

History in Our Backyard Mills in Connecticut Mills in Connecticut and the Assembly Line

Grade Level: 3-5

Learning Objectives:

Students will be able to:

1. Identify how assembly lines increased productivity in factories. (Connecticut Social Studies Frameworks CIV 5.2; ECO 3.1, 3-5.3; HIST 5.9, 5.10; Common Core State Standards CCSS.ELA-LITERACY.L.3-5.6; SL 3-5.1-3, 3-5.6; W.3.2, 3-5.8)
2. Dramatize the creation of finished products both by using the assembly line method and by completing the product from start to finish on one's own. (Connecticut Social Studies Frameworks ECO 3-5.3; INQ 3-5.9; Common Core State Standards CCSS.ELA-LITERACY.L.3-5.6; SL 3-5.1-3, 3-5.6)

Program Framework:

1. Introductory Thinking Activity
2. Making "Kisses" Activities:
 - a. On Your Own
 - b. Work As a Team
3. Assembly Lines

Materials: Scissors, tin foil, string, marbles (or pebbles), box or container, timer, device to play and share YouTube video with students, [BrainPOP Assembly line video](#) (2:23), worksheet titled "Mills in Connecticut and the Assembly Line" for each student

In this lesson, students will learn about how assembly lines increase productivity through a simulation. After completing the simulation, students will learn about what assembly lines are and then utilize History in Our Backyard to learn about factories in Connecticut. Please visit chs.org/historyinourbackyard to access the pins for mills in Windham, Willington, Stafford, Sterling, and Plainville.

1. Introductory Thinking Activity

1. Do you think it's faster to do something on your own or with a team? Why?
2. Think about a task, such as cleaning your room or baking cookies. Would it take you longer to do this job by yourself or with a friend?

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2. Making “Kisses” Activities

1. On Your Own
2. Work as a Team

Making “Kisses”: On Your Own

1. Ask children if they are familiar with chocolate candy kisses. If not, offer an explanation or show an image of one online.
2. Overview: In this activity, students will make as many “Kisses” as they can. The goal is to be FAST and make the BEST, perfectly-wrapped “Kisses”! You will have 2 minutes to make as many “Kisses” as you can. Only the best “Kisses” will be counted!
3. Before you start the timer, please prepare the following materials:
 - a. Cut tin foil into 25 squares. Each square should be 2 inches by 2 inches.
 - b. Cut string (ribbon will work too) into pieces that are 1-inch long. Make 25 total.
 - c. Gather 25 pebbles or marbles that are about the size of a small grape.
 - d. Lay out all the piles of materials needed to make the “Kisses.”
4. Start timer:
 - a. Take 1 foil square and place in front of you.
 - b. Place 1 string in the center of the foil square so the other end of the string is hanging off the square.
 - c. Put the pebble or marble “Kiss” on top of the string.
 - d. Wrap foil around the “Kiss” with some of the ribbon sticking out of the top.
 - e. Place the wrapped “Kiss” in your box/container.
 - f. Repeat these steps until the timer buzzes.
5. Ask an adult to “check your work.” If there are any that are not the BEST, perfectly-wrapped “Kisses,” the adult will take them out of the box. You can’t count anything but the best!
6. Reflection:
 - a. How many “Kisses” did you make? How many of these were *perfect* “Kisses”?
 - b. Record the numbers on the “Kisses” Making Chart on the next page.
 - c. What challenges did you face that slowed down your job?

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Making “Kisses”: Work as a Team

