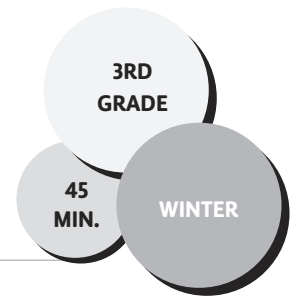


Let's Jam!

THEME: EXPLORING THE ECOLOGY OF FOOD



ESSENTIAL QUESTION

Where does our food come from?

LEARNING OBJECTIVES

- ✓ Students will be able to explain the steps and people involved in processing food.
- ✓ Students will be able to make a simple jam.

CONCEPTS

factory food product food system

Engaging the Classroom Teacher

- Prior to the lesson, coordinate with the teacher to see whether you can lead the activity in the morning and return in the afternoon (or lead the activity in the afternoon and return the next day), giving the jam time to set.
- During Action Step 4, suggest that the teacher ensure students who have either finished their job or are waiting for their job to begin are filling out their worksheet.

LESSON DESCRIPTION

In this lesson, students consider the steps in the food system with each student taking on an important role in the processing of strawberry jam. This lesson could work with any type

of jam that makes sense in your region at this time of year (orange marmalade, cranberry, etc). This particular Chia Strawberry Raw Jam is a good option if you don't have access to a burner because it can be prepared raw.

MATERIALS

- Jar of store-bought jam
- Food System Role Cards (1 per student; p. 363–364)
- Role props (optional; see Preparation)
- Bowl for role cards
- Chart paper or class board
- Large bowl for rinsed berries
- Large mixing bowl for sliced berries
- Measuring cups
- Long-handled spoon
- Ladle
- Tape
- Permanent marker
- Small tasting cups
- Chia Strawberry Raw Jam ingredients (see recipe below)
- 5 cutting knives
- 5 cutting mats
- Tray
- Box of crackers or pieces of bread to eat jam with
- Our Food System Worksheet (p. 362) for each student
- Colored pencils

PREPARATION

- › Photocopy a Food System Role Card for each student. Depending on the class size, you may need to combine a few roles, or give the same role to several students. Roles such as Ingredients Sourcer and Mixer could

be combined, while roles such as Slicer and Supermarket Seller could work for several students to have. Add even more roles, such as an advertiser who makes advertisements for the product or a factory cleaner who washes all the tools.

- › Photocopy Our Food System Worksheet for each student.
- › Set up three stations in the room where students can enact each step: the farm, the factory, and the supermarket. Put appropriate supplies at each station.
- › Optional: Gather props for students to use to distinguish and add to their roles (e.g., give sun hats to the farm workers, create a steering wheel out of cardboard for the truck driver, provide hair nets for the factory workers, provide aprons to the supermarket employees, etc.).

Chia Strawberry Raw Jam

Yield: 2–2½ cups, about 35 servings of 1 tablespoon

4 cups strawberries (frozen if not in season)

2–4 tablespoons lemon juice, to taste

2–4 tablespoons honey, agave, maple syrup, or sugar, to taste

3–4 tablespoons chia seeds, plus more if needed

Note: Cooking the jam softens chia seeds quickly, so this is a good option if you have access to a burner but less time to let jam set.

- Wash, hull, and slice strawberries into small pieces.
- If you have time and access to a burner, cook down fruit on medium heat, stirring occasionally until it becomes sauce-like and loses some water—about ten minutes. If using frozen fruit, some cooking down is necessary.
- Add lemon juice and honey and stir together. For a smoother texture, use a potato masher or immersion blender to achieve desired consistency. Stir in chia seeds.
- Let jam stand for at least five minutes to thicken. If possible, refrigerate it for ½ hour to further set.

