Michigan Harvest:
Food, Farming and Community

September 24 – November 20, 2011

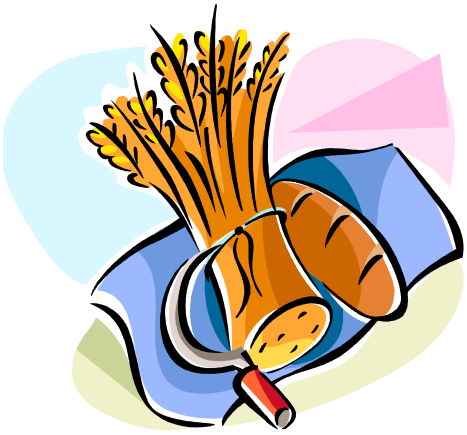
TEACHER RESOURCE GUIDE

Exhibit Introduction

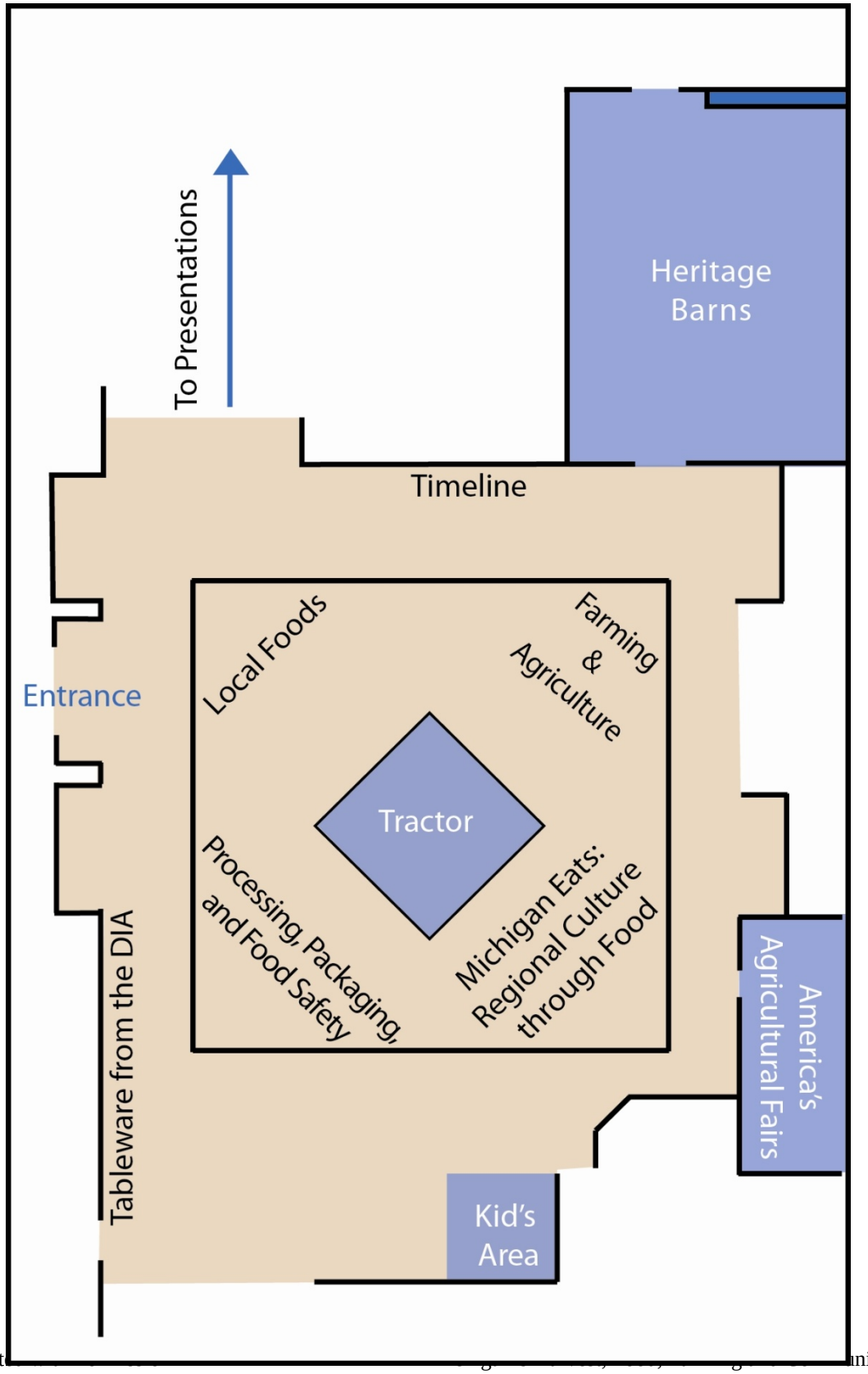
During a visit to ***Michigan's Harvest, Food, Farming and Community*** at the Lorenzo Cultural Center students will discover how Michigan's rich agricultural heritage has impacted history, regional development and social traditions.

This packet of information is designed to assist teachers in making the most of their students' visit to the Lorenzo Cultural Center. Contained in this packet are:

1. An outline of the exhibit
2. Facts, information, and activities related to **Michigan Harvest**
3. Lesson plans related to **Michigan Harvest**
4. A resource list with websites, addresses and information



Floor Plan



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Lorenzo Cultural Center, September 24-November 20, 2011

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PART I: EXHIBIT OUTLINE

Introduction
Experience Michigan's rich agricultural heritage, and traditions through enticing exhibits, tasty activities, and an abundant crop of expert speakers sure to yield a bounty of knowledge.

The Lorenzo Cultural Center offers an informative presentation of Michigan's prominence in our country's food industry. From our farming heritage to health and nutrition, this unique exhibition serves up a nourishing harvest of fun facts, rich flavors, and Michigan-grown experiences for you to discover.

Exhibits
Michigan's Harvest, Food, Farming and Community
Lorenzo Cultural Center presents photos, graphics, artifacts and information showcasing the state's farming heritage, culinary traditions, and our changing relationship to food.

Traveling Exhibits
Tableware from the Detroit Institute of Arts
From the Detroit Institute of Arts, Detroit, Michigan.
American menus and dining habits changed in the 1930s, '40s, and '50s, and so did the look of a well-set table. Designers created new forms, often using unusual materials, which reflected the evolving tastes of middle-class Americans.

The DIA objects on display include components of a buffet service in chrome-plated steel by Walter Von Nessen. Born in Germany, he immigrated to the US in 1925, and was soon commissioned by architects to design lighting and other household objects. Von Nessen quickly became one of the pioneers in the new field of industrial design, often associating with luminaries such as Russel Wright, who's ceramics and melamines are also represented in this exhibit.

Michigan's Eats: Regional Culture Through Food
From the Michigan State University Museum, Lansing, Michigan.
Interpretive panels convey in words and images many of the diverse food traditions found around the state, supplemented by historic and contemporary objects from the museum and private collections.

Michigan's Heritage Barns: An Artist's Perspective
From the Michigan State University Museum, Lansing, Michigan.
Black-and-white barn portraits by artist **Mary Keithan**, northern Macomb County resident, are accompanied by text written by the Michigan Barn Preservation Network explaining how barns reflect the state's agricultural history, the cultural diversity of those who built them, and the challenges of preserving these structures.

America's Agricultural Fairs: Educating Community
From the Michigan State University Museum, Lansing, Michigan.

Reproductions of artworks, created between 1880 and 1920, illustrate the emergence of a unique educational fair in America, where competition was the vehicle to inform and inspire, strengthening a national industry - agriculture.

PART II: TIMELINE OF THE MICHIGAN'S HARVEST

TRADITIONS

- **The Three Sisters: Corn, Beans and Squash**
  Corn, beans, and squash have been grown by Native Americans for thousands of years. Companion planting allows the plants to help one another grow. The combination holds a spiritual meaning for Native Americans.
- **Pemmican: The Ultimate Survival Food**
  Long before refrigerators, microwaves, or zip-lock bags, Native Americans made foods that could be carried easily and would last months. Usually made with dried bison, deer, moose or caribou meat, Pemmican was mixed with animal fat and dried berries to help Native Americans survive harsh winters.
- **Foraging 101**
  16th century Native communities ate edible plants, vegetables, meat and insects as part of their diet. Locusts and lice were among the insects and insect larvae that made up part of some Native diets.
- **Christopher Columbus: What's in a Name?**
  Christopher Columbus and his crew ate many of the native fruits and vegetables found growing wild in the Americas during their second visit in 1493. One favorite fruit was called "Pine of the Indies" because it resembled a giant pinecone. Columbus's crew later added the word "apple" to its name when the fruit was introduced as a pineapple to the English.
- **Spice News: The Chile Pepper**
  Green and red chile peppers, as the capsicum fruit came to be called, became an important part of diets in what is now the Southwestern United States, and they are also the basis for many famous Southwestern dishes, such as chile con carne.

COLONIZATION

- **The Colonial Casserole: Corn Porridge**
  A one-dish meal of corn porridge called "samp" was a staple of both Native American and colonial diets. Colonists learned from Native Americans to add their own touches, such as salted pork, shellfish, and herbs, simmering the stick-to-the-ribs porridge in huge kettles all week.
- **Holy Cow: Beef in the Colonies**
  In 1611, cows arrived in Virginia's Jamestown colony just in time to help strengthen the sick and weak colonists. The winter of 1610, called the "starving time," had killed many of the colonists because they were unable to trade with local Native Americans, for lack of good relations, and because their own supplies had been destroyed by fire.
- **A Holiday Celebration leads to a Holiday: Thanksgiving**
  To mark a successful planting season, the Mayflower Pilgrims prepared a one-time harvest celebration, now often referred to as the first Thanksgiving, in the fall of 1621. Although there is no evidence that the Pilgrims planned to share their harvest celebration with the local Wampanoag nation, the Europeans and Wampanoag slowly developed a

cooperative relationship, culminating in a March 1621 treaty to jointly protect their communities.

- **Tart Berries and Rice**
  Both red and white cranberries were introduced to the colonist by Native Americans in the 17th century. One of the first settlers noted, "An excellent sauce is made of them, for venison, turkeys and other great fowl, and they are better to make tarts than either gooseberries or cherries." Farmers also realized that rice was a reliable cash crop-meaning it could be grown for sale not just personal consumption. Plantations sprung up all over South Carolina, Louisiana, and Florida.

A NEW COUNTRY

- **Enslaved Africans: New Foods and Resourceful Use of Meat**
  Enslaved Africans carried with them seeds from their native foods, including yams, watermelons, okra, and several varieties of beans, and cultivated them in secret. As cooks in the plantations' kitchens, they began combining their native foods with those of European colonists and slaveholders and created new dishes such as sweet potato pie and candied yams. They were often forced to use the cast-off ingredients from those kitchens, finding delicious ways to cook the unused parts of pigs, including the snout, ears, feet and thighs (ham hocks).
- **Barbecue: South Meets West**
  The mingling of Native American, Anglo and African traditions gave birth to what we now refer to as barbecue. Native communities in North American were pit-cooking meats as early as AD 1100, and many enslaved Africans brought to the South basted their meats, primarily pork, with sauce while cooking them slowly over an open fire.
- **Creole Heat and Hot Chocolate**
  When Cajuns settled in remote parts of southwest Louisiana and bayous, they combined their French-Canadian cooking techniques with local foods, often serving meats and seafood together over rice. Dishes such as jambalaya are still loved today for the smooth but spicy heat of their seasonings. The beverage "chocolatl" was introduced to the Spanish by the Maya, and when cinnamon, sugar and grated Mexican or bitter chocolate to "atole" a common corn based drink makes it a full-bodied hot chocolate.
- **Revolutionary War: An Army of Cooks**
  If today's army doesn't like the taste of MREs (Meal, Ready-to-Eat), they should try a bite of what soldiers during the Revolutionary War stomached. Rations were doled out in raw form, consisting of flour, cornmeal, or bread, and some beef, pork, or fish. The men, who cooked the rations themselves, sweetened their dishes with maple sugar and molasses and flavored them with dried fruit or berries.

EXPANSION

- **Lewis & Clark: Nine Pounds of Buffalo a Day**
  Going through what is now part of Montana in 1805, Lewis and Clark's men were astounded by the herds of bison, numbering 10,000 or more, who roamed the plains. Meat was the focus of the American diet at the time and the expedition party feasted on 9 pounds of buffalo meat every day during this part of their journey.
- **Pioneers on the Oregon Trail: Nobody Ate Their Vegetables**

Because the emigrants had to pack enough food to last the whole 2,000-mile trip without spoiling, their diet was monotonous: preserved meats such as bacon, salt pork, and beef jerky, along with dried beans, flour, cornmeal and rice. They rarely ate fruit or vegetables.

- **Civil War: Union Soldiers Eat "Sheet Iron" and Confederate Soldiers Eat the Same Thing Every Day**
  The mainstay of a Union soldier's diet was a flour biscuit called "hardtack." Dried to prevent spoilage, the biscuit was rock hard and was usually referred to as "tooth dullers " or "sheet iron crackers." Confederate soldiers had even fewer choices when it came to food. "Coosh," a quick dish the soldiers prepared on the march, was made of fried bacon, cornmeal and water.
- **The Gold Rush: Worse Rations than the Civil War**
  Prospectors heading to the foothills of the Sierra Nevada during the California gold rush were faced with two huge obstacles: they didn't know how to cook, and food was scarce. Their diet rarely wavered from meat, bread, and coffee or tea with lots of sugar. Scurvy, a disease caused by deficiency of vitamin C, found in fresh fruit and vegetables, was common.
- **Coca-Cola: Caffeine and Cocaine**
  Dr. John Pemberton, a pharmacist, invented Coca-Cola in 1886. Named for its two main ingredients, cocaine from the coca plant and caffeine, it was an immediate hit as both a soda fountain drink and a tonic for digestion and other medicinal uses. Cocaine is no longer an ingredient of the drink, as it is illegal.
- **Building the Railroads: Chinese in America**
  By 1852, 25,000 Chinese immigrants were in California to work in mines, pick crops, and increasingly build the railroads. They brought new traditions and ingredients to American dinner tables including lukewarm tea, abalone, cuttlefish, dried bamboo sprouts, dried oysters, dried mushrooms, dried seaweed, and rice.

