

Teaching Hands-On Lessons

As outlined in the *Service Member Handbook*, every FoodCorps Food Education service member is required to teach or co-teach ten or more hours of ongoing, high-quality, hands-on lessons to a minimum of eighty students. Each service member will develop a Service Member Action Plan that outlines how they will reach this goal.

This section of the guide has been developed for service members as an overview of topics that FoodCorps believes are important to understand while leading hands-on nutrition education lessons and specially-developed FoodCorps Lessons with students. Please use this guide as a quick reference on those topics, and note the recommended resources included in it. Our goal is to outline broad tips and information on each topic and point you to additional resources, so you can learn more.

You may notice there are topics relevant to your service that are not covered in this guide. FoodCorps intends to expand this guide as we continue to refine our programming and learn about the type of support and resources that are most useful to service members. Additionally, be sure to explore the FoodCorps Toolshed, and connect with your service site supervisor along with other service members and people in your school and community to learn more about each topic. As you review this material, it may be helpful to bookmark pages that you find particularly helpful for future reference. We look forward to hearing your feedback on this resource in the coming year.

FoodCorps Lessons

FoodCorps has developed a series of hands-on lessons that we encourage service members to use with their ongoing classes. FoodCorps staff, alumni, and trainers collaboratively developed and wrote these lessons. They are organized by grade level and season (fall, winter, spring). Although service members are not required to use the FoodCorps Lessons to meet the hands-on lessons requirement (some of our sites and schools already have curriculum they prefer to use), we encourage you to reference these lessons often, and use them when possible. You will find all the FoodCorps Lessons in the FoodCorps Lesson Book and on the Toolshed. The FoodCorps Lesson Book also includes an overview of the FoodCorps Lessons learning progression and themes, along with charts to help you identify lessons based on grade, theme, season, and topic. Please also reference the Sprout Scouts Handbook on the Toolshed for garden-based activities and ideas for running a comprehensive after-school club with students.

Lesson Structure

After you review the FoodCorps Lessons Book, you'll notice that each FoodCorps Lesson is structured the same way. Please review the framework below that shows what to keep in mind as you choose, adapt, or develop the lessons you lead with students.

FOODCORPS LESSON STRUCTURE

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Grade and Season: Lessons are designed for grades K–5 to be taught during fall, winter, or spring; however, many lessons can be adapted for any season.

FoodCorps Theme: Lessons are tied to one of FoodCorps' six themes. Themes are either knowledge- and concept-focused or skill-building focused. (See the FoodCorps themes in the FoodCorps Lesson Book)

Essential Question: A thought provoking open-ended question. This “big idea” provides the grounding framework for the lesson (see more below).

Learning Objective: This gives an overview of the lesson, including concepts and skills the students will learn.

Lesson Time: Each step in the lesson has an estimated time. The total time is listed at the top.

Materials: This is a list of materials needed to lead the lesson, including any cooking ingredients.

Preparation: This includes all steps required to prepare for the lesson. It is important to review early because some preparation may need to happen several days prior to leading the lesson.

Action Steps: This section follows the “5 Es” structure: Engage, Explore, Explain, Elaborate, and Evaluate. It includes a breakdown of time needed for each step.

Reflection: These are questions to discuss with your students to promote reflection. They include process and content questions. Reflection is included in the total time for the lesson.

Adaptations: These are ideas for adapting the lesson to take place outdoors or during a longer class period. Note that adaptations may require additional materials not previously listed in the lesson.

Academic Connections: If there is a connection to a Common Core State Standard or Next Generation Science Standard, it will be listed here.

You will also notice that many lessons have some portion written in italics. The words in italics are ideas for what you might say to your students when you lead the activity. Say things in your own words, and make these lessons your own!

Essential Questions

All FoodCorps lessons are linked to an “essential question.” Essential questions are a central part of the Understanding by Design

curriculum planning process that authors Jay McTighe and Grant Wiggins championed. This approach to education focuses on identifying big ideas we want students to understand, then building lessons that help students move toward greater understanding over time. Essential questions are open-ended; that is, they typically will not have a single, final, correct answer, and students can examine them at increasing depth over multiple years of schooling. According to McTighe and Wiggins, an

effective essential question does the following:

- Is thought-provoking and intellectually engaging, often sparking discussion and debate
- Calls for higher-order thinking, such as analysis, inference, evaluation, or prediction; cannot be effectively answered by recall alone
- Points toward important, transferable ideas within (and sometimes across) disciplines
- Raises additional questions and sparks further inquiry
- Requires support and justification, not just an answer
- Recurs over time; that is, the question can and should be revisited again and again

With the FoodCorps Lessons, you can use the essential questions to provide a grounding framework to guide student learning toward an understanding of key concepts about food and nutrition. Each lesson is designed to support students in exploring and discovering answers to the guiding essential question. Please consider how the essential question tied to each lesson provides a springboard for the rest of the lesson and how you might leverage this approach to your teaching; for example, by reinforcing key concepts and considering how other lessons you teach tie to these essential questions.

