

WHERE DOES FOOD COME FROM? A MARKETING *DILL-EMMA*



About This Educational Kit

Where does food come from? It may seem like a simple enough question, but today's supermarkets make getting food so convenient that many children may not appreciate how much is involved in getting food from raw product to refrigerator. Foods once plucked fresh from the garden or field by the family for the evening's meal, now go through many steps in processing and packaging and arrive at homes in an entirely different form than how they are originally grown or raised.

Although designed primarily for use in grades four through six, this lesson plan is designed to teach students how food gets from raw product to their table and uses cucumbers to pickles as an easily understood, illustrative example. Class activities and discussions include many other food products, too. You will be able to help your class understand the economic impact the agricultural business has on our economy and how many and what types of jobs are needed to simply bring one product to market. Students will also learn about their role as a consumer and how their choices affect what products survive in the marketplace.

The unit can be used on any and all elementary grade levels by selecting appropriate segments and activities. It can be used as a daily lesson for several weeks, or use some components of the program over a longer period or time. The program can stand alone, or elements can be adapted to work within other portions of your curriculum: math, social studies, language arts, art, science, etc. There are many opportunities to incorporate computers throughout. One teacher who reviewed the kit felt it was also appropriate for cooperative study between two grades (such as second and fifth where older students help younger students).

Included in this kit is everything needed to engage your students in a lively discussion on food production, distribution and consumption. It involves the students in interactive projects like visiting the supermarket and conducting an in-class pickle tasting. And an Activity Idea Guide provides many other suggestions for outside speakers, involving other students in the school and assignments that challenge the imagination and inspire creativity.

The kit also contains plenty of background information on pickles including a brief history of the pickle, a list of available varieties and background on processing methods. You'll also find a guide for growing and pickling cucumbers in class. Just remember, if you want your class to grow cucumbers, it takes 5 to 6 weeks, so plant them well in advance of when you want to complete the unit.

Finally, we would greatly appreciate your filling out the enclosed teachers survey. Your comments and suggestions will be very helpful when making revisions for future versions of this lesson plan.

WHERE DOES FOOD COME FROM?

Today, if you want to get food, all it takes is a trip to the grocery store. There you can find virtually every food available from all over the world—fresh fruits, vegetables, meats and baked goods, and prepared foods like spaghetti sauce, noodles, pickles and potato chips. Being able to get the food we want when we want it is something many of us take for granted. But it hasn't always been so easy to get food.

When Europeans first came to the Americas in the 1600s, there were no grocery stores or places to buy food. The settlers had to bring seeds with them from Europe so they could farm the land and grow their food. The native people, who also knew how to farm, showed the Europeans how to grow other foods like maize or Indian corn, and also taught them how to fertilize plants by putting fish in the ground with the seeds when they were planted, making the plants stronger, healthier and more fruitful.



For a very long time the United States was an agrarian society. People grew the things they needed. Cotton plants were grown to make cloth; cows were tended for milk, meat and leather for shoes; and wheat and other cereal grains were grown for flour to make bread. All of the food people ate was either grown on their farm, or bought from neighboring farms.

LIMITED FOOD CHOICES

One of the most important factors in determining what people ate was the climate of the region in which they lived. In the Midwest, tomatoes, corn and cucumbers were grown. Oranges and grapefruit were grown in the Southwest and Southeast because it was too cold further north. If a particular food was not grown in a region, people never ate that kind of food.

The seasons also affected what people ate. Food could not be grown year 'round because in the winter the ground would freeze. Since fruits and vegetables do not last very long, people needed ways to preserve the food they grew in the warm months so they would have food through the cold months. Some of the ways people preserved foods was by drying or dehydrating, pickling, canning and bottling. We still use these methods of preservation today.

MECHANIZATION INCREASES AVAILABILITY

In the 19th and 20th centuries, many changes took place that changed food production and distribution forever and made our society an industrial society. Innovations in transportation were some of the most significant changes. After the automobile was invented, old roads were improved and new roads were built, making it easier for farmers to bring their products further to market. Railroads crisscrossed the country and bound the entire United States together and allowed for shipping foods clear across the country. Now, when tomatoes were out of season in the Northeast, they could be brought in from the Southwest where they were in season.

