

OUR FOOD



Activities for Grades 9-12

How are products developed and sold?
What product would you like to develop?

FaB's Farm to Factory to Fork 

High School Career Discovery

fabwisconsin.com

Educators' Guide

Adapted from Institute of Food Technologists K-12 Outreach Food Science Activity Guide for Product Development.

OVERVIEW

Students will be introduced to the process of product development with activities to heighten their participation in the Farm-Factory-Fork Discovery. They will learn what it takes, and who it takes, to bring a successful food or beverage product to market. From farm to factory to fork, professionals grow, process, package and deliver food that feeds the world. Students will learn how to adapt product concepts and processes to meet consumer preferences for better food and drink.

Objective: To learn how ideas for new products are developed through creating a product concept

Before the Farm-Factory-Fork

Students will explore the food and beverage industry, starting with a look into their favorite food products and foods found in their own kitchens to explore how to make them better.

During the Farm-Factory-Fork

Students will meet the companies that provide the ingredients, equipment and packaging and expertise that are needed to make, produce and sell a food product.

Back in the Classroom

Given additional insights on top trends in food, with a team, students will create a new product idea and poster. Scoring can be used to select favorite product ideas.

BACKGROUND FOR EDUCATORS

Most of the food we grow or raise is processed in some way, from harvesting and cleaning our spices, fruits and vegetables to remove soil and contaminants, to harvesting our meat, poultry and fish in preparation for sale, to packaging for convenience and consumer safety. As consumers pursue farm fresh, or farm to fork, there is increasing interest in the food factory that falls in between that preserves and adds value to our agricultural products. By preserving farm fresh and adding value back to consumers, our makers have grown a food and beverage manufacturing industry that is bigger than the movie, auto and tech industries. From local artisans to global companies, the industry feeds the world.

Wisconsin is 5th nationally for making food and beverage products. We are first in the nation for cheese making, 2nd for sausage making, and 3rd for beer production. Wisconsin is also 1st for making the equipment needed to make, package and ship our food products.

Globally, 33,000 new products are launched monthly. That's 396,000 a year, or 1,100 every day. It's estimated that only 5% – or 19,800 – will succeed. How does a successful new product get created? It takes a product development team and several key steps. (Source: Mintel)

CORRELATION TO NATIONAL STANDARDS

National Science Education Standards

Understanding about science and technology - Standard E

As laid out by Institute of Food Technologists Top 10 Trends Product Development Activity for Standard E - All students in the K-12 science program must have equitable access to opportunities to achieve the [National Science Education Standards](#) and National Curriculum Standards for Social Studies as laid out in Our Global Kitchen Educator's Guide.

Activity/Standard

- Creativity, imagination, and a good knowledge base are all required in the work of science and engineering.
- Science and technology are pursued for different purposes. Scientific inquiry is driven by the desire to understand the natural world, and technological design is driven by the need to meet human needs and solve human problems. Technology, by its nature, has a more direct effect on society than science because its purpose is to solve human problems, help humans adapt, and fulfill human aspirations. Technological solutions may create new problems. Science, but its nature, answers questions that may or may not directly influence humans. Sometimes scientific advances challenge people's beliefs a practical explanations concerning various aspects of the word.

ADDITIONAL RESOURCES

See FaB's Farm-Factory-Fork High School Career Discovery at fabwisconsin.com/farmfactoryfork for access to teacher and student resources.



BEFORE THE FARM-FACTORY-FORK DISCOVERY

Activity 1: Food product exploration and development

Students will explore the food and beverage industry starting with a look into their favorite food products and foods found in their own kitchens. Combination student home assignment followed by in-class exploration and report out.

What do you know about your favorite or common foods, and who grows or makes them? How would you make a favored product better?



Ask students to list what food and drink products they commonly find in their kitchen refrigerator, freezer or cabinets and bring their list to class. (10 minutes)

In a class exercise, give students time to select one food product to explore online. Students will use the following questions to learn more about their product. With facilitated inquiry, students will share what surprised them about their product or maker, and how they would make it better. (15 minute online exploration)



- What products/items do you see in your kitchen? Add any additional products or items you'd like to see in your kitchen.
- Pick one product from your list that you'd like to know more about.
- Where can you purchase the product, farmer's market, grocer, big box, convenience stores, online?
- Can you determine who is making the product? What can you learn about the company?
- How is the product made? What processes are being used? How is the company ensuring product quality, safety and convenience?
- What type of ingredients or equipment are being used?
- What type of consumer uses this product?
- What do you notice about the packaging?
- Does the product have nutritional value?
- What do you notice about the label?
- Is your product making any claims? e.g.: fat free, GMO-free, organic, etc.
- Is your product shelf-stable, frozen, fresh or require refrigeration?
- What consumer demand or need is being met by the product?
- How would you make this product better?

Ask students to share their selected product, what they learned that surprised them, and how they would make it better. (30 minutes)

Capture product improvements and ask the class to look for ways products have been or are improving. Save results on posterboards for Activity 2 that occurs after the visit and includes developing a new product idea.



DURING THE FARM-FACTORY-FORK DISCOVERY

Students will discover the companies that make our food and drink, as well as our ingredients, packaging and equipment makers, and the distributors and grocers needed to make and sell a product.

Students will ask: How do food and beverage companies develop new products (or services) and get them to market? What makes a product more likely to succeed? What consumer/customer preferences are driving your product development?

BACK IN THE CLASSROOM

Activity 2: Top trends and product development

Students will discuss the top trends in the food and beverage industry to inspire a new food product. Break into Product Development Teams to create a new food product idea.

What food or beverage product would your team like to make and why? Will your product idea make it to market?