MODERNIZATION

- **Turn of the Century: A Dozen Courses with Wine**
  Well-to-do people at the turn of the century consumed huge twelve-course meals, each course accompanied by its own wine. A typical dinner began with oysters, followed by a clear broth, poached salmon, filet of beef, lamb chops, creamed chicken, roasted game birds, boiled potatoes and asparagus. Dessert could also include several courses such as cakes, fruit, and ice cream, accompanied by coffee.
- **The Premiere of the Ice Cream Cone and Popsicle**
  The St. Louis World's Fair in 1904 introduced the public to peanut butter, hamburgers, and ice cream cones. Up until this time, ice cream had been served in bowls and eaten with spoons. Suddenly, people could enjoy ice cream anywhere: on the beach, on the road, and even at the pool. In 1905, on a night with record low temperatures, 11-year-old Frank Epperson of San Francisco, left a fruit drink outside, with a stirrer in it. It froze, and he named the treat the Ep-cicle, patented in 1923. He eventually renamed it the popsicle.
- **Frozen Foods: Americans Say: "What?"**
  Clarence Birdseye was on an expedition to the Arctic when he discovered that meat exposed to the Arctic air tasted as good cooked as fresh meat. He determined that it was

the speed with which something was frozen that made the difference. Back in New York, he created his own quick-freeze method to preserve meat, poultry, fruits, and vegetables.

- **Science and Eating: The Rise of Health Food**
  Dr. Harvey Kellogg, director of a sanitarium in Battle Creek and a vegetarian, created a cold breakfast cereal called "corn flakes" to replace meat at the breakfast table. One of his former patients, C. W. Post, started a rival health food empire with a cold cereal called "Grape Nuts."
- **World War I: Food Shortages and Self-Service Grocery Stores**
  During WWI, foods like butter and eggs were in short supply. So Americans developed new recipes for eggless-butterless cakes, using a new product called Crisco instead of hard-to-get lard. Shopping for Crisco and other items became easier and faster due to the newly introduced self-service grocery stores, one of the first being Piggly Wiggly in Memphis, TN.

INNOVATIONS

- **Fast Food Freedom: The Slider is Born**
  In 1921, the first White Castle restaurant opened in Wichita, KS, offering hamburgers at the unbelievable low price of 5 cents apiece. While hamburgers were already popular in America, the greasy spoon restaurants that served them were not. Employees wore spotless white uniforms to prove to customers they were clean.
- **The Best Thing Since Sliced Bread: New Convenience Foods**
  By the late 1920s, Americans were able to buy a variety of food in cans – everything from tuna to pineapple. Other ready-made foods included Kool-Aid, Jell-O, Velveeta and peanut butter. To Americans, the new convenience foods were the greatest thing since sliced bread.
- **The Great Depression: Americans Learn to Ration**
  After the stock market crash in 1929, the American economy fell apart and 13 million people lost their jobs. Families cut down to two meals a day or ate on alternate days. A coal miner's lunch at this time consisted of beans and water gravy along with a sandwich of stale bread soaked in lard and water. Most everyone had to cut down or eliminate fruits and meats completely from their diet as they were too expensive.
- **Toll House Cookies: A Chocolate Accident**
  One of America's favorite cookies came about through a random occurrence. Ruth Wakefield, owner of the Toll House in MA, was making cookies when she ran out of regular baker's chocolate. She substituted a bar of semi-sweet chocolate cut into pieces thinking it would melt in the dough, and luckily, it didn't!
- **George Washington Carver : Peanut Scientist**
  Brilliant African American scientist, George Washington Carver, revolutionized Southern agriculture by advocating crop rotation (growing different plants every year to improve the soil), a practice long embraced by Native Americans. Fascinated by the peanut, Carver created 300 products from peanuts, showing farmers that there were other cash crops besides cotton. By 1938, peanuts were the chief export of Alabama.
- **WWII: PB & J for Victory**
  Both peanut butter and jelly were part of the U.S. military's rations during World War II. It's said that GIs added jelly to the peanut butter to make it easier to eat. This sticky combination was popular at home, too, because food rationing did not apply to peanut

butter a good source of protein. Postwar, the PB & J sandwich remained a favorite among adults and children, and has been ever since.

NEWER INNOVATIONS

- **1950: Casseroles and Barbecues**
  The huge assortments of foods ready-to-eat or processed – canned meats, soups and vegetables - available in the 1950s were very popular with the era's cooks. Savvy cooks mixed these products together to create casseroles. For example, considered a gourmet dish at the time, crab and cheese soufflé, which featured Velveeta. Meanwhile, trendy dads cooked in the backyard on their state-of-the-art charcoal grills.
- **Fast Food at Home: The TV Dinner**
  Carl Swanson, owner of a food processing company, had 270 tons of leftover turkey he had to use before it spoiled. He thought fast and came up with the revolutionary idea of creating the frozen "TV dinner" in an aluminum tray: turkey, corn-bread stuffing and gravy, sweet potatoes, and peas. Since most people didn't own freezers at the time, the meals were bought and eaten on the same day.
- **McDonald's: The All-American Meal**
  In 1955, Ray Kroc opened his first McDonald's franchise in suburban Chicago. His advertising slogan was "The All American Meal:" a $.15 cent burger, $.10 fries, $.20 shake. This cheap, kid-friendly meal could be served to families at a speedy 25 seconds a meal.
- **The Green Revolution: "Miracle" Seeds**
  During the 1960s, improved varieties of wheat, corn and rice dramatically increased the crop yields of American farmers, now referred to as the "Green Revolution". Through use of pesticides, irrigation, and genetic engineering, these "miracle" seeds doubled or tripled harvests on the same size plots as previous harvests. These seeds quickly spread to farmers in other countries with the hope they would end world hunger.
- **Lewis & Clark Revisited: Unique Farm Animals**
  Although the buffalo herds that the Lewis & Clark expedition feasted on were long gone, the 1980s started a new trend in farms – exotic livestock. Ranchers and farmers across the country began breeding buffalo and ostrich for sale to trendy restaurants, which offered buffalo burgers as well as game steaks, such as antelope and elk.
- **Healthy Foods: Factory Farms, GMOs and Organics**
  During the 1900s, eating healthy foods became a priority for many. Some questioned the use of factory farms, which raise one kind of animal – fish, chicken, pigs, or cows – and keep as many animals as possible penned together to produce the most meat. At the same time, organic farms follow farming methods modeled on natural ecosystems, using crop rotations, compost, animal grazing and careful cultivation, using little or no fertilizer. People also became wary of genetically modified organisms, or GMOs, such as the 'miracle' seed of the 1960s which tripled grain harvests around the world.

PART III: BACKGROUND INFORMATION

History of Farming in Michigan

Farming in Michigan increased in the early 1800s after the fur trade moved west. The completion of the Erie Canal in 1825 opened a new, easy route to the territory, and settlers created successful farms due to rich soils and easy access to water.

Throughout the 1800s, most people farmed to survive; raising a wide variety of products to eat, and trading or selling whatever they couldn't use. The main crops grown in the mid-1800s were wheat, corn and oats; wool, butter and cheese were also important. In 1860, 85% of the population depended upon agriculture for its livelihood.

By the early 1900s, the Industrial Revolution was transforming agriculture from a small, self-sufficient family art to a large, mechanized, scientific industry. Technologies such as gas-powered tractors and electricity reduced the amount of manpower needed to run a farm, which allowed farms to expand and specialize. Michigan's soil and climate in addition to these new practices made Michigan a leader in the production of many crops. However, by 1960 only 26% of Michiganders lived in rural areas, and even fewer supported themselves through farming.

Sources:
http://www.hal.state.mi.us/mhc/museum/explore/museums/hismus/1900-75/erlyagri/mech.html
http://www.geo.msu.edu/geogmich/ag_history.htm

Top Michigan Ten Crops

Agriculture is a large part of Michigan's economy, generating $63.7 billion and employing approximately one million residents. Michigan ranks second in the nation for agricultural diversity, behind only California.

This list from 2009 gives the top 20 crops and livestock products raised in Michigan, based on their value.

1. Dairy Products
2. Corn for grain
3. Soybeans
4. Greenhouse/Nursery
5. Cattle and Calves
6. Poultry and Eggs
7. Hogs
8. Wheat
9. Sugar beets
10. Potatoes
11. Apples
12. Dry Beans
13. Blueberries
14. Hay
15. Cucumbers, Pickles
16. Tart Cherries

17. Christmas Trees
18. Grapes
19. Sweet Corn
20. Tomatoes

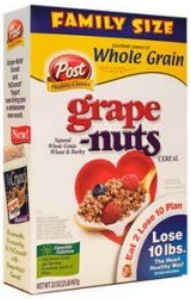
Michigan is the national leader in the production of tart cherries, having grown 77% of the U.S. total in 2007. Michigan also ranks first nationally for pickling cucumbers, geraniums, petunias, squash and vegetable bedding plants. Michigan is 2nd nationally for beans, carrots, celery, plums, 3rd in asparagus and apple growing, and 7th for milk production.
Source: http://www.agclassroom.org/kids/ag_facts.htm
National Agriculture Statistics Service, Michigan Department of Agriculture

Kelloggs'

In the late 1800s at the Battle Creek Sanatorium, a hospital/ health spa, W.K. Kellogg and his brother Dr. John Harvey Kellogg were in the process of cooking some wheat for granola when they were called away. The wheat became stale before they returned, but they forced the tempered grain through the rollers anyway, and to their surprise, each wheat berry was flattened into a thin flake. W.K. Kellogg continued experimenting, and developed a process for flaking corn in 1898. The Battle Creek Toasted Corn Flake Company was formed in 1906 with 44 employees and has grown to an international brand, represented in more than 180 countries.
Source: http://www.kelloggcompany.com/company.aspx?id=39

Post

Post Cereals also began in Battle Creek in the 1800s, when C.W. Post made his first batch of "Postum", a cereal beverage. Grape Nuts was his follow-up cereal, in1897, becoming one of the first ready-to-eat cold cereals. Before his death in 1914, C.W. Post pioneered innovative marketing techniques including coupons, free samples, product demonstrations, plant tours, and recipe booklets. Post has released popular cereal varieties including Raisin Bran (1942), Alpha-Bits (1958) and Fruity and Cocoa Pebbles (1971). Today, Post is the third largest ready-to-eat cereal brand in the United States.
Source: http://www.postcereals.com/



Morley and Sanders

Fred Sanders opened Sanders Confectionary on June 17, 1875 in downtown Detroit. Over the years the company expanded and eventually had 58 stores in the metropolitan Detroit area. The stores sold candy, fudge toppings and baked goods, but also featured fountain counters serving light lunches and desserts including ice cream sodas, sundaes, and hot fudge cream puffs. The table-height counter was one of Sanders' many innovations; others were the ice cream float, using dry ice to store ice cream, and the first carry-out service.

In time, Sanders became the leading candy-maker in the area. They expanded their business by selling directly to national supermarket chains, and other area retailers. However, Sanders experienced business difficulties in the 1970s and 80s and by 1996, all Sanders storefronts had closed.

Morley Candy purchased Sanders in 2002. Both companies now operate out of a facility on Hall Road, where they welcome customers to tours of the candy-making process. The company has also been bringing back fountain counters across the metro Detroit region. Morley/Sanders is the largest boxed chocolate company in Michigan, and with over 150 combined years of expertise, Morley and Sanders products are still making memories for Michiganders.
Source: http://www.sanderscandy.com/

Jiffy

"Jiffy" mix creator, Mabel White Holmes, was a seventh generation flour miller who struck upon a business idea after seeing the "frightful" biscuits made by the father of her sons' classmate. She wanted to create a mix that would make baking "so easy a man could do it," and convinced her husband to expand their milling business to offer prepared mixes. Mabel's mix was arguably the retail industry's first prepared food (beating out General Mills' Bisquick by several months) and the beginning a new industry of cooking shortcuts.

Following her husband's tragic death in 1936, Mabel became president of the company until her sons took over; the company Chelsea Milling is still family owned.

Chelsea Milling never has issued a coupon, written any advertising or embarked on any new-product campaigns, yet the corn muffin mix, introduced in 1950, has been among the country's top-selling dry goods for the past 20 years while the original baking mix ranks No. 2 in sales behind Bisquick.
Chelsea Milling Company is a complete manufacturer, meaning they store and mill the wheat that is used in their mixes. They even make the little blue boxes, all in Chelsea, Michigan.
Source: http://www.jiffymix.com/
She discovered How to make a Fortune in a 'Jiffy' by Clara Strange, Detroit Free Press, February 26, 1967

Faygo

Ben and Perry Feigenson were bakers in Russia before opening Feigenson Brothers Bottle Works on November 4, 1907 with three flavors: grape, strawberry and fruit punch - based on their cake frosting recipes. Originally, flavorings were sold to soda counters. Later the brothers sold the drinks in 7 oz bottles, and made home deliveries. They also began calling the drink "pop" because of the sound the bottle made when opened. Faygo became the brand's Brad's name in 1921 because "Feigenson Brothers Bottling Works" was too long.

During the 1930s, headquarters moved to Gratiot, and they introduced 12 oz bottles. The shield logo arrived in the 1940s TV commercials featured Black Bart and the Faygo Kid in the 1950s. In the 1960s diet Faygo and aluminum cans arrived as Faygo's popularity spread to neighboring states. In the 1970s, Michiganders learned the Faygo Boat Song.