The advent of refrigerated trucks, railroad cars and containers for ships, as well as aviation, meant an even greater variety of foods was available. People in the U.S. could now enjoy foods—year 'round—from all over the world that they'd never had before, such as kiwi fruit, bananas, exotic melons, Australian lamb, French cheeses, etc.

Agricultural equipment also revolutionized the food industry. People who had been using hoes, rakes, sharp sticks and animals to farm could plow one acre of land a day. Today, thanks to modern farm machinery like tractors, hundreds of acres can be plowed in a day. Mechanization also meant that farmers no longer had to pick all their products by hand. A machine, such as a combine, could do much of the work, so fewer farmers could grow more food and distribute it virtually everywhere. Today, less than three percent of the population feeds the entire nation.

FROM GENERAL STORE TO SUPERSTORE

Although fewer people were needed to actually grow food, more people were needed to process, package, transport and sell food. Processing plants and factories began popping up all over the country, creating more jobs and causing population shifts as people moved off of farms.

Originally, general stores sold food staples as well as tools needed by farmers, bolts of cloth for making clothes and even kitchen equipment. This evolved to small local grocery stores as more food products became available throughout the year. As the number and types of food increased, and more canned, dried, packaged and even frozen foods became available, supermarkets developed. Successful supermarkets often grew into major corporations with chains of stores spread over large regions of the country. (Discuss which chains are found in your area.) By purchasing in large quantities, these stores could provide lower-priced foods to consumers.

Today, you can purchase foods at independent local markets, supermarkets, warehouse stores, membership club stores, convenience stores and even pharmacies or mass merchandisers such as K-Mart and Wal-Mart. Within some of these are “stores within a store”—deli sections, salad bars, bakeries, etc., and some foods can be found in several parts of the store.

CAREERS IN AGRICULTURE & THE FOOD INDUSTRY

The agricultural industry is our country's largest employer with 23 million workers. Yet only 3.4 million people actually work on farms. What other jobs are involved in bringing a food product to market? This is a list of key positions in the agriculture and food industry. Other jobs are available, however, where they exist depends on the size of the business and the steps required to turn raw product into a marketable food item.

BEFORE PLANTING

Engineers: Design and build machines, like tractors and combines, that make farming easier and more productive.

Scientists: Work to produce seeds and plants that are as healthy and fruitful as possible. To ensure success, they develop hardy, disease-resistant plants and seeds, along with environmentally acceptable pesticides that will protect plants from disease and insects and also not be harmful to people.

ON THE FARM

Farm Managers: Plan how to most efficiently and effectively run the farm. The farm managers also supervise other workers on the farm to make sure tasks are being done properly. They also might handle the financial matters of the farm.

Laborers: Plant seeds, weed and water the plants and harvest the fruits and vegetables when they are ready to be picked. If the farm is a livestock farm, they also take care of the animals.

Truck Drivers: Transport the produce to the receiving stations and processing plants.

PROCESSING

Accountants: Project and plan the company's operating expenses, product costs, profits, etc. They also make sure the company is operating within budget, keeping track of all expenditures, bills and how much money the company is making.

Assembly Line Workers: Inspect produce for damage when it arrives at the plant. Also, they check procedures like the washing of cucumbers and sealing of the filled jars.

Food Technologists/Scientists: Find ways to improve the finished product—pickles. For example, they look for ways to keep pickles crisp or give them better shelf life. They also try to develop new flavors or new product ideas. Another of their jobs is to provide quality control to assure product consistency.

Fork Lift Drivers: Move boxes of raw cucumbers, stack finished cases of pickles and load trucks that transport pickles to market.

Marketing Team: Determines the target market for the product, develops promotion strategies, hires and supervises advertising and public relations agencies to create product awareness, and market researchers to track consumer wants, needs and consumption patterns.

Owner: Invests money to build a plant and business. He/she oversees and has the final word in every aspect of production and distribution.

Personnel Manager/Human Resources: Interviews and hires people to fill all plant jobs, helps set policies for workers, keeps the company competitive in its personnel procedures and oversees benefits programs such as insurance.

