grade Unit(s)	MS-PS1-6	MS-PS1-7	MS-PS2-5	MS-PS3-3	MS-PS3-4	MS-LS2-1	MS-LS2-2	MS-LS2-3	MS-LS2-4	MS-LS2-5	MS-ESS2-4	MS-ESS2-5	MS-ESS2-6	MS-ESS3-2	MS-ESS3-3	MS-ESS3-5
Ag in the Classroom	Can We Have Too Much of a Good Thing	Unit 3: Ecosystems						√		√	√							
Ag in the Classroom	Corn an A-maizing Plant: Food, Fuel, and Plastic	Unit 5: Human Impact on Earth's Climate															√	
Ag in the Classroom	Desktop Greenhouses	Unit 2: Engineering and Energy Transformations	√			√	√											
Ag in the Classroom	It's a Dirty Job	Unit 3: Ecosystems						√	√									
Ag in the Classroom	Flower Power	Unit 3: Ecosystems						√	√	√								
Ag in the Classroom	Food Systems Feed the World	Unit 3: Ecosystems						√										
Ag in the Classroom	Hungry Pests	Unit 3: Ecosystems						√	√									
Ag in the Classroom	Journey 2050: Land Use	Unit 3: Ecosystems						√										
Ag in the Classroom	Good Guys or Bad Guys?	Unit 3: Ecosystems						√	√	√								
Ag in the Classroom	More Than One Grain of Rice	Unit 5: Human Impact on Earth's Climate														√		
Ag in the Classroom	What's the Difference? A Look at Organic and Conventional Foods	Unit 5: Human Impact on Earth's Climate															√	√
Ag in the Classroom	Watersheds, Soil Profiles, and Erosion	Unit 5: Human Impact on Earth's Climate															√	
Common Threads*	Facts on Fat	Unit 5: Human Impact on Earth's Climate															√	
Common Threads*	Healthy Hydration	Unit 5: Human Impact on Earth's Climate															√	

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Organization	Lesson	Sixth Grade Unit(s)	MS-PS1-6	MS-PS1-7	MS-PS2-5	MS-PS3-3	MS-PS3-4	MS-LS2-1	MS-LS2-2	MS-LS2-3	MS-LS2-4	MS-LS2-5	MS-ESS2-4	MS-ESS2-5	MS-ESS2-6	MS-ESS3-2	MS-ESS3-3	MS-ESS3-5
Common Threads*	Make It Count	Unit 3: Ecosystems Unit 5: Human Impact on Earth's Climate										√					√	
Common Threads*	Whole Grains	Unit 3: Ecosystems										√						
Edible Schoolyard NYC	Compost Lab	Unit 3: Ecosystems								√		√						
Edible Schoolyard NYC	Greenhouse Lab	Unit 2: Engineering and Energy Transformations Unit 5: Human Impact on Earth's Climate					√											√
Pilot Light	Meat and Climate Change	Unit 5: Human Impact on Earth's Climate															√	√
Pilot Light	Seasonality: Everything in Its own time	Unit 4: Investigating Weather and Climate													√			
Pilot light	Unusual Food Options	Unit 5: Human Impact on Earth's Climate															√	√
Pilot Light	Why We Need Seaweed	Unit 3: Ecosystems						√	√	√	√							
Recycling Champions	Collecting Cafeteria Data	Unit 5: Human Impact on Earth's Climate															√	
Tisch Food Center, Center for Science in the Public Interest	Food Day Lesson: Eat Real	Unit 5: Human Impact on Earth's Climate															√	
Zero Waste Schools and DOE Office of Sustainability	Waste Deep	Unit 5: Human Impact on Earth's Climate															√	

* To access all lessons created by Common Threads, you will need to create an account and pay a one-time $25 fee. The link provided here goes to the sixth grade landing page.

Seventh Grade Science Units

Over five units within the physical sciences, life sciences and earth systems sciences, Seventh Graders continue to learn scale, proportion and quantity as a means of making sense of space and time. The students will study matter at the atomic level and the cellular level. The students will also continue to study the history of the earth, the earth's surface and changes over time.

» **Unit 1: Structure and Properties of Matter**, allows students the opportunity to observe the properties of matter and how it can change, using density as a tool to discover unknown substances.

» **Unit 2: Changing Properties of Matter**, engages students in the properties of matter and how they can change when combined. In this unit, the students will continue to learn about conservation of energy at the atomic level and chemical changes at the cellular level by studying photosynthesis and cellular respiration.

» **Unit 3: Structures of Life**, focuses on cells as the structure for all living things and their internal organelles that provide functionality for cells. In this unit, students will learn how organisms maintain homeostasis and respond to internal and external environmental changes.