Throughout the years, Faygo's innovative flavors have held strong against national brands as well as local competitors like Towne Club. In 2009 Faygo's old-fashioned root beer was named best in the country by Bon Appetit, and to bring the story full circle, Faygo-flavored cupcakes using "pop" in the batter are now available for purchase!

Source: http://www.faygo.com/default.aspx?

Better Made

Cross & Peters Company was founded on August 1st, 1930. The company was named after the founders' first names, Cross and Peter. Both set goals to make a better potato chip, hence the brand name, Better Made Potato Chips. Better Made became not only a brand name, but a way of doing business. Even in the early days of the company, only the best ingredients and methods were used. At first, production was simple. Burlap bagged select potatoes were cooked in the best oil available, weighed and hand-packed into crude greaseless bags. Distribution was chiefly through the company's own store outlets which later grew into smaller delivery routes.

Better Made's 80 years of progress have all been made in Detroit, using Michigan potatoes for 8 months of the year and drawing from Mother Nature's harvest schedule in Florida, Missouri, Indiana, North Dakota, Minnesota or wherever the best potatoes are available for the remainder of the year.

Vernor's

Pharmacist James Vernor, Sr., opened his drug store at 235 Woodward after being discharged from the Fourth Michigan Cavalry in July of 1865. Like all good pharmacists, he had a soda fountain in his store. There are conflicting stories about the birth of the famous ginger ale. One of the most popular has Vernor experimenting with a formula before leaving for the Civil War, and upon returning, found the taste he had been looking for when he opened the wooden cask. The secret blend of purified water, the finest Jamaican Ginger in proportion with other fruit juices, combined with four years of aging seemed to be the magic recipe for the drink.

In the early 1900s, the demand for Vernors grew as Detroit grew. Every first-class drug store installed equipment specifically to serve the popular drink, and thousands of cases were delivered to hospitals and homes. The company was sold a few times and now belongs to the Dr. Pepper/Snapple group of soft drinks. "The plant is gone. The huge illuminated sign is gone. The fountain at the foot of Woodward is gone. But many Detroit hearts are warmed with the fond memories of a man, his ginger ale, and the mark he left on his city."… Keith Wunderlich, Vernors historian.

Vlasic

Polish immigrant and cheese maker Frank Vlasic, moved to America in 1912 to build a better life for his family. After saving every dime from his two-dollars a day car foundry job, Frank opened a creamery business in Detroit, eventually turning it over to his son Joe.

Joe expanded the family milk business into selling Polish pickles spiced with garlic and dill. During World War II however his supply of pickles dried up, so Joe started testing a whole new idea-selling Polish pickles in glass jars. Joe couldn't keep up with the pickle demand and the Vlasic Pickle brand was born.

Joe's son Bob jointed the operation and became general manager for the entire operation, which still included the creamery. Their first plant was built in Imley, Michigan and over the next 20 years, Joe and Bob grew Vlasic into America's number one pickles source.

List of Michigan Food Companies

Michigan is fortunate to have a wide variety of food businesses based right here in the state. Some have a long history- some were founded more recently. By patronizing these or any other Michigan-based businesses, we keep money in the local economy, create jobs, and reduce fossil fuel use while celebrating the bounty of Michigan.

Achatz Handmade Pie Co.
American Spoon Foods
Archway Cookies
Awrey's Bakeries, LLC
Bareman's Dairy
Bosco's Pizza Co.
Cadillac Coffee Co.
Everfresh
Garden Fresh Salsa Inc.
Gerber
Germack
Guernsey Dairy
Honey Baked Ham
Koegel
Kowalski
Kar's
McClure's Pickles
Old Orchard
Pioneer & Big Chief Sugar
Pic-A-Nut
Stroh's
Uncle Ray's Potato Chips
Win Schuler's

Food Processing

Food processing is the set of methods and techniques used to transform raw ingredients into food or to transform food into other forms for consumption by humans or animals either in the home or by the food processing industry. Food processing typically takes clean, harvested crops or butchered animal products, and uses these to produce attractive, marketable and often long shelf-life food products. Similar processes are used to produce animal feed.

Extreme examples of food processing include the delicate preparation of deadly Fugu fish or preparing space food for consumption by astronauts in zero gravity.

Food processing dates back to the prehistoric ages when crude processing incorporated slaughtering, fermenting, sun drying, preserving with salt, and various types of cooking (such as roasting, smoking, steaming, and oven baking). Salt-preservation was especially common for foods that constituted warrior and sailors' diets until the introduction of canning methods. These tried and tested processing techniques remained essentially the same until the advent of the Industrial Revolution. Examples of ready-meals also exist from Pre-Industrial Revolution times such as the Cornish pastys and Haggis.

Modern Food

Modern food processing technology in the 19th and 20th century was largely developed to serve military needs. First in 1809, with the invention of a vacuum bottling technique that would supply food for French troops, which contributed to the development of tinning and then canning in 1810. Pasteurization, discovered by Louis Pasteur in 1862, was a significant advance in ensuring the micro-biological safety of food.

In the 20th century, World War II, the space race, and the rising consumer society in developed countries (including the United States) contributed to the growth of food processing with such advances as spray drying, juice concentrates, freeze drying; the introduction of artificial sweeteners, colouring agents, and preservatives such as sodium benzoate. In the late 20th century products such as dried instant soups, reconstituted fruits and juices, and self cooking meals such as MRE food ration were developed.

In the latter part of the 20th century, food processing companies target marketed their products toward middle-class working wives and mothers. Frozen foods (often credited to Clarence Birdseye) found their success in sales of juice concentrates and "TV dinners".[1] Processors utilized the perceived value of time to appeal to the postwar population, and this same appeal contributes to the success of convenience foods today.

Food Packaging

Food packaging industry can functionally be subdivided into five parts, which are

- Containment
- Protection
- Communication
- Functionality
- Environmental and safety issues.

The containment part is concerned with activities relating to prevention and reliability of the food products. Food products are packaged in such a way that no moisture will pass through and are made hard-wearing to reliably deliver the product to customers. The protection part is concerned with the covering of food product to protect it from damage by any biological, chemical, or physical means. The functional part guarantees that the packaged food products are conveniently used by the consumers, as well as the manufacturers. The communication part is concerned with the text and graphic design of the packaging. This includes size, shape, color and content details of the packet. Environmental and safety issues deal with the environmental aspect of the package, including recycling of the packaging, and safety of the products (like plastic contamination etc).

Source: http://www.economywatch.com/world-industries/packaging/food.html

What is Organic Gardening?

Many gardeners wonder what exactly organic gardening means. The simple answer is that organic gardeners don't use synthetic fertilizers or pesticides on their plants. Gardening organically is much more than what you don't do. When you garden organically, you think of your plants as part of a whole system within nature that starts in the soil and includes the water supply, people, wildlife and even insects.

An organic gardener strives to work in harmony with natural systems and to minimize and continually replenish any resources the garden consumes.

Organic gardening begins with attention to the soil. You regularly add organic matter to the soil, using locally available resources whenever possible. And everyone has access to the raw ingredients of organic matter, because your lawn, garden and kitchen produce them daily.

Decaying plant wastes, such as grass clippings, fall leaves, and vegetable scraps from your

kitchen, are the building blocks of compost, the ideal organic matter for your garden soil. If you add compost to your soil, you're already well on your way to raising a beautiful, healthy garden organically.

The other key to growing organically is to choose plants suited to the site. Plants adapted to your climate and conditions are better able to grow without a lot of attention or input; on the other hand, when you try to grow a plant that is not right for your site, you will probably have to boost its natural defenses to keep it healthy and productive.
Source: http://www.organicgardening.com/learn-and-grow/what-is-organic-gardening

Urban Agriculture
Urban agriculture is a broad phrase meaning growing food in urban or suburban areas. It can take the form of backyard, roof-top, or balcony gardens, community gardens in vacant lots or parks, or livestock grazing in open spaces.

Urban farming is not a new concept - from victory gardens during WWII, to new immigrants growing foods not available in the US, to families worried about the cost or effects of commercial food products. City dwellers have grown their own food for years, although the idea has recently gained new support. Problems with urban gardening include possibly contaminated soils and detractors who fear that it is a harbinger for disease, pests, and/or pollution.

In Detroit, urban plots date back to the late 1800s, when Hazen Pingree, then mayor, entreated owners of vacant lots to allow city residents to grow potatoes as a way of relieving a food shortage. The Pingree potato patches were subsidized through fundraisers to provide seeds and tools, and shortages were indeed reduced.

Today, as many as one quarter of urban households in the United States have gardens. Many gardens in the Detroit area are community gardens planted on vacant lots with many people working together to care for the plot. Community gardens have the added benefit of bringing people together, educating children about food sources, and beautifying urban spaces. Although there has been talk of large-scale corporate agricultural projects in Detroit, none yet have come to fruition.
Sources: https://attra.ncat.org/attra-pub/local_food/urban_ag.html
http://www.foodsecurity.org/urbanag.html
The Shoemaker Who Looked Like a King, by Don Lochbiler. The Detroit News.

Community Supported Agriculture (CSA)
Over the last 20 years, Community Supported Agriculture (CSA) has become a popular way for consumers to buy local, seasonal food directly from a farmer. Here are the basics: a farmer offers a certain number of "shares" to the public. Typically the share consists of a box of vegetables, but other farm products may be included. Interested consumers purchase a share (aka a

"membership" or a "subscription") and in return receive a box (bag, basket) of seasonal produce each week throughout the farming season. This arrangement creates several rewards for both the farmer and the consumer.
Advantages for farmers:

- Get to spend time marketing the food early in the year, before their 16 hour days in the field begin.
- Receive payment early in the season, which helps with the farm's cash flow.
- Have an opportunity to get to know the people who eat the food they grow.

Advantages for consumers:

- Eat ultra-fresh food, with all the flavor and vitamin benefits.
- Get exposed to new vegetables and new ways of cooking.
- Usually get to visit the farm at least once a season.
- Find that kids typically favor food from "their" farm – even veggies they've never been known to eat.
- Develop a relationship with the farmer who grows their food and learn more about how food is grown.

It's a simple enough idea, but its impact has been profound. Tens of thousands of families have joined CSAs, and in some areas of the country there is more demand than there are CSA farms to fill it. The government does not track CSAs, so there is no official count of how many CSAs there are in the U.S.
Source: http://www.localharvest.org/csa/

"To Make the Best Better" – 4-H motto
4-H Youth Development promotes healthy, positive development of young people through experiential learning and support of adults, friends and volunteers.
Club, School, Enrichment and Community Youth Programs offer opportunities in:

*Animal Science
*Gardening
*Horseback riding
*Water quality
*And much more

4-H Youth Mentors provide Macomb County youth with positive, one-on-one, professionally supported relationships with caring adult volunteers.

The State Fair
"The State Fair has been held and it was a triumph. A new era in our history has opened. On Monday the great gathering commenced and on Tuesday the multitudes came pouring in from every quarter and through every channel, by railroad, by steamboat, by stage, in wagons, on horseback and on foot until the streets swarmed with people." - The Michigan Farmer, October 1, 1849
The Michigan State Fair is the oldest in the country, beginning in 1849. Nonetheless the fair was almost derailed by political squabbling. After the governor was able to soothe the fears of the politicians, the executive committee of the Agricultural Society met and designated September

25, 26 and 27 as the dates for the fair, to be held in Detroit, provided the citizens raised $500 to help pay the expenses.

Fairgoers eagerly sought out the latest invention -- the safety pin -- but it did not make its appearance until the following year. Also appearing in 1850 were Sir David Brewster's stereo camera and Oliver Wendell Holmes' steropticon viewer. Even with such attractions, the resounding success of the first fair was unfortunately not repeated the following year, when the fair was held in Ann Arbor. Abysmal attendance there had the promoters moving back to Detroit in 1851. The state fair was also held in Kalamazoo, Jackson, Battle Creek, Adrian, Saginaw, Lansing, Grand Rapids and Pontiac before finally coming to rest at its present site on Woodward Avenue south of today's Eight Mile.

In modern times the midway draws the crowds, with rides and cotton candy. And the entertainment is by nationally known singers or groups. However, the country spirit of the early fairs lives on in champion steer judging, sheep shearing, pie baking and eating competitions, freckle and ponytail contests, vegetable displays, and giant squash. Even though the population has done an about face from being 97 percent rural to 97 percent urban or suburban, we are drawn to reminders of the farm life of our great-grandparents' day, a day at the State Fair is a nostalgic link to our communal past.
(Source: Detroit News)
Note: Due to lack of funding, the Michigan State Fair is not currently being held.

Armada Fair "A true county fair"
The Armada Fair is known as a "true county fair." The fair is supported by the dedicated commitment of many people from the Armada community, and has been an annual Macomb County event since 1872! From 4-H members to community leaders, from exhibitors to superintendents, from the Fair board, to its staff and sponsors, and its countless volunteers, the Armada Fair is a huge annual success.

This true county fair creates an old-fashioned annual community reunion where neighbors can get together to celebrate achievement, to promote and provide education about agriculture, to help build youth into productive citizens, and to offer entertainment celebrating the traditional values of the Armada community.
Source: http://www.armadafair.org/

Farmers' Markets
Farmers' markets are one of the oldest forms of direct marketing by small farmers. From the traditional "mercados" in the Peruvian Andes to the unique street markets in Asia, growers all over the world gather weekly to sell their produce directly to the public. In the last decade they have become a favorite marketing method for many farmers throughout the United States, and a weekly ritual for many shoppers.

In a farmers' market, a group of farmers sell their products once or twice a week at a designated public place like a park or parking lot. Some farmers' markets have live entertainment. Shopping at a farmers' market is a great way to meet local farmers and get fresh, flavorful produce.

There are many farmer's markets in our region: Shelby, Mt. Clemens, Rochester, Royal Oak, New Baltimore, Birmingham, Lenox, Auburn Hills, Southfield, Lake Orion, Farmington, Almont, Redford, Dearborn, and Marine City all have wonderful farmer's markets.