Recommended Resource

- *Understanding by Design Framework* of Jay McTighe and Grant Wiggins and the Association for Supervision and Curriculum Development (ASCD)

School Curriculum and Academic Connections

It is important to learn about the activities and content that teachers and school staff cover in the classroom and in before- and after-school programming. This will help

inform how you can best integrate your FoodCorps goals of teaching food-, nutrition-, and garden-focused topics. Although there are national and state standards that drive curriculum (see more below), specific academic priorities and strategies are typically set at the state level and district level.

When working with classroom teachers, ask them to share their scope and sequence for the curricula they're using, and seek their input on how you might reinforce learning through the FoodCorps lessons. Many schools have curricula specialists. These are great people to have a meeting with to share more about your service and express your desire to help support student learning. Ask them for their advice on what areas you should consider exploring for lesson integration.

Learn about the instructional priorities of the schools you serve by asking questions:

- What academic standards does the school follow?
- What curricula are teachers required to use?
- How are students evaluated on their academic progress?
- Are there special programs that teachers are implementing?
- Are there any before- or after-school programs? What kinds of activities are involved?
- Are there any schoolwide initiatives to promote student learning, attendance, or positive behavior?

Your ability to gain access to class time, earn the trust of teachers and administrators, and deliver value to the school community will depend heavily on your ability to help schools and school leaders deliver on their own goals, while delivering on your own.

Common Core and Next Generation Science Standards

What are Academic Standards?

Every public school is guided by a curriculum framework or set of learning standards. Standards provide guidance about what students should know and be able to do by certain grades and are used to guide the work of teachers and administrators.

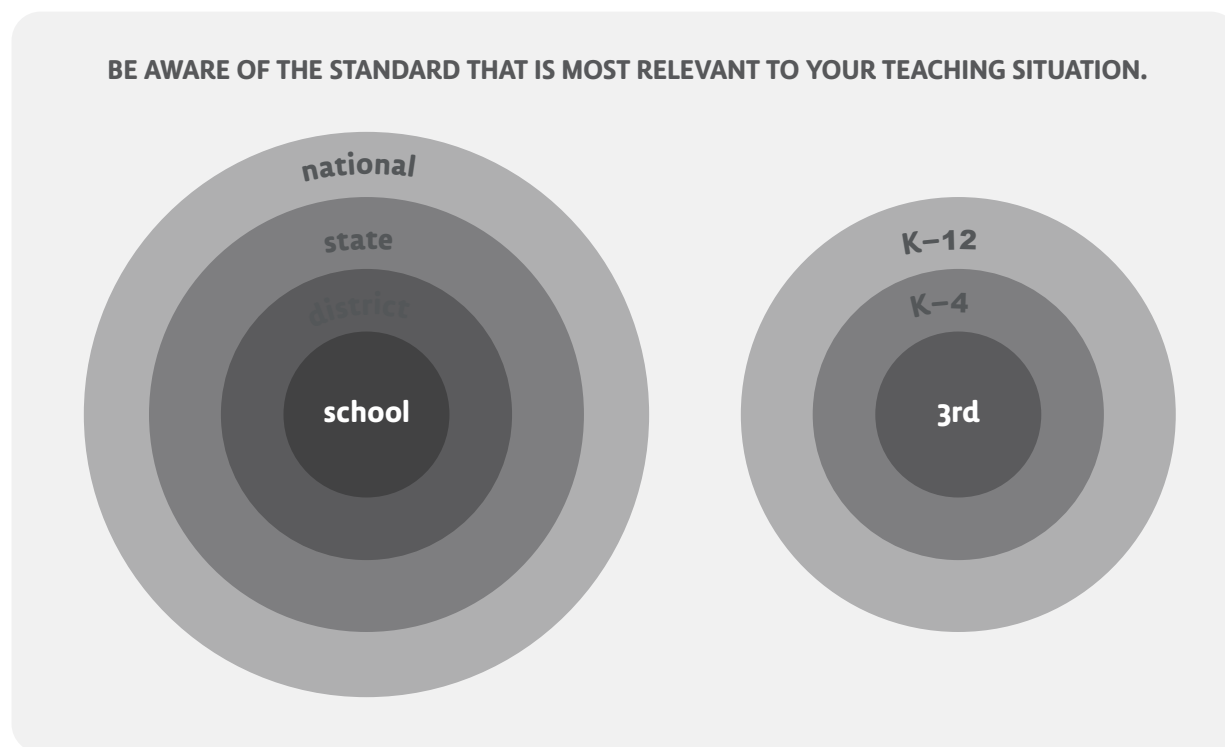
Reviewing these standards is a good starting point for understanding how any hands-on learning you are leading through your FoodCorps service links to school curricula, which will help make the case for integrating lessons into broader classroom learning.