» **Unit 4: Geology**, seeks to help students explain the geologic processes that helped design and transform the earth over its 4.6-billion-year history. In this unit, the students will investigate the energy flow that impacted and transformed the earth and its materials. The students will be able to make predictions about future catastrophic events such as earthquakes.

» **Unit 5: Minimizing Human Impact Through Engineering Design**, introduces the students to our growing populations' affects the earth's systems, and human exploitation of the natural resources found on the planet. This unit will pinpoint the idea that change is inevitable.

Food and Nutrition Connections

Food and nutrition lessons can be applicable to Seventh Grade performance expectations found across all five units. Units 3 and 5 are greatly applicable to food and nutrition in particular. In Unit 3, teachers can showcase the structures and cells in fruits and vegetables to make healthy foods prevalent in the classroom. Connections can be made to the lunch served in the cafeteria. Unit 5 can include a variety of lessons based on human impact in the earth and the food system.

Linking Food Ed Lessons to Seventh Grade Science Units

The table below provides educators with the tools to excite students about food and nutrition. It matches publicly-available food ed lessons to each of the 10 New York City Seventh Grade science units, with links to the lessons. Note that some organizations such as Common Threads require registration and $25 fee to view their content.

Used with permission from FRESHFARM FoodPrints.

We reviewed all the Performance Expectations for Seventh Grade Science. Below we list those that can be addressed through food education.

» Unit 1: Structure and Properties of Matter (8 weeks)


MS-PS1-1. Develop models to describe the atomic composition of simple molecules and extended structures.


MS-PS1-4. Develop a model that predicts and describes changes in particle motion, temperature, and phase (state) of a substance when thermal energy is added or removed.


MS-PS1-6. Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.


MS-PS1-7. Use evidence to illustrate that density is a property that can be used to identify samples of matter.


MS-PS1-8. Plan and conduct an investigation to demonstrate that mixtures are combinations of substances.

» Unit 2: Changing Properties of Matter (10 weeks)


MS-LS1-6. Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.


MS-LS1-7. Develop a model to describe how food is rearranged through chemical reactions to release energy during cellular respiration and/or forming new molecules that support growth and/or release energy as this matter moves through an organism.


MS-PS1-2. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.


MS-PS1-3. Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.


MS-PS1-5. Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.

» Unit 3: Structures of Life (6 weeks)


MS-LS1-1. Plan and conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.


MS-LS1-2. Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.


MS-LS1-8. Gather and synthesize information that sensory receptors respond to stimuli, resulting in immediate behavior and/or storage as memories.

» Unit 4: Geology (7 weeks)


MS-ESS2-1. Develop a model to describe the cycling of earth's materials and the flow of energy that drives this process.


PEs especially appropriate for garden-based activities. May also be used for food and nutrition education more generally.


PEs appropriate for general food and nutrition education.

» Unit 5: Minimizing Human Impact Through Engineering Design (5 weeks)

- MS-ESS3-1. Construct a scientific explanation based on evidence for how the uneven distributions of earth's mineral, energy, and groundwater resources are the result of past and current geologic processes.
- MS-ESS3-2. Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.
- MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.
- MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact earth's systems.

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Used with permission from Edible Schoolyard NYC. Photographer Jen Harris.

PEs especially appropriate for garden-based activities. May also be used for food and nutrition education more generally.

PEs appropriate for general food and nutrition education.

Food Ed Lessons that Meet Seventh Grade Science Performance Expectations

This matrix serves as a quick and easy way to find food ed lessons pertaining to Seventh Grade sorted by the performance expectation. The notation of the check mark (√) means the lesson can easily replace an existing standardized lesson.

Organization	Lesson	Seventh Grade Unit(s)	MS-PS1-1	MS-PS1-2	MS-PS1-3	MS-PS1-4	MS-PS1-5	MS-PS1-6	MS-PS1-7	MS-PS1-8	MS-LS1-1	MS-LS1-2	MS-LS1-3	MS-LS1-6	MS-LS1-7	MS-LS1-8	MS-ESS1-4	MS-ESS2-1	MS-ESS3-3	MS-ESS3-4
Ag in the Classroom	DNA Expressions in Agriculture	Unit 3: Structures of Life									√									
Ag in the Classroom	FOODMASTER Middle: Cheese	Unit 2: Changing Properties of Matter			√															
Ag in the Classroom	FOODMASTER: Fats & Oils	Unit 1: Structure and Properties of Matter Unit 2: Changing Properties of Matter	√	√	√	√	√	√	√											
Ag in the Classroom	Fungi Multiplication	Unit 2: Changing Properties of Matter		√																
Ag in the Classroom	Journey 2050: Intro to Sustainable Agriculture	Unit 5: Minimizing Human Impact Through Engineering Design																	√	
Ag in the Classroom	Journey 2050: Land Use	Unit 4: Geology																√		
Ag in the Classroom	The Right Solution	Unit 1: Structure and Properties of Matter								√										
Ag in the Classroom	What's the Difference? A Look at Organic and Conventional Foods	Unit 5: Minimizing Human Impact Through Engineering Design																		√
Ag in the Classroom	Good Guys or Bad Guys?	Unit 3: Structures of Life									√									
Ag in the Classroom	FOODMASTER Middle: Vegetables	Unit 1: Structure and Properties of Matter								√										
Common Threads*	Facts on Fat	Unit 2: Changing Properties of Matter Unit 5: Minimizing Human Impact Through Engineering Design													√				√	√
Common Threads*	Fruits and Vegetables	Unit 3: Structures of Life										√								
Common Threads*	Healthy Hydration	Unit 2: Changing Properties of Matter Unit 3: Structures of Life												√		√				