Eastern Market
One of the most popular markets in our region is the Eastern Market in downtown Detroit. As many as 40,000 people flock to Eastern Market for its Saturday Market to enjoy one of the most authentic urban adventures in the United States. The market and the adjacent district are rare finds in a global economy - a local food district with more than 250 independent vendors and merchants processing, wholesaling, and retailing food.

At the heart of Eastern Market is a six-block public market that has been feeding Detroit since 1891. Every Saturday it is transformed into a vibrant marketplace with hundreds of open-air stalls where everyone from toddlers to tycoons enjoy the strong conviviality served up along with great selections of fruits, veggies, fresh-cut flowers, homemade jams, maple syrups, locally produced specialty food products, pasture and/or grass-fed meat and even an occasional goose or rabbit.
Source: http://www.localharvest.org/

Macomb County Farms and Markets
Agriculture has played an important role in Macomb County's history. By 1840, settlers had moved out of Detroit and Cleared the Forests to create dairy farms, orchards, large farms, and greenhouses. In 1940s, Utica was known as the rhubarb capital of the world. Corn, wheat, oats, rye, alfalfa, sugar beets, potatoes, and vegetables were also widely grown and often sold at Detroit's Eastern Market. Any Macomb County farms are still in operation, selling their products to the public.

1. **Bowerman's Orchard and Greenhouses**
66455 Van Dyke Rd.
Washington, MI 48095

2. **Boyka's DeCock Farms and Greenhouses**
20555 23 Mile Rd., Macomb MI 48042
www.boykasfarmmarket.com

3. **Campbell's Farm Market**
3619 10 Mile Rd., Warren, MI 48091
www.campbellsfarmmarket.com

4. **Crooked Creek Farm Dairy**
75960 Brown Rd., Romeo, MI 48065
http://crookedcreekfarmdairy.com

5. **DeBruyn Produce**
16500 Armada Center Rd., Armada Twp., MI 48005

6. **DeMeulenaere's Farm Stand**
14895 29 Mile Rd., Washington, MI 48095

7. **Goike Farm Market**
13066 26 Mile Rd., Shelby Twp., MI 48315

8. **Hefling's Amish Market**
38953 Harper, Clinton Township, MI 48036
http://heflingsamishfarmarket.com

9. **Hy's Cider Mill**
6350 37 Mile Rd., Romeo, MI 48065

10. **Kutchey Family Farm Market**
17330 26 Mile Rd., Macomb, MI 48042-1104

www.kutcheyfamilyfarm.com

11. **Kutchey Family Farm Market**
3202 10 Mile Rd., Warren, MI 48091
www.kutcheyfamilyfarm.com

12. **Miller's Big Red Orchard, Greenhouses and Cider Mill**
4900 32 Mile Rd., Washington, MI 48095

13. **Mount Clemens Farmer's Market**
141 North River Rd., Mt. Clemens, MI 48043
www.mountclemensfarmersmarket.com

14. **Sheepy Hollow Herbs, LLC**
73910 Coon Creek Rd., Armada, MI 48005
www.sheepyhollow.wordpress.com

15. **Van Houtte Farm Market**
69475 Romeo Plank, Armada, MI 48005

16. **Van's Valley Produce**
66745 Van Dyke, Washington, MI 48095

17. **Verellen Orchards**
63260 Van Dyke, Washington MI 48095

18. **Westview Orchards and Adventure Farm**
65075 Van Dyke, Washington, MI 48095
www.westvieworchards.com

19. **Wolcott Mill Metropark Farm Center**
65775 Wolcott Rd., Ray, MI 48096

Industrial and agricultural use of water - Part of the MCC Water Initiative
The promise of agricultural land was the greatest attraction to the immigrants to the Great Lakes region in the 19th century. By the mid-1800s, most of the Great Lakes region was settled where farming was possible. The population swelled tremendously, with about 400,000 people in Michigan and 300,000 in Wisconsin.

As populations grew, dairy-farming and meat production for local consumption began to dominate agriculture in the Great Lakes basin. Specialty crops, such as fruit, vegetables, and tobacco, grown for burgeoning urban populations claimed an increasingly important share of the lands suitable for them, even as grist mills were built on tributaries flowing into the lakes to process grains for overseas markets.

The rapid, large-scale clearing of land for agriculture brought rapid changes in the ecosystem. Soils stripped of vegetation washed away to the lakes. Tributaries and silty deltas clogged and altered the flow of the rivers. Fish habitats and spawning areas were destroyed. Greater surface runoff led to increased seasonal fluctuation in water levels and the creation of more flood-prone lands along the waterway.

Agricultural development has also contributed to Great Lakes pollution, chiefly in the form of eutrophication. Fertilizers that reach waterways in soils and runoff stimulate growth of algae and other water plants. The plants decay and die, depleting the oxygen in the water. Lack of oxygen kill fish, and the character of the ecosystem changes as the original plants and animals give way to more pollution-tolerant species.
Source: http://www.great-lakes.net/humanhealth/other/industry.html

What is MSU Extension?
Michigan State University Extension, or MSUE is the non-formal educational component of Michigan State University. MSUE is formerly known as the Cooperative Extension Service. Since its beginning in 1917, MSUE has focused on bringing knowledge-based educational programs to the people of the state to improve their lives and communities. Today, county-based

staff members, in concert with on-campus faculty members, serve every county with programming focused on agriculture and natural resources; children, youth and families, and community and economic development.

Nutrition - My Plate

A healthy body needs nutrients such as vitamins, minerals, proteins, and carbohydrates for energy, growth, development and running the body's systems. These nutrients are absorbed into the body as food is digested. The USDA's "MyPlate," is an update to the food pyramid which shows the types of foods everyone should eat every day.

Filling half the plate are fruits and vegetables, which provide fiber and a wide variety of vitamins, minerals and antioxidants, which studies have shown to lower rates of heart disease and cancer.

Grains deliver carbohydrates which are converted into energy as well as fiber, vitamins and minerals. Proteins build bones, muscles, cartilage, skin and blood, and repair injuries and make body chemicals such as hormones and enzymes. Dairy products provide calcium and vitamins A & D. Oils are not pictured on the plate, because they are typically a component in food, not a separate item.

The plate reminds everyone that balanced diet is like a puzzle where everything has its place, and eating a wide variety of foods ensures access to a wide range of nutrients. The Nutrition Facts label, found on all prepared foods, is another useful tool for tracking nutrients and comparing food options.

Sources: www.bam.gov
http://studentaffairs.case.edu/health/medical/nutrition.html
www.choosemyplate.gov

Food Safety

The Basics: Clean, Separate, Cook and Chill

You can help prevent food poisoning from bacteria and viruses by following four simple steps when you prepare food:

- CLEAN: Wash hands and surfaces often
- SEPARATE: Don't cross-contaminate!
- COOK: Cook to proper temperature
- CHILL: Refrigerate promptly

Source: http://www.foodsafety.gov/keep/basics/index.html

Storage Times for the Refrigerator and Freezer

These short but safe time limits for home-refrigerated foods will keep them from spoiling or becoming dangerous to eat. The guidelines for freezer storage are for quality only. Frozen foods remain safe indefinitely.

Category	Food	Refrigerator (40 °F or below)	Freezer (0 °F or below)
Salads	**Egg, chicken, ham, tuna & macaroni salads**	3 to 5 days	Does not freeze well
Hot Dogs	**Opened package**	1 week	1 to 2 months
	Unopened package	2 weeks	1 to 2 months
Luncheon Meat	**Opened package or deli sliced**	3 to 5 days	1 to 2 months
	Unopened package	2 weeks	1 to 2 months
Bacon & Sausage	**Bacon**	7 days	1 month
	Sausage, raw — from chicken, turkey, pork, beef	1 to 2 days	1 to 2 months
Hamburger & Other Ground Meats	**Hamburger, ground beef, turkey, veal, pork, lamb, & mixtures of them**	1 to 2 days	3 to 4 months
Fresh Beef, Veal, Lamb & Pork	**Steaks**	3 to 5 days	6 to 12 months
	Chops	3 to 5 days	4 to 6 months
	Roasts	3 to 5 days	4 to 12 months
Fresh Poultry	**Chicken or turkey, whole**	1 to 2 days	1 year
	Chicken or turkey, pieces	1 to 2 days	9 months
Soups & Stews	**Vegetable or meat added**	3 to 4 days	2 to 3 months

Leftovers			
	Cooked meat or poultry	3 to 4 days	2 to 6 months
	Chicken nuggets or patties	3 to 4 days	1 to 3 months
	Pizza	3 to 4 days	1 to 2 months

Source: http://www.foodsafety.gov/keep/charts/storagetimes.html

Fighting Hunger Through Food Banks

Did you know that in the United States, one in six Americans is fighting hunger?
In Michigan:

- One in ten people are using emergency food programs because they don't have enough food.
- Some children eat a free school lunch, but it is their only meal of the day. During the summer many children have no guaranteed source for meals.
- Some working parents often skip meals in order to better feed their children.
- Under-nourished people can be found in every city, county and township.

Regional food banks, along with their subsidiary distribution organizations and branch warehouses, safely store and provide millions of pounds of surplus vegetables, fruits and other grocery items to more than 2500 local agencies serving each of the 83 counties in Michigan. These products are made available to the agencies at a low cost (about 10 cents per pound for goods with an average retail of $2.00 per pound). Types of agencies include: food pantries, soup kitchens, homeless shelters, hospices, domestic violence shelters, head start programs, after school programs, half-way houses and group homes.

Michigan Food Banks

Mid-Michigan Food Bank, Lansing, 517-702-3355
Food Bank of Eastern Michigan, Flint, 810-239-4441
Food Bank of South Central Michigan, Battle Creek, 269-964-3663
Kalamazoo Loaves and Fishes, 269-343-3663
*Gleaners Community Food Bank of Southeast Michigan, Detroit, 313-923-3535
*Forgotten Harvest, 248-967-1500
Gleaners Community Food Bank of Livingston, 517-548-3710
Food Gatherers, Ann Arbor, 734-761-2796
Feeding America, multiple locations:
    St. Joseph, 269-983-7229
    Cadillac, 231-779-0056
    Sault Ste. Marie, 906-632-0348
    Ishpeming, 906-485-4988
The Manna Food Project, Harbor Springs, 231-347-8852
Western Upper Peninsula Food Bank, Houghton, 906-482-5548
*Serves Macomb County and most of Southeastern Michigan
Source: http://www.fbcmich.org/site/PageServer?pagename=aboutfbcmich_memberfoodbanks

Agritourism

Agritourism is a style of vacation that normally takes place on a farm or ranch. This may include the chance to help with farming and ranching tasks during the visit. Agritourism is considered to be a niche, or uniquely adapted form of tourism, and is often practiced in wine growing regions such as Australia, Italy, Portugal, Spain, and North America. Tourists engage in farm activities ranging from picking fruit or feeding animals to planting crops. Michigan has many agritourism opportunities from Foodie Tours to Wine Trails.

Michigan Foodie Tours

Michigan local food entices us to travel across our great state and pleases our taste buds. From Michigan bakeries to wineries, you're sure to be pleased with all the culinary delights this state has to offer. These local Michigan Foodie Tours only highlight a few of the many destinations that should be experienced. The local Michigan foodie tour features dedicated to buying locally, which translates into amazing dishes, products, and beverages. Visiting quality Michigan wineries, bakeries, restaurants, breweries, farm markets and u-pick farms brings you closer to all that Michigan has to offer.

Michigan Wine Trails

The wine trails meander through lush green valleys. They shadow the breathtaking Lake Michigan shoreline, and wind their way into inviting tasting rooms. Michigan's wine trails lead us to the vineyards and wineries where we can savor the award-winning efforts of world-class winemakers of Riesling, Chardonnay, Pinot Grigio, Cabernet and more.

Leelanau Peninsula Wine Trail

Our cool-climate, Michigan wines go beautifully with food and have been winning more national and international awards and praise each and every year - making it a great destination.

Lake Michigan Shore Wine Trail

Lake Michigan Shore...The Other West Coast! Come visit the wineries of Michigan's Great Southwest. With light, beach-like soils and lake effect climate, this small corner of the state is a designated American Viticultural Area (AVA) classified as 'Lake Michigan Shore.'

Southeast Michigan Pioneer Wine Trail

Southeastern Michigan's Pioneer wine making region is a great place to spend a few hours... or a few days!

Sunrise Side Wine & Hops Trail

The Trail consists not only of wineries and breweries but some very special attractions

Wineries of Old Mission Peninsula

Jutting north between the azure arms of Lake Michigan's Grand Traverse Bay lies Old Mission Peninsula.

SOURCE: http://www.michigan.org/Places-to-Go/Tours-and-Trails/Wine-Trails/Default.aspx

PART IV: LESSON PLANS
To Grow a Plant
Grade Level: K-2 Elementary
Primary Subjects: Science
http://www.mcrel.org/compendium/activityDetail.asp?activityID=188

Pair this activity with the following Lorenzo Cultural Center presentations:
- Plant a Seed and Watch It Grow, Oct. 2 (Sun.) 2 pm

Michigan Curriculum Content Standards:
LO. III.2.4e

Explain functions of selected seed plant parts.
Purpose: As a result of this activity, students will understand that plants need a combination of resources to survive and grow.

Student Product:
Drawings of observations and conclusions
Material & Resources:
•Plant seeds (see Note to Teacher)
•Potting soil
•Pots (e.g., flats, milk cartons, plastic soda bottles), 3 per group plus extras
•Drainage trays (several large ones for entire class or small ones for each group)
•Water
•A sunny spot (e.g., a window)
•A dark place (e.g., a closet)
•Masking tape
•Permanent markers or pens
•Construction paper
•Crayons or markers

Teacher's Note:
•Choose seeds of a plant that are relatively easy to grow, such as squash (e.g., pumpkin, zucchini), radishes, or carrots.