There are a few useful things to know about standards that will make it easier for you to navigate them. First, they come in layers. There are federal education laws that apply nationally, and there are state standards that guide the public schools in a particular state. Additionally, some school districts or charter networks, and even some individual schools,

have their own curriculum frameworks. These are based on the state standards but often include a greater level of detail regarding grade-by-grade curriculum.

What are Common Core and Next Generation Science Standards?

You'll notice that each FoodCorps Lesson includes "Academic Connections" to Common Core State Standards (CCSS) and Next Generation Science Standards (NGSS). The CCSS are English language arts and math standards that most, but not all, states have adopted. As of this printing, these standards, or some version of them, were adopted and being used in all FoodCorps states. Although some have criticized the CCSS for its focus on testing, the framework has been praised for bringing consistency and improved adoption of effective practices to our nation's fragmented education system. The NGSS are K-12 science content standards that eighteen



Source: FoodCorps has adapted some of this section from the Shelburne Farms "Connecting Food, Farm and Nutrition Education to School Curricula" handout.

states have adopted. They emphasize ecological literacy and hands-on learning goals that closely align with FoodCorps' approach. Still more states have adopted state science standards that are similar to the NGSS. Of the FoodCorps states, the following have adopted NGSS: Arkansas, California, Connecticut, Iowa, Michigan, New Jersey, and Oregon. All other FoodCorps states are using state-specific standards that you can learn about from your partner schools or find online.

FoodCorps Lessons and District or School Curriculum Framework

FoodCorps Lessons highlight connections to the NGSS and CCSS, showing how each lesson addresses academic standards that are commonly in use in FoodCorps schools and giving you a helpful tool to explain to teachers and administrators how your service can support their objectives. However, as a service member, because you will be working solely within a given district or school, you should ask if these are the most relevant curriculum frameworks for your community.

Just as there are multiple layers of standards, those standards typically contain multiple layers that pertain to different grade levels. There are often overarching Pre-K through grade 12 standards that apply to all students at all levels of schooling. These are then broken down into grade clusters, such as Pre K–4, 5–8, and 9–12, that identify how expectations change across elementary, middle, and high school levels. Within those grade clusters, some standards specify even more detailed expectations. For instance, if you're working with a third grade class, check if there are standards specific to that grade. If you're working with a broader range of grades, you might refer to the broader grade cluster standards.

Recommended Resources

- Common Core State Standards Initiative website
- EdWeb webinar: "Common Core in the Garden"
- Life Lab Connecting Garden-Based Learning with Academic Content Standards webpage
- National Farm to School Network webinar: "Food, Farm and Nutrition Curriculum Connections: Developing Educational Experiences That Meet Teacher Needs"
- Next Generation Science Standards website

The 5 Es: Engage, Explore, Explain, Elaborate, and Evaluate

When you look at a FoodCorps Lesson, you will notice there are "Action Steps" that outline how you should lead the session. We developed each action step using the "5 Es" framework that Biological Science Curriculum Study developed. The 5 Es are a proven strategy for engaging students in fun, hands-on skill building. The 5 Es stand for Engage, Explore, Explain, Elaborate, and Evaluate. You can use the 5 Es to create your own lessons or strengthen other lessons you are delivering.

The purpose of each part is described below, along with tips for leading each part effectively.

ENGAGE

Purpose—To help students connect with what they are learning about and stay focused
Methods for Engaging Students

- Establish the purpose of the day's lesson.
- Activate students' prior knowledge of the focus skill for the day.
- Get students excited to learn more about the lesson.
- Transition students from their typical school day into their FoodCorps lesson, which should feel different and special.