Students learn about the top trends of the food and beverage industry to inspire a food or drink product idea. Divide the class into Product Development Teams of 4-5 students to create a food product idea and poster. Each team can be invited to pitch their product to the class. Judging scoresheets and ballots are provided (see *appendices 2 and 3*) to select favored products – which products would students put in their shopping carts?

A Product Development Team is charged with keeping a company's products on track with changing consumer needs/wants, their competitors, and new ingredients, processing, packaging and sales techniques and technologies. The Team is comprised of specialist in all areas of the food business. All of the team members are involved throughout a project, but the level of activity varies depending on the function and phase of development.



PRODUCT DEVELOPMENT

TECHNOLOGY & QUALITY

Packaging & Engineering
Process Engineering
Food Defense
Food Safety
Research & Development
Sensory Evaluation
Microbiology
Regulatory Compliance

MANUFACTURING

Processing & Packaging
Operations
Procurement
Logistics

MARKETING

Research

LEGAL

Materials

Large paper (with a sticky back to display on the wall)
Markers in a variety of colors
Internet access

Student Procedure

Your task is to develop a new food product that meets one of the Top Trends from 2016. To develop a successful product, it is important to think about:

- What are some trends in consumer behavior and product purchasing?
- What is already on the market and what isn't?
- What is your target market?
- What is their gender? Age?
- What does the target market like and dislike?
- What are some trends in flavor, packaging, ingredients, processing?
- What product could meet a customer need and trend?

Your poster should include:

- Product name
- Product picture
- Target market
- Description of the product, including packaging type (can, glass, bottle, pouch) and serving size (single, multi-serve)
- Any product claims (organic, GMO-free, gluten-free, etc.)
- Ingredients
- Shelf life (does it have to be refrigerated after opening? how long does it last?)

SIX KEY GLOBAL FOOD AND DRINK TRENDS FOR 2017

By Mintel, reported by Food Manufacturing Magazine

In Tradition We Trust

Consumers seek comfort from modernized updates of age-old formulations, flavors and formats.

People are seeking the safety of products that are recognizable rather than revolutionary. The trust in the familiar emphasizes the opportunity for manufacturers to look to the past as a dependable source of inspiration, such as “ancient” product claims, including ancient grains, as well as ancient recipes, practices and traditions. Potential also exists for innovations that use the familiar as a base for something that’s new, but recognizable, such as cold brew coffee.

Power to the Plants

The preference for natural, simple and flexible diets will drive further expansion of vegetarian, vegan and other plant-focused formulations.

In 2017, the food and drink industry will welcome more products that emphasize plants as key ingredients. More packaged products and recipes for home cooking will leverage fruits, vegetables, nuts, seeds, grains, botanicals and other plants as a way to align with consumers’ nearly omnipresent health and wellness priorities. Technology will play a part and already we have seen one company use artificial intelligence to develop plant-based alternatives to animal products, including milk, mayonnaise, yogurt and cheese.

Waste Not

The focus of sustainability zeros in on eliminating food waste.

More retailers, restaurants and philanthropic organizations are addressing the sheer amount of food and drink that is wasted around the world, which is changing consumer perceptions. In 2017, the stigma associated with imperfect produce will begin to fade, more products will make use of ingredients that would have otherwise gone to waste, such as fruit snacks made from “ugly” fruit and mayonnaise made from the liquid from packaged chickpeas, and food waste will be repurposed in new ways, such as power sources.

Time is of the Essence

The time investments required for products and meals will become as influential as nutrition or ingredient claims.

Time is an increasingly precious resource and our multitasking lifestyles are propelling a need for shortcut solutions that are still fresh, nutritious and customizable and already we have seen so-called “biohacking” food and drink that offers complete nutrition in convenient formats. In 2017, the time spent on – or saved by – a food or drink product will become a clear selling point, inspiring more products to directly communicate how long they will take to receive, prepare or consume.

The Night Shift

Evening is tapped as a new occasion for functional food and drink formulations.

The increasingly hectic pace of modern life is creating a market for food and drink that helps people of all ages calm down before bedtime, sleep better and restore the body while they rest. Products can leverage the reputation of the tea category and use chamomile, lavender and other herbs as a way to achieve a sense of calm before bedtime, while chocolate could be positioned as a way to wind down after a stressful day. Ahead, there is potential for more evening-focused innovations formulated for relaxation, satiety and, taking a cue from the beauty industry, food and drink that provide functional benefits while the consumer sleeps.

Balancing the Scales: Health for Everyone

Healthy food and drink are not “luxuries.”

Inequality is not just a political or philanthropic issue – it also will resonate more with the food and drink industry. Many lower-income consumers want to improve their diets, but the access to – and the cost of – healthy food and drink is often an impediment. More campaigns and innovations are to be expected that will make it easier for lower-income consumers to fulfill their healthy ambitions, including apps to help people make use of ingredients that are on sale and, in a tie-in with Mintel’s 2017 Global Food & Drink Trend Waste Not, a value-priced box of “ugly” vegetables.

Product/Team Name: _____

Scoring Criteria	Points Possible	Points Earned	Comments
Product Name Is it descriptive? Is it new?	10		
Product Picture Is it descriptive? Is it new?	10		
Target Market Is the target market well defined? (Did the team give an age range or gender?)	20		
Product Description Is it appealing? Is it new? Does it include the packaging type and serving size? Do the package type and serving size match the target audience?	20		
Ingredients Does the ingredient list match the product description? Are any ingredients from Wisconsin?	20		
Shelf Life Is the shelf life realistic?	10		
Questions Did they answer the questions completely?	10		
Total	100		

New Food or Beverage Product Scorecard

Product/Team Name: _____

Place an **X** in the box based on your likelihood to purchase this product.

1

Very unlikely
to purchase

2

3

4

5

Very likely
to purchase

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