•You may wish to have students provide their own pots.

Activity:
Students should work in groups of two or three. Students will keep a record of their observations by drawing pictures; if desired, they can also keep track of the number of days that have passed at each point.

Each group needs three pots; they should write their name on masking tape and place it on each of the pots. Explain to students how to plant their seeds (e.g., gently pack soil, how deep to place seeds). Students should then plant their seeds (2-3 per pot), place the pots on a drainage tray, and water them well. Prepare several spares in case some do not germinate (or have students prepare extras). Place the pots with their trays in a bright location. Students should now draw their first picture of their plants; they should indicate somewhere that it is the first drawing (or the first day). Students should water the soil regularly, keeping it moist but not over-saturated, until seedlings fully emerge.

Explain to students that they are now going to experiment with the "baby plants" to see what they need to keep growing. Have students offer suggestions as to what they might need and what might happen if the plants don't get those things. Students should then get into their groups and get their plants. They will be experimenting with two things: water and light. One plant will receive water and light, another will receive water but no light, and the last will receive light but no water.

Have students label their pots according to the treatment they will receive. Now they need to draw a picture of each plant as it looks at the beginning of the experiment; explain the importance of labeling them well so that they know which is which. Also, make sure students number the drawings so as to keep track of the time sequence (or note the day). They should then place the plants in the appropriate location in the room.

Over the next several weeks, they should continue to water the "water & light" plant, as well as the plant in the dark. They should not water the other plant in the light. Have the students draw pictures of the plants once or twice during this time, and again at the very end.

After drawing their final observations, have students summarize their results with a drawing and/or text; they should simply indicate their understanding that plants need water and light to keep growing and stay healthy. Follow with a class discussion that highlights additional needs of plants (e.g., nutrients, temperature requirements), as well as the needs of other organisms, particularly animals.

Lesson Plan: Protect Our Farms & Food

Grade Level: 6 to 8

Primary Subjects: Science, Social Studies, Visual Arts

http://www.crayola.com/lesson-plans/detail/protect-our-farms--food-lesson-plan/

Pair this activity with the following Lorenzo Cultural Center presentations:

- James Fuerstenau, "Agriculture: An Important Part of a High-Quality Community," on Sunday, October 9, 2011, at 2 pm
- Kami Pothukuchi, "Building Sustainable Food System in Detroit: The Story of SEED Wayne," on November 3, 2011, at 11 am

Michigan Curriculum Content Standards: E2.1; C.1

Time

30 to 60 minutes
Multiple Sessions

Benefits

Students address important issues concerning land conservancy and farmland preservation and development through research and first-person observations.
Students express their understanding of the issues with an illustration of land used for farming and land developed for other uses.
Students share their concerns and solutions with decision makers in their communities

Why: What is the future for farms and the food grown on them? Construct a display that shows how a rural landscape can change and suggest solutions.

Steps

1. All around the globe, farmland is rapidly being converted to build houses, roads, and other uses. Find out how this loss of land will affect water supplies, the world's food supply, and other issues. Interview leaders to find out what is happening to agricultural land in your area. Then show what you are learning in a graphic format such as this triarama.
2. Cut a "today" triarama. To make a display like the one in the picture, cut a recycled file folder into a large square with Crayola® Scissors. Fold the square in half, point to point, both ways. Cut along one of these new folds to the center of the square. Slide one of the sides along the cut under the other piece to stand up your triarama.
3. Depict a farm. Unfold the triarama. Draw a farm scene with Crayola Erasable Colored Pencils. You might show a bank barn, cozy farmhouse, grazing cows, fruit-laden orchard, or waving fields of grain. Color the scene with Crayola Oil Pastels.

4. With Crayola Model Magic, create farm animals or other 3-D features. Glue the pieces of the triarama together with Crayola School Glue. Air-dry the glue.
5. Make a "future" flap! Turn the triarama face down on an open file folder. Trace around the triangle with Crayola Erasable Colored Pencils. Cut out the triangle. On this triangle, draw your vision of what this farmland might look like after it has been "developed." It could be a housing community or a large trucking storage unit. With tape, hinge the flap in place on the triarama.
6. Speak up! Display your "today" and "future" scene. Speak or write to decision makers in your community about what you have learned. Suggest ways to solve the problem.

Adaptations

One half of what people in the U.S. eat is grown on 4% of farms in the country. One third of the food comes from a few enormous farms, many owned by multinational corporations. Delve deeper into this subject. Find out what is happening in other countries. Debate the issue and its impact on life around the globe.

Try this activity to get a real sense of how much food-producing land is on the planet. Cut an apple into quarters. Put aside three of these pieces to represent the Earth's oceans. Cut the remaining quarter in half. Put one piece aside to represent the part of the land that people can't live on. Slice the remaining 1/8 piece into four sections. Take away three of them to represent the land too bad to farm as well the places where people live but can't grow food. Peel that remaining 1/32 piece of apple. This scrap represents farmable topsoil on the Earth. Eat the apple!

Invite someone who has lived in your area for at least 50 years into your classroom. Ask questions to find out the ways that your area has changed in their lifetime.

Go to your local library or historical society to review past newspapers. Look for clues about to role that farmland played in your community 10, 20, and 50 years ago through photos, advertisements, notices, and real estate sales.

Assessment: Students present their triaramas to leaders and accurately explain what they have learned about agricultural land conservation and preservation.

Lesson Plan: A Garden of Learners
Grade Level: 1 to 6
Primary Subjects: Language, Arts, Visual Arts
http://www.crayola.com/lesson-plans/detail/a-garden-of-learners-lesson-plan/

Pair this activity with the following Lorenzo Cultural Center presentations:

- "Making Art with Food," on Sunday, October 23, 2011 at 2 pm
- Jason Hudy, "Mission Nutrition," on Wednesday November 2, 2011 at 11 am and 1 pm

Michigan Curriculum Content Standards:
C.2

Time
30 to 60 minutes, Multiple Sessions

Benefits
Students creatively decorate a clay pot and craft stick with their photographs.
Students reproduce replicas of their favorite fruits and vegetables.
Students assemble 3-D representation of their growing knowledge.

Why: Picture yourself growing right along with your favorite fruits and veggies! Get to know classmates better and showcase pictures of yourself.

Steps
1. Your teachers are like gardeners, tending their students. Here's a fun way to get to know your classmates at the beginning of the year (take digital photos) or to make a memorable gift anytime with your school picture.
2. Design the pot. Decorate the outside of a clay plant pot with Crayola® Gel Markers. Include your name, school, year, and colorful designs.
3. Make a picture stick. Color a craft stick with Crayola Rainbow Twistables. Attach a picture of your face to the stick with Crayola School Glue.
4. Sculpt. What are your favorite fruits and vegetables? Form replicas of them with colored Crayola Model Magic. Or, make your own colors by blending white Model Magic with the color from Gel Markers. Air-dry pieces overnight.
5. Put it together. Fill the decorated pot with your fruits and vegetables. Press your photo stick in the pot. You're ready to bloom in school!

Supplies
Crayola supplies
Rainbow Twistables® Crayons
Gel Markers

Model Magic®
No-Run School Glue
Household supplies
Photograph(s)
Craft sticks
Plant pots

Safety Guidelines

Adult supervision is required for any arts & crafts project. Observe children closely and intervene as necessary to prevent potential safety problems and ensure appropriate use of arts and crafts materials. Some craft items, particularly beads and buttons, are potential choking hazards for young children. Avoid use of such small parts with children younger than 3 years. Craft items such as scissors, push pins and chenille sticks may have sharp points or edges. Avoid use of materials with sharp points by children younger than 4 years. Read all manufacturers' safety warnings before using arts and craft supplies.

Crayola Modeling Materials including Crayola Model Magic®, and Model Magic Fusion™, Crayola Air-Dry Clay, and Crayola Dough.

Keep away from open flames. Do not use to make candleholders, hot plates, trivets, or other similar objects that will be used or placed near fire and other heat sources.
Do not put in an oven, microwave, or kiln.
Do not make into vessels/containers that will hold unpackaged food.
The use of modeling material to make items that look like food is discouraged for children younger than age 5 to avoid their confusion with real food.
Unless sealed with a water-resistant glaze, do not make projects exposed to or immersed in water, such as boats or outdoor bird feeders. They would disintegrate when exposed to moisture.
Crayola Dough—contains gluten (wheat flour) as an ingredient.
Crayola Air-Dry Clay, Crayola Model Magic and Model Magic Fusion are gluten-free. However, they are produced on the same machinery as Crayola Dough which does contain gluten. Although the machines are cleaned prior to the start of each production run, there is a slight possibility that trace amounts of gluten from Crayola Dough may be present in the other modeling compound products. For information regarding specific ingredients or allergic concerns, please call our Consumer Affairs department at 1-800-272-9652 weekdays between 9 AM and 4 PM Eastern Standard Time.

Mirrors, Picture Frames, and Plant Pots—Close adult supervision is required when children use craft materials that could shatter or break. Handheld mirrors, picture frames with glass, ceramic pots, and similar breakable items may be used only by children 8 years and older. For children 7 years and younger, use unbreakable materials such as wood or sturdy plastic picture frames, unbreakable mirrors, and plant pots that will not shatter into sharp edges.

Wood—By its nature, wood is rough and may contain splinters or sharp points
http://www.crayola.com/lesson-plans/detail/erase-it!-soil-pollution-lesson-plan/

Lesson Plan: Amazing Grazing

Grade Level: 4-6

Primary Subjects: Social Studies, Nutrition, Environmental Science

http://www.foodlandpeople.org/amazinggrazing.pdf

Pair this activity with the following Lorenzo Cultural Center presentations:

- James Fuerstenau, "Agriculture: An Important Part of a High-Quality Community," on Sunday, October 9, 2011 at 2 pm
- "The Traveling Farm," on Wednesday, November 16, 2011 at 11 am and 1 pm

Michigan Curriculum Content Standards:
WHG Era 1, 2 and 3; LEC II.5

ESTIMATED TEACHING TIME

Five sessions: 45 minutes each.

BRIEF DESCRIPTION

Students learn about the efficient use of renewable resources to meet human need in this lesson. Five small groups of students build a food system to meet their needs, which is based upon the capability of their land resource, climate, topography, and economics. The lesson provides information that directs students to understand why grazing is an environmentally sound option in each scenario.

OBJECTIVES

The students will:

- identify products and by-products of ruminant animals that meet human needs;
- list and describe reasons why grazing can be an efficient and environmentally sound use of land and, in many cases, the only suitable use; and - make their own land use decisions.

MATERIALS

Newsprint or butcher paper, scrap paper, markers in assorted colors for each group of students, copies of each of the attached Five Scenarios, Food Production Information sheets, Student Questions, and Map Samples for each group.

VOCABULARY

alluvial soils, browsing, cecum, fallow rotation, forbs, forage, frost, frost-free days, grazing, growing season, herbivore, kaolin, legume, rotation, rumen, ruminant animals, silage

RELATED LESSONS

In Harmony
Cows or Condos?
By the Way

SUPPORTING INFORMATION

Basic human needs for food, clothing and shelter are met using products made from natural resources. Some of the natural resources used are renewable; others are non-renewable. The human population is expected to keep increasing rapidly through 2035 before leveling. Using both renewable and non-renewable resources wisely is critical to meeting human needs and sustaining the population. Essential is a comprehensive understanding of each human need and the resource base that is required to meet it. This lesson will focus on the human need for food, on the use of land, and on the availability of water and other natural resources needed to produce

that food. The decisions human populations will need to make in the future about land use are complex. Much of the following supporting information is provided to help develop that understanding. Upon first examining the issue it would seem that the solution is simple—grow crops on all available land and use those crops to feed humans. This has been proposed as a feasible option to feed the increasing population. If only it were that simple. According to the Food and Agricultural Organization (FAO) of the United Nations (UN), about half of the world's land surface is suitable only for rangeland and not for growing food crops. Although rangelands are unsuited for cultivation, they have a beneficial use for agriculture and wildlife. Most rangelands could not sustain a yearly crop without a huge expense or significant deterioration of the land.

However, rangelands can sustain a grazing population of domesticated livestock to meet human needs, if well managed. To understand this issue, one should comprehend human nutritional needs, ruminant animals, animal nutrition, and the characteristics and limitations of rangelands. In addition, ruminants and ruminant-like animals are important to the proper management of other lands under agricultural cultivation. There are misconceptions about the use of lands for producing livestock and the impact of livestock on the environment. Unlike plants, which can convert sunlight, minerals, gases and energy into food, humans must eat to absorb the nutrients they need to live. The nutrients humans need to consume are proteins, carbohydrates, vitamins, minerals, and a limited amount of fats and oils. We also need water, although it is not technically a nutrient. Protein is the nutrient most critical to sustaining human life. Proteins are made up of amino acids. Complete proteins are balanced in their amino acid composition. Humans need to consume complete proteins with balanced amino acids to build muscle, nerves, organ tissue, etc. Animal proteins are complete proteins. Plant proteins are incomplete, lacking (or low in) one or more amino acids. The amount and types of amino acids vary from plant to plant. Therefore, a balanced combination of foods from plants needs to be consumed to obtain complete proteins. Consuming plant foods in a complementary fashion to balance amino acid requirements is common. Mixing rice and beans or corn and beans are examples.