Plant Manager: Oversees the day-to-day management of the plant and makes sure everyone is doing his/her job properly and that everything runs smoothly.

Purchasing Agent: Buys spices, other ingredients, jars, cartons and all supplies needed to produce pickles.

Sales Director: Works with brokers, distributors and supermarkets to get the company's products on the store shelves. He/she helps develop and implement promotions to increase sales.

Truck Drivers: Transport finished product to the warehouse or supermarket.

SALES & MARKETING

Advertising Executives: Create commercials and magazine and newspaper advertisements to tell people about a product to help increase sales.

Retail Sales: Stock clerks make sure that products are on the shelves; check out clerks collect money and bag groceries; and department managers oversee particular parts of the store, including produce, deli and dairy. Grocery store managers make sure the entire store runs smoothly.

Sales Force: Works with store headquarters in specific geographic areas to sell their product; makes sure after they have sold the product to their customers (i.e., supermarkets) that it is displayed on the shelves properly. They also might work with food brokers who are intermediaries between the manufacturer and the stores.

OUR MARKET ECONOMY

Everyone knows that a market is a place, such as a grocery store, where a merchant displays merchandise, such as food, and shoppers decide whether or not to buy it.

But a market is not just a physical place, it is also a condition. **A market exists if a seller has something to sell that consumers are willing to buy and pay for.** Usually, there are lots, or at least several, companies trying to respond to consumers better than anyone else in a category. This is called **competition**. For example, there are many different kinds of bikes, sneakers, sodas, and fast food restaurants available, and the consumer makes a choice based on his or her preference.

Companies introduce products into the market when they think there is a **demand** for that item, or they can create demand for the product. If many people want to buy a certain kind of product, that means the demand is high. For example, reduced-fat salad dressing is in great demand by health-conscious consumers. If enough consumers like a product, find the **price**, (the cost of the product) acceptable, and prefer it to its competition, chances are the product will succeed. If the product succeeds and makes money for the company, the company makes a **profit**. A profit is money left over after the manufacturer has paid all of the costs of producing and distributing its products.



However, if there is no demand for the product and it fails, as thousands do every year, the manufacturer must make a choice as to what to do with it by asking several questions:

- Can the product be fixed or should it be abandoned?
- Is the product basically good?
- If not, can it be improved?
- Is the price right?
- If too high, is it feasible to lower it?
- Would it help to change the packaging so it is more distinctive and gets more attention?
- Is it targeted to the right audience?
- If not, would it sell better to another consumer audience?
- Is it being sufficiently promoted so people are aware of it and will try it?

The most important factor is still the quality of the product. If it is not a product people like, no amount of other changes will save it.

CONSUMERS CONTROL WHAT SELLS

In our free choice society, where a shopper can choose from a vast array of products, it is ultimately the consumer who decides which products will succeed or fail.

Manufacturers, when contemplating a new product must ask themselves:

- Is there a *natural consumer* need for this product?
- Can they expect to *create a need*?
- Is this product something consumers may *want* but not actually need?

For example, let's look at bread. Most people probably consider bread a **necessity**, something we cannot live without. Manufacturers have *created a need* for literally dozens of varieties of bread. Cinnamon rolls are more of a luxury and something many people like and *want* but don't absolutely need.

A company may do all its homework and still end up with a product that fails. One major pasta manufacturer determined that:

- Consumers' number one concern about cooking is saving time.
- Most homes in the United States have a microwave oven.
- Pasta has become one of our favorite foods.

This led the company to develop a microwave pasta that would cook quickly. However, the pasta failed because consumers were not happy with the texture of the product, and because while the pasta cooked quickly, it took several more steps than consumers expected from a microwave product. So, while the product met all the criteria the company had set, it *did not meet consumer expectation*. Subsequently, there was not sufficient demand for the product.

ALL CHOICES ARE TRADE-OFFS

Most of us take our American privilege of free choice for granted. We go to the store, pick a product off the shelf, take it to the cashier and pay for it. It is our privilege to choose.

But there are two sides to every choice — what we get and what we give up. This is called a **trade-off**. Learning to evaluate these trade-offs helps us better understand how to stretch the buying power of our dollars.

