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The 4-H Cutting Board Challenge

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The 4-H Cutting Board Challenge

Abstract

Food-borne illness is a major public health concern in the United States. Proper food safety measures can greatly reduce the risk of food-borne illness. The 4-H Cutting Board Challenge is designed to give participants a hands-on learning experience related to food preparation and food safety procedures and an opportunity for team building and critical thinking. The objectives of the program include researching food preparation techniques, identifying common food pairings and recipes, learning to create a main dish and a dessert dish for evaluation, increasing knowledge of food safety procedures, and working in teams.

Keywords: [food safety](#), [nutrition](#), [youth development](#)

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Overview

Food-borne illness is a major public health concern in the United States. The Centers for Disease Control and Prevention has estimated that approximately 48 million Americans become ill, 128,000 become hospitalized, and 3,000 die annually as a result of food-borne illnesses (Dittmar, Anding, & Green, 2014). Proper food safety measures can greatly reduce the risk of food-borne illness. However, young people have fewer opportunities to learn about food safety practices in their homes and schools because of the trends toward more working parents, increased use of prepared foods, and limited home economics course offerings (Byrd-Bredbenner et al., 2007). The 4-H Cutting Board Challenge is designed to give participants a hands-on learning experience related to food preparation and food safety procedures and an opportunity for team building and critical thinking. The objectives of the program include researching food preparation techniques, identifying common food pairings and recipes, learning to create a main dish and a dessert dish for evaluation, increasing knowledge of food safety procedures, and working in teams.

Teams of participants are formed prior to the event and are made aware of two of the required surprise ingredients so that they can research preparation techniques and appropriate pairings. On the day of the event, teams begin by taking a pretest and then learn about the U.S. Department of Agriculture's MyPlate nutrition guidance. MyPlate illustrates the five food groups that are the building blocks for a healthful diet using a familiar

image—a place setting for a meal (U.S. Department of Agriculture, 2018). Teams then learn about food safety through the Safe or Sorry (SOS) food safety curriculum from the Minnesota Department of Health. Safe or Sorry was developed in response to the increased incidence of and concern regarding illnesses related to food safety and hygiene (Minnesota Department of Health, 2006). 4-H Cutting Board Challenge participants are then tasked with preparing a meal using a few surprise ingredients along with a pantry of general food items. Upon completion of their dishes, teams present their creations to a panel of judges. The teams are evaluated on the food preparation process, entree presentation, taste, and nutritional balance relative to MyPlate guidelines.

Implementation

The 4-H Cutting Board Challenge can be used with 4-H clubs, 4-H campers, and teen groups. Team sizes can vary, but ideally, having multiple teams of 4 to 6 members works best. Program planners can reasonably expect to spend 5–6 hr to complete all aspects of the program, including providing food safety instruction, evaluating food preparation, evaluating presented food items, and cleaning up. This time frame can easily be adapted to fit tighter schedules by using fewer surprise ingredients, requiring teams to prepare a single dish or snack instead of multiple items, or conducting lessons/activities across multiple days. A typical program agenda includes the following activities:

1. Administer the pretest.
2. Review the MyPlate guidelines and recommendations.
3. Provide instruction based on the Safe or Sorry (SOS) food safety curriculum.
4. Introduce teams to a basket of surprise ingredients they are required to use in their dishes. Items should be based on food groups and should be able to be prepared in multiple ways.
5. Give an overview of items that are available to all teams in the food pantry.
6. Have teams each create two dishes (main entrée and dessert), allowing them 1 hr to do so.
7. Have teams present their prepared items to the judging panel.
8. Have the judging panel make comments and present results.
9. Administer the posttest.
10. Have participants clean up the facility.

Program planners must make various preparations before offering the 4-H Cutting Board Challenge. They need to prepare a pantry of food items comprising a variety of staples teams can use in their meal preparations.

Suggested items are milk, butter, oil, flour, sugar, and a variety of meats, cheeses, fruits, breads, seasonings, and vegetables. Ensuring that dishes and kitchen appliances are available for each team is also necessary.

Required items may include plates, utensils, stove top heating elements, blenders, microwaves, toaster ovens, knives, grills, and pots/pans. If funding is unavailable to provide all kitchen items, program planners can create and distribute a kitchen supply list and require that teams be responsible for bringing their own supplies. Proper

food preparation areas are important and should include covered tables, sinks, hot water, soap, towels, and washcloths. Additionally, a successful program requires careful consideration of the following other elements:

- *Location.* Because it is important to have industrial sinks, proper food preparation surfaces, refrigerators, multiple outlets, and sanitation facilities, school cafeterias and home economics classrooms are good site choices.
- *Funding.* The program requires start-up funds for purchasing cookware and appliances. Each event also requires funds for purchasing groceries for each team.
- *Food allergies/dietary needs.* Program planners should survey participants and judges before the event to avoid causing severe food allergies and to accommodate dietary needs as required. Additionally, they should consider the versatility of food items when selecting mystery ingredients and make a list of possible ways to prepare each ingredient to encourage creativity by the teams.
- *Surprise ingredients.* Two surprise ingredients should be items commonly used in most households. The third item can be more uncommon, but program planners should inform teams that they will be required to use such an item ahead of time to allow them to conduct applicable research.
- *Food choices.* It is important to select food that can be prepared in the time given for the challenge.

Evaluation and Results

Since the inception of the 4-H Cutting Board Challenge in 2015, five events have been held with a cumulative total of 146 participants. Pre- and posttest data show that the majority of participants have increased their knowledge of food safety, their confidence related to food preparation, and their knowledge of MyPlate. Table 1 shows the number of participants who agreed or strongly agreed with each statement, as reported on the pre- and posttests, and the percentages of participants who increased their knowledge/confidence as a result of participating in the program.

Table 1.
Pre- and Posttest Results for the 4-H Cutting Board Challenge

Evaluation statement	Agreed or strongly agreed on pretest (#)	Agreed or strongly agreed on posttest (#)	Percentage of participants who showed an increase in knowledge
I know what food-borne illness is.	117	145	53.4%
I know several ways to prevent cross-contamination.	118	146	48.6%
I am confident in my ability to turn raw	113	141	55.4%

ingredients into a
balanced meal.

I know how to serve a
dish that meets MyPlate
requirements.

108

137

55.4%

For More Information

For more information about the 4-H Cutting Board Challenge or to get copies of the program materials, please contact one of this article's authors. Program materials include a peer-reviewed curriculum sheet, a PowerPoint presentation on food safety, pre- and posttest instruments, and a judging rubric.

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