Many herbivores (plant eaters) graze or browse. These grazers are either ruminant animals or ruminant-like animals. Ruminants and ruminant-like animals have complex digestive systems that include a fermentation vat. In these fermentation vats, microorganisms digest plant cellulose. In a ruminant, this fermentation vat is one of four stomach compartments known as the rumen. In ruminant-like animals, this vat is often part of the large intestine known as the cecum (caecum). To simplify and avoid confusion, the term "grazing animals" will be used for both ruminants and ruminant-like animals in this lesson. These types of digestive systems allow animals such as cattle, deer, rabbits, beavers, guinea pigs, goats, elk, water buffalo, sheep, koala bears, zebras, and giraffes to graze pastures, range and grasslands or browse trees and shrubs. Most importantly, unlike humans, these animals can convert the inedible plant fiber into high quality protein (meat, milk and fibers) because they can digest plant cellulose. Cellulose is the most abundant component of plants. As such, it is the most abundant organic compound on Earth. Cellulose is the tough, fibrous component that gives a plant's cell walls their rigidity. Cellulose is very difficult for humans to digest; therefore, humans are not grazers. Ruminants can digest 30 to 80 percent of the cellulose they consume.

Humans and other simple-stomached animals such as pigs, cats, dogs, turkeys, raccoons, bears, robins, eagles and tigers cannot live solely by grazing or browsing. Simple-stomached animals need to consume easily digested and complete plant and animal proteins and/or carbohydrates

from meat, milk, seeds, fruits or vegetables. Scientists observe that grazing and browsing by grazing animals have occurred since dinosaurs roamed the earth.

Many grazing-land plants evolved over thousands of years in cycles of migrating grazing herds. These herds would consume the plant material and move on. This would give the plants a rest period for regrowth. Grasslands also experience periodic fires. These fires would clear away debris and fertilize the soil, perhaps even improving its pH. Well managed grazing of rangelands, grasslands and pastures, which follows this pattern, is the most sustainable form of agriculture known. This is one reason that grasslands and grazing animals exist across the globe. Also, grazing animals are important to meet the protein needs of an expanding human population.

Rangelands (lands on which the native vegetation is predominantly grasses, glasslike plants, forbs or shrubs and is managed as a natural ecosystem) comprise nearly half the world's land surfaces. Half of the landmass of the United States also is classified as rangeland by the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture (USDA). According to the NRCS National Resources Inventory, another 50 million acres are in permanent pastures, which are planted in high quality grass and/or legumes. In the United States, and many other countries, most of the land grazed by cattle, sheep and goats cannot or should not be used for crop production. In hilly and mountainous areas, the slope of the land is usually too steep or the soils are too rocky or too shallow, and/or the growing season is too short or too uncertain. In other areas, the soils are sandy (containing little organic matter or ability to hold nutrients and water), temperatures are too extreme, and water is unavailable or too expensive for irrigation to produce crops. In lands unsuitable for crops, grazing animals may keep brush and other plants under control and reduce fuel available for wildfires. Low-lying, wet areas, which may be too wet for growing crops or periodically unavailable for that purpose may be entirely suitable for well-managed grazing.

Experts are learning that well-managed grazing is beneficial for both the lands being grazed and the wildlife they support. Grazing animals also can be important to help prevent soil erosion. Land suitable for crop production is often strip-cropped either on level land or on the contour of a hill. Planting alternate strips of row crops and forages effectively reduces wind and water erosion. This also maintains soil quality by adding organic matter and nutrients to the soil. Then, those forages are fed to grazing animals that convert plant material into products such as meat, milk, leather, and wool. If that option were not available, fewer farmers would be able to keep a portion of their land in these strips of forages to care for the valuable, limited soil resource. Grazing animals may harvest plant stubble after a crop has been harvested. This increases the nutrient value by converting the stubble to manure while producing animal protein. One of the newest uses for a ruminant animal can be seen in many of our urban areas. Goats are being used as a very effective, relatively low cost method of weed control. Denver's defunct Stapleton Airport is being grazed by a herd of goats on contract. The herd of goats is trucked in, fenced in with portable fencing, and moved to another location when its job is done, perhaps along a bike path, ski trail, highway or park.

The goats are very effective weed-control managers. Likewise, a herd of sheep from New Hampshire is grazing on kudzu (a noxious weed) in Florida in the summer. Grazing animals also consume other food or feed inedible to humans and fiber processing by-products (e.g. cottonseed) that were formerly waste products.

Grazing animals convert materials that humans cannot eat (or digest) into high quality protein. Citrus pulp, sugar beet pulp, cottonseed and brewer grains are a few examples of waste products from the processing of food, fiber or beverages that are fed to ruminants. This benefits humans by producing food, reducing waste sent to landfills, reducing the cost of producing food and fiber, and providing innumerable by-products such as pharmaceuticals, leather, and industrial products.

To meet current and future human needs for protein, the limited land resources that are available need to be well managed. Grazing or the production of forage crops for grazing animals is an environmentally sound option that makes good use of lands not suitable for cultivation. This benefits humans by providing protein for food and fiber for clothing. Furthermore, the land is often improved in well-managed grazing. Grazing stimulates the spread and growth of a healthy variety of grasses, stabilizes soil, improves wildlife habitat, and controls the spread of wildfires by minimizing large stocks of fuel.

GETTING STARTED

Make copies of the Five Scenarios, Map Samples, Student Questions page, and Food Production Information sheets - one for each cooperative group.

PROCEDURE

SESSION ONE

1. Review with the students (by brainstorming) what qualifies as a human need and how those needs are met. Make and post a listing of those needs or a listing of needs versus wants.

A. Ask the students:

- What are basic human needs? (food, clothing, shelter, water, living space, air)
- What are secondary human needs? (medicine, communications, sanitation, socialization)

B. Expand this list by identifying exact components of each category and sources of each.

FOOD

Fruits

Apples: New York, Washington, Michigan, California

Oranges: Florida, Texas, California

Strawberries: California, Florida, (many states in summer)

Vegetables

Potatoes: Idaho, Washington, Maine

Lettuce: Arizona, California

Tomatoes: Florida, California, Mexico

Meats

Hamburger (Beef): Texas, Kansas, Nebraska, Colorado, (almost all states)

Ham (Pork): Iowa, North Carolina, Minnesota, Nebraska, Indiana

BEVERAGES

Tea

Herbal: Colorado, Connecticut, (most states)

Green and Black: Sri Lanka, Indonesia

Milk California, Wisconsin, New York, Pennsylvania, (most states with water and forage available and close to population centers)

Cola

Most countries in the humid tropics

Any items listed, which do not have a clear source, could be researched in the library.

2. Ask these questions and post the answers:
A. What is a herbivore? (plant eater)
Carnivore? (meat eater)
Omnivore? (animal which eats both plants and meat)
B. Which herbivores graze? Can you as a human
graze and live by just grazing? (See Supporting Information.)
C. What products do we get from grazers, which we have domesticated to meet our needs and wants? (Cattle - hamburger, steak, roasts, leather, gelatin, glue, medicines, milk, dairy products; Sheep - lamb, mutton, wool, medicines; Goats - meat, wool; Horses - work, glue, recreation, sport, food in other countries)
D. Share those elements from the Supporting Information that students need as appropriate.

SESSION TWO

1. The students will now create their own communities and economic structure from the natural resource base they are given. The focus will be to meet their food needs. Divide the class into five groups. Give each group one of the five regional scenarios provided and the Map Samples sheet. Ask them to read their scenario out loud to learn their resources. Have each group note which scenario they have by number on their map.
A. Review map samples. Have the groups design the basics of their regional map in pencil. Include large items such as location of mountains, lakes, oceans, rivers, hills, cities, towns etc. They need to plan carefully to be accurate.
Example 1: A river needs to flow downhill and flow to something. It could start in a hilly or mountainous area and end in a lake or ocean or another river.
Example 2: A deepwater port could be at the ocean or large lake such as in the Great Lakes.
Example 3: Cities need to have a source of a great deal of water. This could be streams, lakes, rivers, or ocean harbors.
B. Next, have the students decide in each group what the food needs of their population are based upon their own preferences.
- What do they need to eat to have a healthy diet with variety?
- What do they want to have as treats and beverages?
Make sure they have fruits, vegetables, meats, dairy products, and grain products on their lists.
C. Identify where the foods they select originated.
Is the cereal made from corn, wheat, rice, barley? Does it have fruit in it?
D. Divide the group in half. One half should design the food system (i) and the other should finish designing the region (ii).
i. The United States produces more than 200 crops and raises livestock, fish and fowl in all shapes and sizes for food and the manufacture of clothing. Using the limited examples provided on the regional scenarios, ask the students to design a food system based upon their own preferences, land capability, population needs, economics, and natural resources. Use the list of questions provided to assist in the decision making.
a. Compare what the food needs of your region are with what it is possible to produce with your resource base. Use the Question Sheet to help.
b. Foods not included, such as rice, can be researched.
c. Consideration for future generations should be made. Employ soil and water conservation methods.
- Is the soil erodible? How should it be cultivated? Or should it not be cultivated?
- If not cultivated, how can it be used to produce food?

- Do you have adequate water? How can water be conserved? What will it cost to bring in water? What are its sources? How much water can be obtained?
d. Create a listing of foods you produce, foods you need, and foods you might have a surplus of depending on your resources.
ii.Have each group finish creating its own pictorial design of its region on newsprint or butcher paper including important topographical areas and a geography suitable to the description provided.
a. Create a draft before using the large paper to create a final map, and get teacher approval. Each group also needs to consult with those planning the food system to decide how land can or cannot be used.
b. Each group needs to design its own key. As they make these decisions have them consider these questions:
- Where would cities have been established?
What do they need? (water, transportation, industry, food, resources)
- From a weather perspective, where does it make sense for rivers to flow or lakes to form? Which side of a mountain range will have little rainfall? (Water-rich winds coming over a body of water from the west will precipitate out moisture as they rise over the mountains because they become cooler. The winds will be dry as they descend over the eastern face of the mountain because they have precipitated moisture out and they warm as they descend.)
c. Make sure you create symbols for the food, put it on the map where it would be grown, and include it in the map key.

SESSIONS THREE AND FOUR

1. Have the students continue to work on their projects until complete.
2. Once the group determines what it can and cannot produce, encourage them to negotiate and trade with other groups to meet their needs.

SESSION FIVE

1. When the mapping and food system is complete, have each group give a report on its region. Identify topographical features and what their region can produce.
- What food needs to be produced in your region?
- What food can be produced more efficiently elsewhere, with less impact on the environment?
- What food can be produced most efficiently, with little impact on the environment in your area?
2. How does your region plan to meet the food needs that cannot be met by regional production? How can you purchase food? What food products can you sell to earn money to purchase others? How will they bargain with each other to exchange commodities to help each region meet their food needs and earn other resources they may need? How will they keep track of the bargains they have made and keep their trade agreements? Who will settle disputes?
3. Are grazing animals important in your region? How or why? If so, what kind of grazing animals are best suited i.e. browsers or grazers, dairy cattle, beef cattle, sheep, goats or horses?
4. Share with students that jointly these five regions can produce 25 percent more food than their populations need, if all land is used appropriately to provide food products. Ask:
- What foods or beverages can these five regions not produce? (Coffee, tea, cocoa, bananas, fresh fruits and vegetables if production is affected by the cold of winter or excessive heat of mid-summer)
- How can you obtain those commodities?
5. Ask the students to identify which area of the United States their scenario best represents: The

Northeast, Southeast, Midwest, Northern Rocky Mountain area, Southwest, or Pacific states?
6. How does having a plentiful agriculture benefit a country's economy? What freedoms does this provide a people that another country does not have because they cannot meet the food needs of their population.
7. Ask each group to justify its decisions to the rest of the class.
- Have you met the food needs of your population?
- Are you growing crops or raising animals appropriate for your topography and climate? Have you chosen to raise grazing animals? Why?
- What decisions have you made to minimize the impact of your food production system on the environment?
- Does the rest of the class agree with your plan? What other options are there?

EVALUATION OPTIONS

1. Evaluate regional maps designed by students, the practicality of their food production plans, their cooperation in designing both as well as contributions to the project. The following may be used as a guideline:
- Does the map depict the region as described?
- Have the students met their food needs by growing and raising food appropriate for their topography, resource base and climate?
- Do the students have a plan to trade for those items they are unable to produce? Are other groups willing to trade with them?
- What are their thoughts about obtaining items that cannot be produced in anyone's region?
- Grazing is a valid option in each scenario. Have the students selected this option? And, can they justify the decision? Are there lands that they have cultivated that would be better kept in grazing?

Scenario 1: Hilly areas in forage production and a strip crop rotation to reduce soil erosion. Dairy cattle would be appropriate on pastures or confined and fed forages from corn and hay fields.
Scenario 2: The short growing season in the north with soils susceptible to wind erosion would benefit from forage production in a strip crop rotation or pastures and hay fields. Dairy cattle or beef cattle would be appropriate.
Scenario 3: Much of the land in Scenario 3 would best be kept in native rangeland or permanent pastures. Beef cattle and sheep would be a good option.
Scenario 4: This region would benefit from lands kept in native rangeland or permanent pastures where irrigation is not possible. Beef cattle, sheep and goats would be a good option.
Scenario 5: Low lying areas where floods often occur may have no other use than wooded or cleared pasturelands. Both beef and dairy cattle as well as horses would be a good option here. It is probably too warm to raise sheep profitably. It is possible to raise horses and goats almost anywhere.
2. Ask students to put their decision-making process in writing and explain their decisions.
3. Have the students describe foods and other products from grazing animals.