1. Overview: In this activity you will work as a team with 2 other people to make the “Kisses.” Each person will have a specific job to do. The goal is to be FAST and make the BEST, perfectly-wrapped “Kisses”! You will have 2 minutes to make as many “Kisses” as you can. Only the best “Kisses” will be counted!
2. Before you start the timer, please prepare the following materials:
 - a. Cut tin foil into 25 squares. Each square should be 2 inches by 2 inches.
 - b. Cut string (ribbon will work too) into pieces that are 1-inch long. Make 25 total.
 - c. Gather 25 pebbles or marbles that are about the size of a small grape.
 - d. Lay out all the piles of materials needed to make the “Kisses.”
3. The Roles: Each teammate will select 1 job from the list below. Read your job so you know exactly what you need to do. Then, line up next to each other along the same side of a table from left to right in the order the jobs are listed below. Place your pile of materials in front of you.
 - a. The Ribbon Placer (you will need the pile of foil squares and pile of cut ribbon near you): Your job is to grab 1 foil square and put 1 piece of ribbon on the foil square so one end of the ribbon is in the middle of the square and the other is outside of the square. Now pass the foil and ribbon to your teammate on your right, the Wrapper. Repeat this over and over until the timer buzzes.
 - b. The Wrapper (you will need the pile of pebbles or marbles near you): When a foil square with the ribbon is passed to you, you will take a pebble or marble and place it in the center of the foil square on top of the end of the string and wrap the foil around the pebble or marble. Some of the string should be sticking out of the top. Now pass the wrapped “Kiss” to your teammate on your right, the Finisher. Repeat this over and over until the timer buzzes.
 - c. The Finisher (You will need the box or container near you): When a wrapped “Kiss” is passed to you, you will make sure that part of the string is showing outside the foil wrapper. You will also inspect the “Kiss.” If it is perfect, place it in the box. If it is not, place it off to the side. Repeat this over and over until the timer buzzes.
4. Start Timer: When everyone is clear on what their job is all about and is in position at the table with their materials, you may start the timer and begin making the “Kisses.”

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5. Repeat the Work as a Team Activity:
 - a. Now that you have the hang of it - complete the Work as a Team activity two more times.
6. After your team’s last try, ask an adult to “check your work.” If there are any that are not the BEST, perfectly-wrapped “Kisses,” the adult will take them out of the box. You can’t count anything but the best!
7. Reflection:
 - a. How many “Kisses” did your team make on the first try?
 - b. How many on the second try?
 - c. How many on the third try?
 - d. Record the numbers on the “Kisses” Making Chart below.
 - e. After trying out the activity a few times, do you think you got better at performing your job?
 - f. Do you think working with teammates helped you make more “Kisses” than when you worked alone?

“Kisses” Making Chart

“Kisses” Making	Number of “Kisses” made:	Number of BEST “Kisses” made:
On My Own		
Work as a Team 1 st Try		
Work as a Team 2 nd Try		
Work as a Team 3 rd Try		

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Assembly Lines

1. Once you got the hang of it, your team should have been able to make many more “Kisses” working together. This type of teamwork in a factory is called an **assembly line**. Assembly lines forever changed the way work was done in factories.
2. Read the questions on the worksheet, “Mills in Connecticut and the Assembly Line.” Keep these questions in mind as you watch the [BrainPOP Assembly Line video](#).
3. Once you have watched the video, answer the questions.
Then explore the mills and factories pins on *History in Our Backyard* and answer the question on the “Mills in Connecticut and the Assembly Line” worksheet. Please visit chs.org/historyinourbackyard to access the pins.

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A: Assembly Line Video

Answer the following questions after you watch the BrainPOP Assembly Line video.

1. What is an assembly line? How does one work?

2. Think about the *Work as a Team* activity. How do assembly lines help a group of workers make items faster than an individual worker can?

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B. Mills and Factories in Connecticut

Answer the following questions after exploring two or three of the *History in Our Backyard* pins on mills and factories in Connecticut. Read about the mills and factories, look at the images, and read the *Curious Questions & Connections*. Please visit chs.org/historyinourbackyard to access the pins.

Tolland County:

- Stafford - Warren Woolen Mills
- Willington - Gardiner Hall Jr. Company

Windham County:

- Plainfield - Wauregan Mills
- Sterling - Oneco Falls Mill and other mills
- Windham - Willimantic Linen Company/American Thread Company

1. What types of items were made in Connecticut mills and factories?

2. What might be the benefits of using the assembly line in factory work in Connecticut?
What are the downsides of using an assembly line?

3. Why do you think these mills and factories in Connecticut closed down?