Tips for Engaging Students

- **Introduce the practice of gathering your students in the same routine at the beginning of every session, including an opening activity to activate brains and help calm bodies.** Wait until everyone is quiet before you start talking. If students start talking while you are still talking, stop and wait until it's quiet again.
- **Ask broad and open-ended questions to allow for critical thinking and equalize participation among your students.** Suggested questions are included in the action steps, or you can come up with your own. A broad question has many possible correct answers (similar to an essential question), such as the following: What are some things you think nourishing food does for our bodies? In contrast, a narrow question has only one specific correct answer, such as the following: Which vitamins boost the immune system?
- **When facilitating group discussions, you may reference the tips provided in the Structuring Student Participation in Discussions section on p. 93.**

EXPLORE

Purpose—To provide students with opportunities to explore physical materials or interesting ideas before they are fully explained; this practice inspires curiosity, engages critical thinking, and activates prior knowledge

Tips for Helping Students Explore

- **If you've sent students out to explore materials in the classroom or garden, you can use a callback to help grab their attention quickly when it's time to move on to the next part of an activity.** You can make an animal sound (such as crowing like a rooster or howling like a coyote) or use a chime or whistle. Introduce a callback when you meet students

for the first time (see the "Developing Group Agreements" section on p. 89 for more tips). Before you disperse in the classroom or send students out to the garden, establish a callback such as the following: "When you hear me crow like a rooster, come on back! I'll count down from ten, and we'll see if everyone can get into a quiet circle before I get to zero." Right after you introduce the idea of a callback, have students practice. Ask them to wander around the classroom or garden and then gather quickly into a quiet circle when called back together.

EXPLAIN

Purpose—To teach students a new skill or explain a new concept

Tips for Explaining a New Skill

- **Whether they're going to be preparing a bed, planting seeds, watering, or cooking, don't just talk through the steps for a new skill—demonstrate the skill, with an emphasis on safety whenever relevant.** This will help all students, particularly English language learners, understand the instructions.
- **Wait until after you've demonstrated to distribute resources or tools and have students join in the work.**
- **Whenever possible, provide enough resources or tools for everyone to have their own.** This gives everyone a meaningful way to stay engaged. In cases where you do not have enough materials, think about student roles to help engage all learners.
- **Once they're working, especially with new tools, broaden your focus to make sure that you're watching everyone and ensuring their safety.**

Tips for Explaining a New Concept

- **Start by listening to students' ideas about**

- the new concept based on their recent explorations.** Build on their ideas, adding any new vocabulary or concepts that they don't mention.
- **Use multiple modalities (see p. 73) to introduce new vocabulary or concepts.**

ELABORATE AND EVALUATE

Purpose—To provide students with a chance to demonstrate their new skill and/or summarize what they've learned, which helps them synthesize and remember their learning and gives you a chance to evaluate how well they grasped the new idea or skill; reflection is essential to learning

Tips for Elaborating and Evaluating

- **It can be tempting to run an activity right up to the end of your time together and say, "No time to reflect," but it's crucial to cut your activity a few minutes short to ensure a few minutes for closure.**
- **Gather as a group, revisit the purpose of the lesson, and invite students to demonstrate what they learned.**
- **Invite students to take their learning with them in a meaningful way, like replicating a recipe at home or repeating a skill they've practiced in a future class.**

5 Es Cheat Sheet

Remember to keep the 5 Es in mind whenever you lead a lesson—no matter how long. If you find yourself in a situation where you have a short amount of time with students, here's a "cheat sheet" of what to remember to do:

in the lesson using multiple modalities and hands-on teaching methods. Adapt your lesson to build on students' prior knowledge.

Elaborate/Evaluate

Engage

- Gather your students in a circle. Transition to "FoodCorps Time," promote excitement, and ask questions. Review the group agreements.
- Lead an opening activity. Consider using a "do now"—a short activity awaiting students when they enter the classroom. Students should be able to complete the do-now activity without your direction. It can preview the FoodCorps lesson or review a previous lesson. An example would be as follows: Write the following for students to see: "Work with a partner to design a dinner menu that captures your cultures, traditions, and favorite foods. If time allows, draw this meal to share visually."

- Always leave time for a closing activity or conversation to promote reflection. Prioritize asking questions that are process-oriented, such as, When we were learning about each other's culture and traditions, what were some ways we showed respect and appreciation for one another? And ask questions that are content-oriented: What were some things you learned about food? With students in upper grades, you can use a "ticket out the door" strategy by asking students to write "Something I Learned," "Questions I Have," and "Something Important to Remember." They can then submit this as they leave.

Recommended Resources

- Biological Science Curriculum Study (BSCS) Overview of the 5 E Instructional Model website

Explore

- Have students disperse in the learning space to explore materials or ideas *before* they are fully explained. Call students back in an engaging way.

Explain

- Lead your lesson. Demonstrate a new skill or concept, then engage students