CREDITS

http://www.nrcs.usda.gov/NRI/
http://www.fao.org

ADDITIONAL RESOURCES

At: http://www.foodlandpeople.org/amazinggrazing.pdf

Lesson Plan: If Your Cat Took Chemistry, Would She Eat This Stuff?
Grade Level: 4-6 Primary Subjects: Chemistry, Nutrition
http://chem.lapeer.org/Chem1Docs/CatTookChem.html

Pair this activity with the following Lorenzo Cultural Center presentation:

- Toby A. Ten Eyck, Ph.D., "The Pragmatics of Food: Eating and Feeling Safe," on October 21, 2011, at 11 am

Michigan Curriculum Content Standards: C 4.2x, I 1.4

ESTIMATED TEACHING TIME: 45 minutes

The following are the listed ingredients for Puss'n'Boots ***Pounce*** (Shrimp Flavor) Treats for Cats:

Flour, liver, dried whole egg, glycerin, pregelatinized wheat flour, shrimp by-products, wheat gluten, torula dried yeast, ***calcium sulfate***, cheese meal, phosphoric acid, animal fat (preserved with butylated hydroxyanisole, otherwise known as BHA), ***potassium chloride***, ***salt***, potassium sorbate (a preservative), wheat middlings, color, choline chloride, ***calcium carbonate, ferrous sulfate***, vitamin E supplement, ***zinc oxide***, BHA (again!), ***cupric oxide***, ***cobalt carbonate, manganous oxide***, vitamin A supplement***, potassium iodide***, D-calcium pantothenate, vitamin B-12 supplement, vitamin D-3 supplement, water sufficient for processing.

The purpose of this activity is to practice writing formulas for simple inorganic compounds whose names are found on labels of products in the supermarket, drugstore or at home.

1. You are to complete the name and formula grid which is attached. Both the name and correct formula for the compounds represented in matrix must be written in the box. (30 points if completed)

2. At the bottom of this sheet is a list of ions. You are to read product labels to find compounds formed from the ions on the list. For each compound, the following information will be required:

Name of compound as it appears on the label

Formula

Name of the product in which it is found.

3. You must turn in at least 20 different compounds. (20 points if completed, -1 for each less than 20)

4. A compound may only be used once. (If the same compound is listed more than once, -2)

5. Names must be of compounds, not elements.

6. The list must be numbered for full credit. (-5 points penalty)

7. You may not write on the back of the page (-5 points penalty)

8. Lists must be alphabetized. (-5) points.

9. Extra compounds can earn extra points, up to 5 extra awarded.

IONS LIST

Cations					
Ion	Formula	Ion	Formula	Ion	Formula
Aluminum	Al^{+3}	Hydrogen	H^{+1}	Potassium	K^{+1}
Ammonium	NH_4^{+1}	Magnesium	Mg^{+2}	Sodium	Na^{+1}
Calcium	Ca^{+2}	Nickel (II)	Ni^{+2}	Zinc	Zn^{+2}
Monoatomic Anions					
Bromide	Br^{-1}	Fluoride	F^{-1}	Oxide	O^{-2}
Chloride	Cl^{-1}	Iodide	I^{-1}	Sulfide	S^{-2}
Polyatomic Anions					
Acetate	$C_2H_3O_2^{-1}$	Hydrogen sulfate (bisulfate)	HSO_4^{-1}	Phosphate	PO_4^{-3}
Bromate	$Br0_3^{-1}$	Hydrogen sulfite (bisulfite)	HSO_3^{-1}	Sulfate	SO_4^{-2}
Carbonate	CO_3^{-2}	Hydroxide	OH^{-1}	Sulfite	SO_3^{-2}
Chlorate	ClO_3^{-1}	Hypochlorite	ClO^{-1}	Tetraborate	$B_4O_7^{-4}$
Hydrogen Carbonate (bicarbonate)	HCO_3^{-1}	Nitrate	NO_3^{-1}		
Alternate Names					
Chromium (II)	Chromous	Iron (III)	Ferric	Tin (II)	Stannous
Chromium (III)	Chromic	Manganese (II)	Manganous	Tin (IV)	Stannic
Copper (I)	Cupric	Mercury (I)	Mercurous		
Iron (II)	Ferrous	Mercury (II)	Mercuric		

SUPERMARKET CHEMISTRY NAME AND FORMULA GRID

	Oxide	Chloride	Phosphate	Sulfide	Sulfate	Hydroxide	Carbonate	Acetate
H^+								
NH_4^+								
Na^+								
Ca^{2+}								
Fe^{2+}								
Al^{3+}								
Sn^{4+}								

Lesson Plan: Candy Chromatography
Grade Level: 6-8
Primary Subjects: Science
http://www.mcrel.org/compendium/activityDetail.asp?activityID=97

Pair this activity with the following Lorenzo Cultural Center presentations:

- Eileen Haraminac, "To Your Health! Food Safety at Home," on Friday October 7, at 11 am and 1 pm
- "Making Healthy Choices," on November 6, at 2 pm

Michigan Curriculum Content Standard: CI.1.2m

Purpose: As a result of this activity, students will be able to use chromatography to identify and compare the ingredients of different mixtures.
Related Standard & Benchmarks: Science
Standard 8. Understands the structure and properties of matter
Level III [Grade 6-8]
Benchmark 7. Knows methods used to separate mixtures into their component parts (boiling, filtering, chromatography, and screening)

Student Product: Table and Summary

Material & Resources:
Water
Coffee filters cut into strips about 1 in. wide and 7-9 in. long
Food coloring
Colored food products, such as Skittles, Kool-Aid powder, M & M's--anything with color that can easily be removed
Large disposable cups
Pencils
Stapler
Toothpicks, coffee stirrers, or capillary pipettes, if available
Teacher's Note: This activity assumes that students already have a basic understanding of solubility.

Activity
In this activity, students will be using chromatography to develop patterns of "known" compounds (food coloring). These then will be compared to colored food products to determine what colorings are used in coloring everyday foods.
Demonstrate the procedure for completing a proper chromatography:
•Draw in pencil a horizontal line about 1 in. up from the bottom of a filter strip (holding the paper so it's longer vertically)
•Label in pencil, and under the line, the compound that will be used on this strip
•Use a toothpick, coffee stirrer (holding a finger over the top of it like a straw), or a capillary tube to make a very small dot of liquid on the line
•After the liquid dries, roll the top of the paper over a pencil and staple together.

•Add about 1-2 cm of water to a cup and carefully lower the strip in, supported on the rim by the pencil
•Watch the level of the water as it moves up the paper--when it's almost to the top of the paper, remove it from the water and let it dry
•Use one strip of paper for each compound
After the demonstration, instruct students to do the procedure outlined above for each color of food coloring that you have. Once they have chromatographic data for each color, they should create a table that illustrates the different color components (i.e., some food coloring colors will only be composed of one color, while others may be composed of more).

So far, the purpose of this activity has been to set up the preliminary knowledge about chromatography and the "known" compounds. Now inform students that in the past, a food coloring was found to be carcinogenic in large doses. Because of this, it was banned from the market. Tell the students that they will be pretending that this has happened again and choose a color to be considered dangerous. You would like to figure out which common foods contain this compound. Present the foods and candies that you have brought to be tested. Allow students to develop their own methods for analyzing these compounds (e.g., Kool-Aid powder may need to be mixed into a thin paste, whereas candies may need to have color "blotted" off of them).
If you have the time and desire, you may actually require students to measure how far a color band traveled in reference to the water level (the Rf, a fraction expressed as how far the top of the color band traveled divided by how far the water traveled). Or you may simply require them to roughly compare bands. In any case, the information acquired by their comparisons should be expressed on their tables, where they should also note possible food coloring ingredients of these foods. Which foods may contain the "carcinogenic" substance?

Lesson Plan: A Shanty Boy's Meal
Grade Level: 6-8
Primary Subjects: Science
http://www.michigan.gov/printerFriendly/0,1687,7-153-54463_18670_18793-53124--,00.html

Pair this activity with the following Lorenzo Cultural Center presentations:

- Priscilla D. Massie, "Wood Smoke & Elbow Grease: Michigan's Culinary Past", on Wednesday, October 12 at 2 pm
- Michael Deren, "Life in the Lumber Camps 1870: Food From A Frozen Frontier", on Friday, November 4 at 11 am and 1 pm

Michigan Curriculum Content Standard:
3.1.2. CIVIC PERSPECTIVE: Describe consequences of not having rules.
3.3.1. CIVIC PERSPECTIVE: Explain how conflicts at school or in the local community might be resolved in ways that are consistent with core democratic values.

Background Notes
The cook and his helper, "cookee," were important persons in the lumber camp. They were kept busy—breakfast as early as 4:00 a.m., lunch brought out to the men in the woods, and a hearty supper after the woods were dark and work was done. Sometimes a man and wife team were hired to cook for the lumber camp. The cookee called the shanty boys to eat by blowing on a long tin horn called a "gabriel." They ate their meals in the cook shanty under a rule of silence to prevent arguments and fighting.

Breakfast might consist of fried potatoes, sowbelly, beans, sourdough pancakes with molasses syrup or gravy, hot biscuits, coffee or tea, pork sausages and other meats. Lunch, called "flaggins," was eaten in the woods. Supper was hearty with more pork and beans, potatoes, meat and gravy, and whatever the cook could rustle up. For dessert there may have been prune, raisin, dried apple, or lemon pie. "Vinegar pie" was a simple dessert. Occasionally some camps would hire a man to hunt and fish for the camp.

Objectives
Students will be able to list foods eaten by the shanty boys in the lumber camps.
Students will be able to tell why silence was the rule followed during lumber camp meals.
Students will be able to express like or dislike of the foods eaten by shanty boys.
Michigan Social Studies Curriculum Content Standards
This lesson presents an opportunity to address, in part, these MEAP standards:

Materials Needed
Foods such as those eaten by shanty boys: lots of pork and beans, pancakes, gravy, baking powder biscuits, potatoes (fried or boiled), pork sausages, etc., coffee or tea (optional; use decaffeinated for students, although the shanty boys would have had regular). Make a "vinegar pie" (recipe).

Directions
Plan a shanty boy's meal with the students. Discuss how the hard work of the shanty boys affected the quantity of food they ate and their willingness to eat "plain" foods—especially pork and beans—day after day.

Be sure hot foods are cooked/heated well. Encourage students to try everything. Coffee and tea may be tasted, but furnish an additional beverage. Announce the meal with trills from a horn, if possible. Enforce the silence rule during the meal. After eating and clean up are finished, discuss the food, its variety or lack of it, tastes, and the role played by the silence rule.
Seek cooperation from parents, volunteers, and—if you have a cafeteria—your cafeteria staff. Plan an active program and no snacks before the meal so students appreciate the hunger of the shanty boy at meal time, and arrange to eat later than the students' regular schedule.

Questions for Discussion or Research
How hungry would you be after a day—from sun up to sunset—of back-breaking work in the winter woods?
Why did lumber camps have the foods they had? Why is there no mention of milk (few had a cow), oranges or other fresh fruit (some had prunes and dried fruit), or many of the foods we are used to eating (transportation and storage problems).
Would a "no talking at lunch" be a good rule to avoid arguments in a school cafeteria today? Why or why not? What other ways might you avoid conflicts?
At the Museum
Look carefully for photographs of lumber camp life. Find the "wanigan," a floating cook shack used on river drives.
Watch the 13-minute slide program about Michigan's lumbering era to learn more about how shanty boys lived.
Vocabulary
Cookee: Cook's helper
Flaggins: Lumberjack's lunch eaten in the woods
Gabriel horn: Long tin horn used to call the shanty boys at meal time
Shanty boys: Loggers or woodsmen (named for the "shanties" in which they lived); lumberjack
Sowbelly: Fat salt pork or bacon
References
Barnes, Al. Vinegar Pie and Other Tales of the Grand Traverse Region. Traverse City, MI: Horizon Books, 1971.
Foehl, Harold M., and Hargreaves, Irene M. The Story of Logging the White Pine in the Saginaw Valley. Bay City, MI: Red Keg Press, 1964.
Maybee, Rolland H. Michigan's White Pine Era. Lansing, MI: Bureau of History, Michigan Department of State, 1988.

Vinegar Pie
1 1/4 cups granulated sugar
1 1/2 cups boiling water
1/3 cup vinegar
1/3 cup cornstarch
Dash of nutmeg
3 eggs

1 tablespoon butter
Baked 8" or 9" pie shell

Separate eggs and beat the three egg yolks together. Stir the first five ingredients together and cook until clear and thick. Stir half the mixture into three beaten egg yolks; add mixture to remaining mix in saucepan and stir until combined; let rest off burner for one minute. Stir in a tablespoon of butter until melted. Pour into a baked pie shell.

Barnes writes that Mrs. Russell Wood, Kalkaska, cooked vinegar pie in northern Michigan lumber camps. This recipe is adapted from one she used. Her recipe directions conclude, "If you wish to be fancy, just in case the girls are going to drop in, make the usual meringue [using the left-over egg whites]. (But lumberjacks were happy to have the pie without the fringe on top.)" Adapted from: Barnes, Al. Vinegar Pie and Other Tales of the Grand Traverse Region. Traverse City, MI: Horizon Books, 1971.

Other Related Lumbering Gallery Activities

Lumbermen

In addition to "shanty boys," the lumbering industry employed men to work in many different and fascinating jobs. Using a dictionary and the resources for the activities in this section—for many job titles are unusual and will not be found in the typical dictionary—learn about each job. Plan an activity around the unique jobs. For example, students might write a song or a Paul Bunyan-type story or make up a "word find" or crossword puzzle using the names of the workers:

birler hayman-on-the-hill sawyer
blacksmith inkslinger scaler
boomer landing man shanty boy
boom master landlooker skyhooker
bull cook loader sled tender
chainer logger swamper
cookee lumberman teamster
decker lumberjack tie hacker
edgerman millhand timberman
filer off-bearer yardmaster
groundhog riverhog

Lesson Plan: Caring for Planet Earth: The Great Lakes – Discovering Water

Grade level: 3-12

Subjects: Environmental Studies, Geography, Health, Science, Social studies

http://www.great-lakes.net/teach/teachers/details.html?mid=3

Pair this activity with the following Lorenzo Cultural Center presentations:

- Mary E. Bohling, "Choose It, Clean It, Cook It: Eating Great Lake Fish," on Thursday October, 20, at 1 pm
- "Health and Nutrition," on Friday, November 18, at 11 am

Michigan Curriculum Content Standard:

I.1.E.1; I.1.E.2; III.5.E.4; V.2.E.3; I.1.MS.1

Discovering Water- Watching our Water Use

Concept

Understanding human impact on the environment

Key Questions

What are some ways to conserve water around the house?