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Organization	Lesson	Seventh Grade Unit(s)	MS-PS1-1	MS-PS1-2	MS-PS1-3	MS-PS1-4	MS-PS1-5	MS-PS1-6	MS-PS1-7	MS-PS1-8	MS-LS1-1	MS-LS1-2	MS-LS1-3	MS-LS1-6	MS-LS1-7	MS-LS1-8	MS-ESS1-4	MS-ESS2-1	MS-ESS3-3	MS-ESS3-4
Common Threads*	Make It Count	Unit 5: Minimizing Human Impact Through Engineering Design																	√	√
Common Threads*	Protein	Unit 2: Changing Properties of Matter												√						
Common Threads*	The Chef's Plate	Unit 5: Minimizing Human Impact Through Engineering Design																		√
Common Threads*	Whole Grains	Unit 3: Structures of Life														√				
Pilot Light	Fish and the Ecosystem: A World Without Fish	Unit 5: Minimizing Human Impact Through Engineering Design																		√
Pilot Light	Salad: Solutions & Mixtures	Unit 1: Structure and Properties of Matter Unit 2: Changing Properties of Matter	√	√	√	√				√										
Recycling Champions	Collecting Cafeteria Data	Unit 5: Minimizing Human Impact Through Engineering Design																	√	
Tisch Food Center, Center for Science in the Public Interest	Food Day Lesson: Eat Real	Unit 5: Minimizing Human Impact Through Engineering Design																	√	
Zero Waste Schools and DOE Office of Sustainability	Waste Deep	Unit 5: Minimizing Human Impact Through Engineering Design																	√	

* To access all lessons created by Common Threads, you will need to create an account and pay a one-time $25 fee. The link provided here goes to the seventh grade landing page.

Eighth Grade Science Units

Over five units, Eighth Graders focus on stability and change across the physical sciences, life sciences and earth systems sciences. The students will observe changes in the motion of objects after forces are exerted. They will also observe the predictable patterns and gravitational pull within the solar system. They will understand how homeostasis is required for organisms to find habitats and nutrients needed for survival. The students will learn about DNA sequencing and how the genetic code ensures life on this planet. Lastly, the students will learn about technology and will design new, or modify existing devices that will benefit communities in need.

» Unit 1: Energy, Forces and Motion, enforces and strengthens the students understanding of Newton's Laws. In this unit, the students will apply this knowledge to real-world situations.

» Unit 2: Earth's Place in the Universe, enhances the students' knowledge of gravitational pull and how it affects the rotation of the planets in our solar system. In this unit, the students will gain insight into lunar patterns, eclipses and seasons.

» Unit 3: Growth, Development and Reproduction of Organisms, introduces genetics. The students will review cell structure, reproduction and inheritance. In this unit the students will understand that genetics influences the growth of organisms and the influences can be both positive and negative.

» Unit 4: Evolution, Natural Selection and Adaptations, offers students the opportunity to further explore genetics as a change agent for species throughout time. To infer evolutionary connections, the students will compare fossilized organisms and modern organisms. In this unit, they will understand that genetic variation is necessary for the survival and reproducibility of species and how natural selection leads to changes in traits over time.

» Unit 5: Evolution of Technology in Science, focuses on improvements in technology over time. In this unit the students will learn about technological advances in genetics and electromagnetic radiation.

Food and Nutrition Connections

Food and nutrition lessons can fit into the performance expectations in units 3 through 5 for Eighth Grade. There are food and nutrition lessons that experiment with DNA in fruits and vegetables and whole grains. There are also lessons that investigate technological advances in our food system and can inspire students to create better models and designs for technologies that will improve the way food is produced.

Linking Food Ed Lessons to Eighth Grade Science Units

The table below provides educators with the tools to excite students about food and nutrition. It matches publicly-available food ed lessons to each of the 10 New York City Eight Grade science units, with links to the lessons. Note that some organizations such as Common Threads require registration and $25 fee to view their content.