When we choose a particular product, we are rejecting another. We can't have everything, so we make trade-offs. For example, suppose you want to buy a soda and are trying to choose between two brands. One you have had before and liked. The other is new and is less expensive. If you choose the less expensive brand, you trade-off the known quality of the familiar brand for the lower price of the new brand.

The same thing happens when you don't have enough money to buy both a new video game and a new pair of sneakers. Whichever one you decide to buy involves trading-off the benefits of the other.

TRADE-OFFS INVOLVE VALUE

Now go back to that soda. You chose one over the other because it was less expensive. You placed more **value** on saving money than on the known taste of the other product. Whether you are aware of it or not, before making any choice, you assign a value to every alternative you are offered. These values are based on your present lifestyle, your income, needs and wants and probably how your family makes choices.

But, you may not make your choice based on the same value every time you shop. You may have one set of values for major purchases, and another for every day purchases. For example, if you choose to eat at Burger King instead of McDonald's and are unhappy with your choice, the consequences are not significant. Next time you eat out, you reverse your choice. But if you pick a stereo system and are not satisfied, you may live with the consequences of the choice for several years.

Choices can be based on flavor, size, price, brand, quality, style or something else. Moods and needs keep changing. And there is no such thing as a typical consumer. The next shopper who comes along, or even your best friend, may not like the same soda you chose. It simply has no value or less value than other alternatives for that shopper who then chooses something else.

In the end, the consumer, in setting values, is a changeable, independent-minded creature. Manufacturers can't expect much success if they try to force consumers to place a high value on something they don't really need or want. In our competitive economy, this value setting process determines whether the new product will have a brief success, long-term success or no success at all.

THE HISTORY OF THE PICKLE

We enjoy the crunchy, salty flavor of pickles as an accompaniment to sandwiches and on hamburgers. And nothing is quite so much fun to eat right out of the jar as a pickle. But what exactly is this funny-looking food called a pickle? **In the United States, the most common kinds of pickles are cucumbers and peppers preserved primarily by the use of vinegar and/or salt.** They may be honeyed, sugared, peppered, dilled, garlicked, spiced, diced, chopped, mixed, soured, fermented, sliced, chipped or speared. In fact, there are actually 36 different varieties of pickles to choose from and hundreds of variations processed within these 36.

But many cultures use pickling as a method of preservation and adding flavor to different kinds of foods. Pickled cabbage originated in China where it is known as "kimchi." The Germans gave it the name we know it as in the United States — sauerkraut. Pickled beets, peaches and watermelon rind are popular among the Pennsylvania Dutch. In India, fruits such as tiny, green mangoes and limes as well as chilies, cauliflower, carrots and turnips are pickled. And other Asian countries pickle root vegetables not even known in the United States. Other cultures even use pickling to preserve fish.

AN ANCIENT ART

Pickling is one of the oldest forms of food preservation. Its history began sometime around 2030 BC, when inhabitants of Northern India brought cucumber seeds to the Tigris Valley. Shortly thereafter, people learned to preserve the fruits by pickling them in a salty brine.

Pickles, it seems, have been witness to many historical events and valued by many influential people throughout history. As early as 850 BC, Greek philosopher Aristotle praised the healing effect of cured pickles. And Homer wrote about "sailor's salty provisions" in the *Odyssey*.

Cleopatra attributed her beauty and health to pickles. Julius Caesar thought they had an invigorating effect so he added them to the diet of the Roman legions and gladiators.

Pickle passion spread throughout Europe, and Queen Elizabeth I became quite a pickle fancier. Pickles also continued to serve the world's armies. Napoleon Bonaparte insisted pickles had health-giving properties and saw to it that his army was fed pickles on a daily basis.

Pickle influence spread westward. Early explorers brought pickles with them on their long sea voyages. The vitamin C found in pickles helped keep away the disease scurvy. The "new world" was even named after a pickle peddler, Amerigo Vespucci.