FOOD SYSTEM ROLES

FARM

- **Harvester**—Pick stems off berries
- **Washer**—Wash berries
- **Truck Driver**—Deliver berries

FACTORY

- **Slicer**—Slice berries into small pieces
- **Ingredients Sourcer**—Follow recipe and measure ingredients
- **Mixer**—Add ingredients and mix
- **Label Maker**—Create a label for each cup
- **Packager**—Pour strawberry jam into cups and affix label

SUPERMARKET

- **Truck Driver**—Transport cups to supermarket
- **Supermarket Seller**—Sell (pass out) cups to customers

ACTION STEPS

1. Engage: Gather students in a circle, and show them a pint of strawberries and strawberry jam. Ask, *What's the difference between these two things?* Have students turn and talk to a neighbor to discuss. Ask, *What steps would it take*

to get from one to the other? On the board or chart paper, make a list of the steps students anticipate. **(5 min.)**

2. Assign Roles: Explain, *Today we're going to make strawberry jam. You'll each have a role to play in the "food system."* A "food system" is a series of people and activities that get food from a farm to our plates. Show students the "farm," the "factory," and the "supermarket" in the classroom. Pass out Our Food System Worksheet. Explain that while some students are performing their roles, others will be illustrating the process. You might pay homage to farmers by having all students pretend to plant strawberry seeds as the first step of the process. Have students draw role cards out of a bowl and then go to their respective stations. **(5 min.)**

3. Hand-Washing Break (5 min.)

4. Making Jam: While a few students at a time are fulfilling their role to help make the jam, have the remaining students illustrate each step on their worksheet. Have Harvesters pick stems off berries, have Washers wash the berries, and have the Truck Driver deliver the berries to the factory station. At the factory, the Labelers can start creating and affixing labels to cups while the rest of the factory workers are making the jam. Have Ingredients Sourcers measure out other ingredients while Slicers slice berries and place them in a bowl they pass off to the Mixer. After the Mixer has incorporated all the ingredients, they should pass the bowl to the Packager who will pour a little into a tasting cup for each student. If you have the time, place the jam in the refrigerator to set for thirty minutes. Otherwise, expect it to be a bit runny. **(20 min.)**

5. Tasting: Have the Truck Driver transport the cups to the supermarket on a tray. Then have students form single file lines at the supermarket to buy jam from the Supermarket Sellers. Meanwhile, have another student deliver crackers to students' desks. Once all students are seated, have them taste the jam together. Ask students to describe the flavors and texture of their jam. Explain that most jam you buy at the store is cooked but that they made a raw jam that gets its texture from chia seeds. You might compare the ingredients listed on the jar of jam with the ingredients that went into your recipe. **(5 min.)**

REFLECTION

Have students discuss the following questions in small groups, then share with the class: **(5 min.)**

Social and emotional learning

- Ask yourself: How did I contribute to making our jam? Did I work well with my classmates?

Check for understanding

- What are some differences between buying jam and making our own jam?
- What surprised you about the activity we did today taking strawberries from the farm to the supermarket?
- Why is each person important in the process of making the food we buy and eat?

ADAPTATIONS

Economics Extension: Have students consider the cost of each step by having a dollar symbol to represent the pay for each person involved in the process and tallying the dollar symbols. You can also discuss with students how much they would want to get paid for their role, and add those figures to get at the total cost. This

extension could be a great conversation starter for engaging older grades in thinking about the food system roles and compensation.