Used with permission from Green Bronx Machine.

We reviewed all the Performance Expectations for Eighth Grade Science. Below we list those that can be addressed through food education.

» Unit 1: Energy, Forces and Motion (8 weeks)

MS-PS3-5: Construct, use, and present an argument to support the claim that when work is done on or by a system, the energy of the system changes as energy is transferred to or from the system.

» Unit 2: Earth's Place in the Universe (6 weeks)

MS-PS2-4: Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects and the distance between them.

» Unit 3: Growth, Development and Reproduction of Organisms (6 weeks)

MS-LS1-4: Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants, respectively.

MS-LS1-5: Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

MS-LS3-1: Develop and use a model to explain structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.

MS-LS3-2: Develop and use a model to describe how asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.

» Unit 4: Evolution, Natural Selection and Adaptations (8 weeks)

MS-LS4-1: Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and changes of life forms throughout the history of life on earth under the assumption that natural laws operate today as in the past.

MS-LS4-2: Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between model and fossil organisms to infer evolutionary relationships.

» Unit 5: Evolution of Technology in Science (8 weeks)

MS-LS4-4: Construct an explanation based on evidence that describes how genetic variations of traits in a population increase individuals' probability of surviving and reproducing in a specific environment.

MS-LS4-5: Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.

MS-LS4-6: Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.

MS-PS4-3: Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.

PEs especially appropriate for garden-based activities. May also be used for food and nutrition education more generally.

PEs appropriate for general food and nutrition education.

Food Ed Lessons that Meet Eighth Grade Science Performance Expectations

This matrix serves as a quick and easy way to find food ed lessons pertaining to Eighth Grade sorted by the performance expectation. The notation of the check mark (√) means the lesson can easily replace an existing standardized lesson.

Organization	Lesson	Eighth Grade Unit(s)	MS-PS4-3	MS-LS1-4	MS-LS1-5	MS-LS3-1	MS-LS3-2	MS-LS4-1	MS-LS4-2	MS-LS4-4	MS-LS4-5	MS-LS4-6
Ag in the Classroom	DNA Expression In Agriculture	Unit 3: Growth, Development and Reproduction of Organisms Unit 5: Evolution of Technology in Science				√					√	
Ag in the Classroom	Food, Farming, and Heredity A Recipe for Genetics: Selective Breeding and Transgenics	Unit 5: Evolution of Technology in Science									√	
Ag in the Classroom	Inherited Traits in the Living Corn Necklace	Unit 5: Evolution of Technology in Science								√		
Ag in the Classroom	More Than One Grain of Rice	Unit 5: Evolution of Technology in Science								√		
Ag in the Classroom	Mystery Juice	Unit 3: Growth, Development and Reproduction of Organisms			√							
Ag in the Classroom	Outbreak Alert: Shigella	Unit 3: Growth, Development and Reproduction of Organisms			√							
Ag in the Classroom	Plant Propagation	Unit 3: Growth, Development and Reproduction of Organisms		√	√		√					
Ag in the Classroom	The Geography of Thanksgiving Dinner	Unit 5: Evolution of Technology in Science									√	
Ag in the Classroom	Ultra High Pressure Treatment	Unit 3: Growth, Development and Reproduction of Organisms				√						
Ag in the Classroom	Good Guys or Bad Guys?	Unit 3: Growth, Development and Reproduction of Organisms			√		√					
Ag in the Classroom	Crop Case Files: Dichotomous Keys	Unit 5: Evolution of Technology in Science								√		√

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Organization	Lesson	Eighth Grade Unit(s)	MS-PS4-3	MS-LS1-4	MS-LS1-5	MS-LS3-1	MS-LS3-2	MS-LS4-1	MS-LS4-2	MS-LS4-4	MS-LS4-5	MS-LS4-6
Common Threads*	Fruits & Vegetables	Unit 3: Growth, Development and Reproduction of Organisms		√	√							
Common Threads*	Make It Count	Unit 3: Growth, Development and Reproduction of Organisms			√							
Common Threads*	Nutrition Labels	Unit 3: Growth, Development and Reproduction of Organisms		√	√							
Common Threads*	Protein	Unit 3: Growth, Development and Reproduction of Organisms		√	√							
Common Threads*	Whole Grains	Unit 3: Growth, Development and Reproduction of Organisms		√	√							
Edible Schoolyard NYC	Soil pH as an environmental factor	Unit 3: Growth, Development and Reproduction of Organisms			√							
Pilot Light	Angles of Honey Bees	Unit 5: Evolution of Technology in Science	√									

* To access all lessons created by Common Threads, you will need to create an account and pay a one-time $25 fee. The link provided here goes to the eighth grade landing page.

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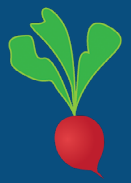

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