PICKLING IMPORTANT IN THE GROWTH OF THE UNITED STATES

Pickles were important in the American colonies as a major method of preservation. In fact, for many months of the year, they were the only green vegetable to be had. Early Puritan settlers believed that pickles should be served daily as a "sour" reminder to be thankful for the "sweet" gifts of the land, and virtually every household made several types of pickles in the cellar. (To this day, the Amish are well known for their "seven sweets and seven sour.") In 1659, Dutch settlers grew cucumbers in what is now Brooklyn. They were sold to dealers who cured them in barrels and sold them from market stalls in New York City, thus beginning our country's pickle industry.

Revolutionary pickle lovers include George Washington, Dolly Madison and John Adams. Pickles inspired Thomas Jefferson to write "On a hot day in Virginia, I know nothing more comforting than a fine spiced pickle brought up trout-like from the sparkling depths of the aromatic jar below the stairs in Aunt Sally's cellar."

Today, pickles remain a popular food even though the need for pickling as a preservation method is not as great. In the United States, people eat over nine pounds of pickles per person each year. However, some form of pickles are enjoyed worldwide by almost everyone regardless of social, economic and geographical boundaries.

HOW ARE PICKLES MADE?

Pickles start out as cucumber seeds. One pound of seeds — which contains about 17,000 seeds — plus water, fertilizer, sun and an acre of soil will yield up to several thousand pounds of cucumbers. It is important to understand that the cucumbers grown for commercial pickling are special pedigreed strains developed to produce straight, thin skinned pickling cucumbers that are very different from the large, salad cucumbers found in the supermarket.



Pickle companies may provide their growers with the seeds and advice on how to grow the best quality cucumbers. Or, they may set specifications the grower must meet. The companies also monitor the growing to ensure their standards are met. Once the cucumbers are grown, they are brought to a receiving station to be inspected and separated into sizes. They are also cleaned to remove any plant parts such as leaves and blossoms or other undesirable matter like sand and dirt.

The cucumbers are then brought by truck from the receiving station to a pickle plant in thousand-pound boxes. It is here that the type of pickle the cucumber will become is decided. Throughout the pickle making process, food safety is paramount. Precautions are taken to ensure safety during handling. Usually, the end result is one of the following types of pickles:

Vat Cured Pickles

Cucumbers are placed in brining tanks and undergo fermentation. Fermentation is a natural process by which bacteria in the brine "eat" the sugar that exists in cucumbers and produces lactic acid. The fermentation process can take from a few days to a few months. During this time, the acid, pH, sugar and salt are monitored to make sure the pickles will be of a high quality.

Then they are removed from the brining tanks and placed in processing tanks where most of the salt is removed. The pickles can now be cut (if they are to be spears, slices, halves, etc.) by machine, inspected, and conveyed to the packing room for packing. If the pickles are to be dill, sour or sweet pickles, they are packed in jars with the appropriate spices or syrup. The jars are then vacuum sealed, pasteurized, labeled and placed in a container for shipment or storage in a warehouse.

Genuine Dills

These are a special kind of vat cured pickle made from cucumbers which have been graded and placed in a large tank with a weak brine solution and dill spices. The same brine may be used when packing the pickles into jars or new seasoned brine may be used. These pickles have a sharper flavor and a darker green color.

Fresh Pack Pickles

Cucumbers are unloaded at the plant and given another grading and separating for the various types of fresh packs. The cucumbers are not placed in brine tanks. Instead they are packed whole (or cut to specification) in jars. Then the proper spices and brine cover or syrup are added. The jars are then vacuum sealed and pasteurized to improve the flavor and make them last longer. All fresh pack cucumbers must be packed as soon after picking as possible so that the original quality can be maintained.

Refrigerated Pickles

Refrigerated pickles are similar to fresh pack pickles because they are graded, washed and packed within hours of being picked. The refrigeration process gives the pickles its distinct, fresh flavor and crisp texture. Chilled cucumbers are packed in jars with a seasoned brine that may contain some vinegar or acidification, depending on the product, and are immediately sealed and refrigerated. They are then held in refrigeration for several days to several weeks, depending on if the product is sliced or whole, so the cucumber can cure and absorb the seasonings before being shipped. Found in the refrigerated section of the supermarket, these pickles have a shorter shelf life compared to processed and fresh pack pickles and must be refrigerated throughout their life, up to consumption.