Background information

It is amazing how much water each of us uses every day. The Following examples are amount of water used during normal activities:

Tooth brushing (2min.with water running) 6 gallons
Hand washing (3 min. with water running) 9 gallons
Toilet flushing (each flush) 7 gallons
Showering (5 minutes) 25 gallons

Materials

Per class:

1 gallon of water
Class record chart

Per student:

Watching our Water Use activity sheet

Engage

Display a gallon jug filled with water and ask student to predict how many gallons of water they use a day doing four routine activities, such, as brushing their teeth, flushing a toilet, washing their hands and taking a shower. Mark their prediction on a class record chart.

Explore

1. Distribute our **Watching our Water Use Activity** sheet.
2. Instruct students that they will be keeping a record of their use from the time they leave school that afternoon until they return the next morning.
3. They should be instructed to conduct these activities the way they normally do them. They need to count the number of times they flush a toilet, the number of times they brush their teeth, take a shower and wash their hands.

Develop

1. On the following morning instruct students to total the number of gallons they use and enter that total in the actual #1 usage area on the class record sheet as shown in the sample.

Class Water Usage Chart			
	Prediction	Actual #1	Actual #2
Students' Names ↓			

2. Ask

How many students exceeded their predictions?

3. Total the class usage

Discuss how we could conserve the amount of water that we use on a daily basis. (Suggestions may include turning the water off while brushing teeth and using a cup of water to rinse our toothbrush, taking showers, turning off water while lathering hands instead of leaving it run.

Day two

Engage

Challenge the students with the following scenario. Imagine that you have received a notice from the city water company saying that because of the lack of rainfall in recent months, each person will be allowed to use only 40 gallons of water daily. What water use could you eliminate or reduce? What would be the uses you could not do without?

Explore

Instruct students to monitor their water usage again, but this time tries to reduce their water usage to 40 gallons.

Develop

1. Record each student's water usage on the second trial in the actual #2 usage area on the class chart.
2. Total the class usage again and subtract the two totals to compute the water saving in one day.
3. Multiply that by a week, month and a year to calculate individual water savings as well as class usage by doing a few water-savings practices.

Extend/Apply

Review other water-saving and water-wasting practices. Discuss ways that we could change practices to save water. Suggestions could include: fixing leaking faucets, using toilet dams, turning on dishwasher and washing machines with full loads and watering lawns during cooler part of the day.

WATCHING OUR WATER USE

NAME _____

Directions: Write down how many times you complete each of these activities on a typical school day. Then use the chart at the bottom of the page to figure out how much water you use each day.

ACTIVITY	NUMBER OF TIMES PER DAY	TOTAL AMOUNT OF WATER USED PER DAY
Brush Teeth		
Wash Hands		
Flush Toilet		
Take a Shower		

AVERAGE AMOUNT OF WATER USED FOR DAILY ACTIVITIES

ACTIVITY	AMOUNT OF WATER USED
Toothbrushing (2 min. with water running)	6 gallons
Handwashing (3 min. with water running)	9 gallons
Toilet Flushing	7 gallons
Showering (5 minutes)	25 gallons

The Great Lakes interactive CD-ROM program takes learners on a journey of discovery through the Great Lakes. It is designed to strengthen decision-making and problem-solving skills as well as to promote an understanding of the Great Lakes.

Students are challenged to learn about major topics concerning the Great Lakes ecosystem including: Science, Land, Air, Water, Biodiversity, Community, and Human Health Issues.

The first part of the journey begins in the future and takes the learner through the history of the Great Lakes region. The second part takes place on the five Great Lakes during the end of the 20th century, and is exploratory in nature. Students travel in a spaceship throughout the Great Lakes, discovering keys and tokens, completing learning events, and discovering and reviewing ecological facts. Much of the learning occurs through simple content review and taking "recharge" quizzes.

The last part of the journey involves traveling back to the future to address various environmental crises. Students must process what they have learned by sorting a range of responses to the crises into categories: preservationist, equilibrium (the "right") category, and development.

The CD also includes a learning-focused Great Lakes Resource Guide, which provides support materials for educators. These materials are designed to help students master the major topics discovered while playing The Great Lakes game. The Resource Guide also includes information about regional organizations that students can become involved with.

The Resource Guide is in Portable Document Format (pdf file) that can be opened in Adobe Acrobat Reader, and printed if desired.

Fish content: Fisheries per se are not a direct focus of this CD, but are instead ancillary to an exploration of general development and pollution issues. However, fisheries receive some focused attention during discussions of bio-magnification, habitat loss, and exotic species invasions.

Part V: OTHER RESOURCES

PARTICIPATING MUSEUMS & COLLECTIONS

The Armada Agricultural Society
74280 Fair Street
P.O. Box 507
Armada, MI 48005
586.784.5488
office@armadafair.org

Detroit Historical Museum
5401 Woodward Avenue
Detroit, MI 48202
313.833.7935
http://www.detroithistorical.org/

Detroit Institute of Arts
5200 Woodward Avenue
Detroit, Michigan 48202
313.833.7900
http://www.dia.org/

Hudson Mills Old Power Club
http://www.oldengine.org/members/pitts/mbf/hudsonmills.htm

Michigan State University Museum
West Circle Drive
East Lansing, MI 48824
517.355.2370
http://museum.msu.edu/

Michigan State University Archives and Historical Collections
101 Conrad Hall
East Lansing, MI 48824
517. 355-2330
http://archives.msu.edu/

Michigan State University Extension Service
East Lansing, MI 48824
Phone: 517-355-2308
http://www.msue.msu.edu/portal/default.cfm?pageset_id=25744

Oakland County Pioneer & Historical Society
405 Cesar Chavez Blvd.
Pontiac, MI, 48342
248.338.6732
www.ocphs.org

Wolcott Mill Metropark Historical Center
63841 Wolcott Road
Ray, MI 48096
586.749.5997
http://www.metroparks.com/blog.aspx?ID=11

PART VI: WEBSITES

Healthy Restaurant Eating:
http://fnic.nal.usda.gov/nal_display/index.php?info_center=4&tax_level=3&tax_subject=358&topic_id=1611&level3_id=5972&level4_id=0&level5_id=0&placement_default=0

My Plate: http://www.choosemyplate.gov/

Food Groups: http://www.choosemyplate.gov/foodgroups/index.html

Let's Move: http://www.letsmove.gov/

Tips of Choosing Produce and Keeping it Fresh…and Safe from Plant to Palate:
http://www.ext.nodak.edu/pick.htm

Safe Food Handling:
http://www.fsis.usda.gov/Fact_Sheets/Safe_Food_Handling_Fact_Sheets/index.asp

Be Food Safe: http://www.fsis.usda.gov/Be_FoodSafe/BFS_Messages/index.asp

Food Safety Research Information Office:
http://fsrio.nal.usda.gov/nal_display/index.php?info_center=1&tax_level=1&tax_subject=601

Calculate Body Mass Index: http://www.nhlbisupport.com/bmi/

Look up Calories or Nutrients in a Food: http://www.nal.usda.gov/fnic/foodcomp/search/

Find Healthy Recipes: http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/recipes.htm

See Dietary Guidelines for Americans: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm

Making Healthy Food Choices (for Diabetics and Pre-Diabetics):
http://www.diabetes.org/food-and-fitness/food/what-can-i-eat/making-healthy-food-choices.html

Watch your Garden Grow: http://urbanext.illinois.edu/veggies/index.cfm

PART VII: EVENTS

Hear these authors and presenters speak at the Lorenzo Cultural Center. Each presentation lasts about 1 hour. Please see our brochure for more information about presentations, workshops and lectures. These are led by local and nationally known authors, professors and historians.

SEPTEMBER

Sustainable Landscape Design and Native Plants, Rick Lazzell

- Wednesday, September 28, 2011 at 11 am

Have You No National Dishes? Past, Present and Future of the Janice Bluestein Longone Culinary Archive, Jan Longone

- Thursday, September 29, 2011 at 11 am

http://www.clements.umich.edu/longone-archive.php

OCTOBER

Plant a Seed and Watch It Grow (Kids Activity)

- Sunday, October 2, 2011 at 2 pm

http://crafts.kaboose.com/terrarium.html

International Culinary Olympics, Chefs David F. Schneider and Scott O'Farrell

- Wednesday, October 5, 2011 at 2 am

To Your Health! Food Safety at Home, Eileen Haraminac

- Thursday, October 6, 2011 at 11 am& 1 pm

What is Community Supported Agriculture (CSA)?, Jackie Good

- Friday, October 7, 2011 at 11 am

http://www.rcorganicfarms.com/

Agriculture: An Important Part of a High-Quality Community, James Fuerstenau

- Sunday, October 9, 2011 at 2 pm

http://www.farmbureauinsurance-mi.com/pages/agent/ag4270.htm

Wood Smoke & Elbow Grease: Michigan's Culinary Past, Priscilla D. Massie

- Wednesday, October 12, 2011 at 11 am

http://www.michiganhistorylectures.com/html/priscilla_massie.html

Eastern Market, Dan Carmody

- Thursday, October 13, 2011 at 11 am

Grow Your Own: How to Research Michigan's Foodways History, Kristin M. Szylvian, Ph.D.

- Friday, October 14, 2011 at 11 am

The Prepared Pantry: What Every Kitchen Needs, Bonnie Fishman

- Friday, October 14, 2011 at 1 am

Honey Bees: Their Health & Yours! Rich Wieske

- Sunday, October 16, 2011, at 2 pm

http://happyfrogdetroit.com/directory/listings/green-toe-gardens

Culinary Tourism in Your Own Kitchen, Lucy M. Long, Ph.D.

- Wednesday, October 19, 2011 at 11 am & 1 pm

http://www.bgsu.edu/departments/acs/faculty/long_l.htm

The Macomb Food Program Pantry Network System, Sue Figurski and Julie Kavanagh

- Thursday, October 20, 2011 at 11am

Choose It, Clean It, Cook It: Eating Great Lakes Fish, Mary E. Bohling

- Thursday, October 20, 2011 at 1 pm

The Pragmatics of Food: Eating and Feeling Safe, Toby A. Ten Eyck, Ph.D.

- Friday, October 21, 2011 at 11 am

http://sociology.msu.edu/tteneyck.html

Food in Art, speaker from the Detroit Institute of Art

- Saturday, October 22 at 10am

Explore the Detroit Institute of Arts (DIA), Food in Art

- Saturday, October 22, 2011 at 11 am and 4 pm

Tickets: $35, which includes transportation, DIA admission and lunch. Space is limited. Tickets available at 586.296.2222 or on line at www.MacombCenter.com

Urban Roots: Screening and Chat with Director, Mark McInnis

- Saturday, October 22, 2011 at 1 pm

http://www.treemedia.com/treemedia.com/Urban_Roots.html

Making Art with Food, (Kids Activity)

- Sunday, October 23, 2011 at 2 pm

http://www.makeandtakes.com/coloring-pasta-making-necklaces
http://familyfun.go.com/crafts/bean-mosaics-craft-665168/

The Best to You Each Morning: The Making of the Cereal City, Roger L. Rosentreter, Ph.D

- Wednesday, October 26, 2011 at 11 am and 1 pm

Michigan Wine Tasting with Heather Dean

- Thursday, October 27, 2011 at 6:30 pm

Tickets: $25 (Available at 586.286.222 or www.MacombCenter.com)

Growing Your Own: From Pioneer Farms to Victory Gardens, Robert H. Duke, Ph.D

- Friday, October 28 at 11 am and 1 pm

http://ep.emich.edu/us_travel/farms.aspx

NOVEMBER

Mission Nutrition, Jason Hudy

- Wednesday, November 2, 2011 at 11am and 1 pm

http://www.yourschoolshow.com/mission_nutrition.htm

Building Sustainable Food Systems in Detroit: The Story of SEED Wayne, Kami Pothukuchi, Ph.D

- Thursday, November 3, 2011, at 11 am

http://www.clas.wayne.edu/faculty/Pothukuchi

Life in the Lumber Camps 1870: Food for a Frozen Frontier, Michael Deren

- Friday, November 4, at 11 am and 1 pm

http://pastinperson.com/

Forgotten Harvest: The Nation's Largest Food Rescue Operation, Nancy Fishman, Ph.D

- Saturday, November 5, 2011 at 1 pm

http://www.forgottenharvest.org/

Making Healthy Choices (Kids Activity)

- Sunday, November 6, 2011 at 2 pm

Sharing the Taste of Midwestern Food: A Historical Analysis, author Ellen F. Steinberg, Ph.D

- Wednesday, November 9, 2011 at 11 am

http://wsupress.wayne.edu/books/936/Learning-to-Cook-in-1898

Big Night (Movie screening), Phil Barrons

- Thursday, November 10, 2011 at 11 am

http://www.imdb.com/title/tt0115678/

The Traveling Farm, The Bowers School Farm

- Wednesday, November 16, 2011 at 11 am and 1 pm

http://farm.bloomfield.org/images/stories/frontpage/farm_brochure.pdf

The Future of Food, Mark Bittman, New York Times columnist

- Thursday, November 17, 2011 at 7 pm

Presentation: $15; $5 Seniors/Students/Military
Presentation and Meet & Greet: $20 (5:30–6:30 pm)
http://topics.nytimes.com/top/reference/timestopics/people/b/mark_bittman/index.html

Health and Nutrition, Detroit Science Center

- Friday, November 18, 2011 at 11 am

http://www.detroitsciencecenter.org/

Michigan Harvest Festival

- Saturday, November 19, 2011 from 10 am to 4 pm