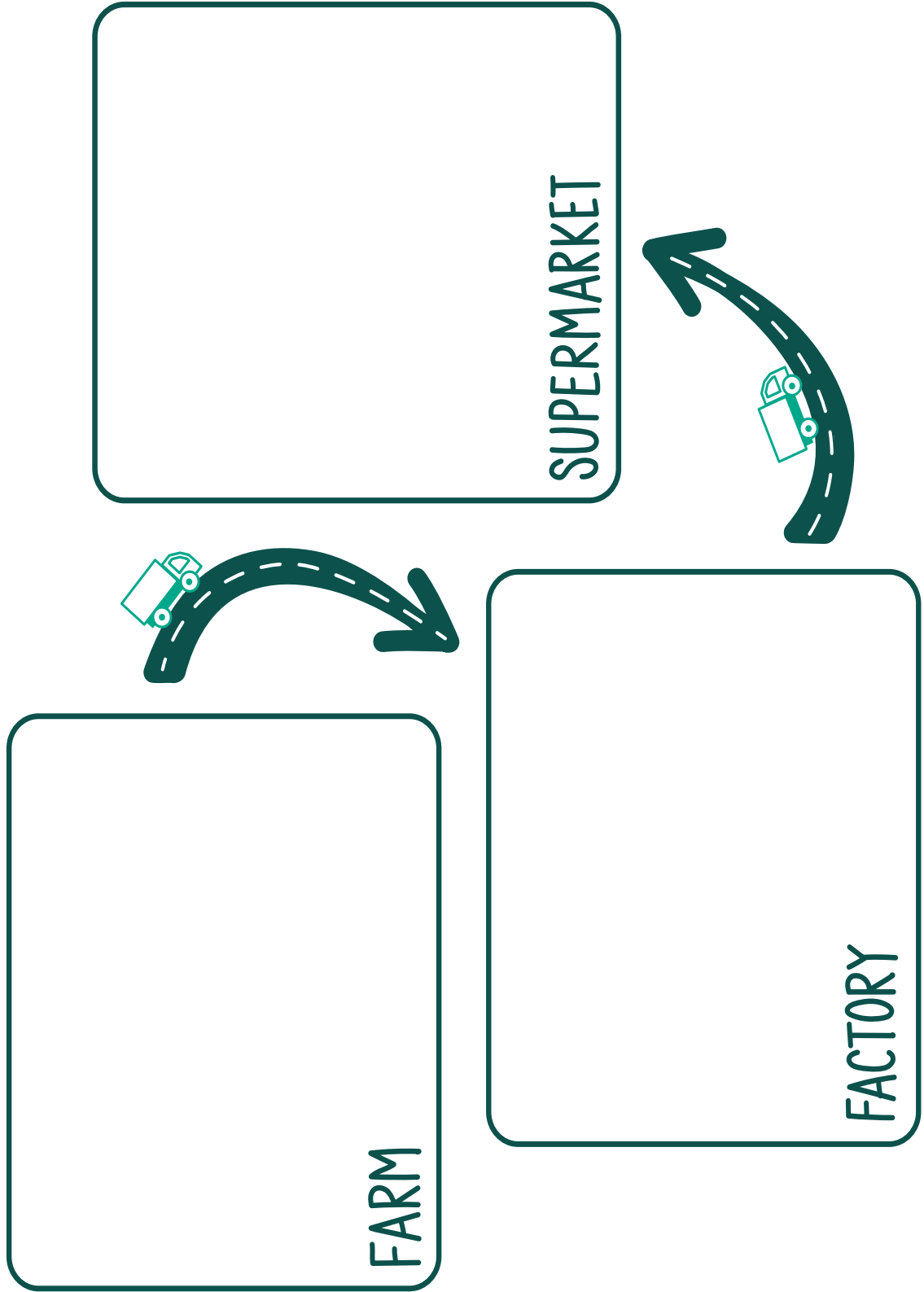
Literacy Extension: Read *How Did That Get in My Lunchbox?* by Chris Butterworth to reinforce and expand upon the concepts in this lesson.

Table-Group Variation: For a streamlined version of the lesson, have students at table groups perform each role. This will likely mean cutting some roles and steps in the process, so be sure to discuss these with students.

Cooking-Show Style Variation: If you don't have enough in-class time to let the jam set, or are unable to return to the class at a later time, consider making the jam yourself beforehand. After students have gone through the process, have them taste the set jam you've already made.

Name: _____ Date: _____

Our Food System Worksheet



Food System Role Cards

FARM

Harvester

Pick stems off berries

FARM

Washer

Wash berries

FARM

Truck Driver

Deliver berries

FACTORY

Slicer

Slice berries into
small pieces

FACTORY

Ingredients Sourcer

Follow recipe and
measure ingredients

FACTORY

Mixer

Add ingredients and mix

FACTORY

Label Maker

Create a label for each cup

FACTORY

Packager

Pour strawberry
jam into cups
and affix label

Food System Role Cards

SUPERMARKET

Truck Driver

Transport cups
to supermarket

SUPERMARKET

Supermarket seller

Sell (pass out)
cups to customers