

Between the Slices

Grade Level: 4-6

Approximate Length of Activity: One to two class periods

Objectives

Teacher

1. Introduce students to products grown on a farm and explain how the products are processed into other foods.
2. Help students write a paragraph using transition words.

Students

1. Identify products grown on a farm and how they are processed into items eaten every day.
2. Write a paragraph using transition words.

Michigan Content Standards: (Language Arts) R.CM.04.01; R.CM.04.02; R.CM.04.04; R.MT.04.02; W.PR.04.01; W.GR.04.01; R.CM.05.01; R.CM.05.02; R.CM.05.04; R.MT.05.02; W.PR.05.01; W.GR.05.01; R.CM.06.01; R.CM.06.02; R.CM.06.04; R.MT.06.01; W.GR.06.01

Introduction

Today's farmers make it possible for food processors to use quality products such as wheat, pork, and milk to produce the foods we eat and enjoy. It takes more than the farmer to get the products to our tables. Growing and harvesting crops and raising livestock is only the beginning. Thousands of workers help get agricultural products to our stores and restaurants. Agricultural workers are interdependent, meaning they rely on and support one another. Read below to find out what some products go through to get from the farm to the consumer.

Wheat – Grain. Winter wheat and spring wheat grow in various parts of the United States. When the wheat is ready to harvest, farmers use a combine to harvest it. The combine cuts the wheat stalks out of the field and separates the wheat head from the stalk. The wheat head moves into a storage tank on the combine. When the tank gets full, the farmer unloads the combine into trucks or wagons using an auger. An auger is like an arm on the combine. It pushes grain through the combine and into the truck or wagon. The farmer then transports it to a grain elevator.

The grain is shipped by truck, rail, or barge to a terminal, where it is exported or sold to various industries to make feed or food. The place wheat is shipped to to make food is called a mill. The mill breaks the wheat kernels into pieces and sifts the pieces to get the bran and germ (parts of the wheat kernel) out. This process is repeated many times to make the substance we know as flour. The miller then adds B-vitamins and iron for nutrients. Flour is packaged in bags and shipped to bakeries or grocery stores. Bakers use wheat flour because it contains a protein called gluten. To make the dough, active yeast, warm water, and oil are added to the flour. The gluten traps the air bubbles the yeast releases and causes the dough to rise.

Cheese – Dairy Product. Cheese is a healthy, tasty food made from milk. After dairy cows are milked, the milk from the cows is placed in huge storage tanks. These storage tanks cool the milk until refrigerated tank trucks come to pick it up. To begin making milk into cheese, the milk is



first heated and quickly cooled. This is called pasteurizing. Pasteurizing is a process that kills any harmful bacteria. The processed milk is then treated to form a soft, custard-like substance called curd. The curd contains liquid called whey, which must be taken out through a special process before cheese can be made. Special knives cut the curd into thousands of small cubes, and the whey oozes from them. Heating and motion force more whey from the curd. The curd “ball” is lifted from the vat and broken into small pieces and put into presses that keep the cheese under great pressure from a few hours to a few days. During pressing, more whey drains out, and the curd is shaped into blocks or wheels. After it is pressed, it is immediately wrapped in plastic. The cheese is aged in cool storage rooms. The aging times vary for different cheeses. Brick cheese and others need two months to age while Parmesan cheese requires about a year. After being aged, the cheese is packaged in a wide variety of shapes and sizes.

Bologna and Ham – Pork Products. Pigs go to market when they are five to six months old and weigh 240 to 260 pounds. Pigs may be sold at an auction market, sale barn or may be bought directly by an order buyer who buys for a packer. Meat inspectors employed by the U.S. Department of Agriculture inspect live pigs, pig carcasses and the entire packing plant to make sure that pork is safe to eat. Pork is sold as fresh or processed meat. Fresh meat is sausage, pork chops and roasts. Processed meat is salami, hot dogs, pepperoni, bologna and luncheon ham. Processed meats are cured with salt and then smoked, baked or dried. About half of the pork produced in the United States is sold in supermarkets. The other half is eaten at restaurants, hospitals, schools and business cafeterias.

Materials Needed

- “Between the Slices Kids’ Facts” worksheet
- “Vocabulary Match-Up” worksheet
- “Secret Sandwiches” worksheet
- Plastic knives (optional)
- Items for making sandwiches such as bread, mayonnaise, mustard, lunch meat, cheese, peanut butter, jelly, lettuce, tomatoes, etc. (optional)
- Napkins (optional)

Activity Outline

1. Ask students if they know how food grown and raised on a farm gets to them. Using the introductory information, help students understand the processes that food go through.
2. Read the “Between the Slice Kids’ Facts” worksheet with the class.
3. Discuss how food processing is the changing or preparing of food by special treatment. Hand out the worksheet “Vocabulary Match-Up.” Have the students complete the worksheet and then go over the answers with the class.
4. Next, have students write a paragraph describing how to make their favorite sandwich. Remind students to use transition words in their writing such a next, first, second and finally.
5. Pass out “Secret Sandwiches” worksheet. Have students figure out what type of sandwich each child ate.

Discussion Questions

1. What is food processing?
2. Explain how food gets from the farm to the grocery store.
3. How is wheat processed into flour?
4. How is milk transported to a dairy plant?
5. How is pork cured into processed meat?

Related Activities

1. Have students write persuasive essays or paragraphs. (Example: a bologna and cheese sandwich is better than a peanut butter sandwich . . .)
2. Have students write letters inquiring about food-processing techniques. Write to ask how peanuts, fruit or meat are processed. Think of name-brand foods and write to the companies that produce them.
3. The Michigan Farm Bureau has an educational magazine geared for kids entitled "Pizza Ag Mag" which contains activities such as food ideas, games and history. To obtain copies for your classroom contact Michigan Farm Bureau, Promotion and Education department at (800) 292-2680 ext. 3202.
4. The lesson "Foods Amazing Journey" located in the social studies section of this curriculum guide.

Between the Slices Kids' Facts

Wheat – A Grain -- Grown on a Plant

Grains must be processed before people can eat them. Some grains are fed to livestock after they are harvested. Besides bread, what else can wheat be made into?

Bologna – From Hogs or Beef – Livestock

Glue, leathers, gelatin, medicines, upholstery and fertilizer are only a few of the by-products we get from these animals. Can you name some other meats we enjoy that come from hogs and beef cattle?

Egg Salad – From Chicken Eggs – Poultry

Chickens can lay approximately 250 eggs each year. Egg whites are used in glue and egg yolks are used in shampoos. We also raise chickens for their meat. In addition to egg salad, how else do we prepare eggs?

Cheese and Butter – Dairy Products

Milk comes from dairy cattle. It is high in calcium which builds strong bones. Many other products are made from milk. What are some other dairy products?

Peanut Butter – From a Plant – The Seed

Peanuts grow in a pod under the ground. These types of plants are called legumes. Oil is also extracted from the peanut. Can you name some other seeds we can eat?

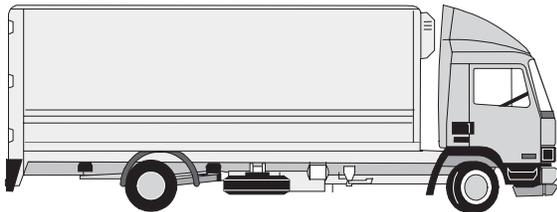
Jelly – From a Plant – The Fruit

Jelly is made from different fruits. In addition to jelly and jam, fruit can be dried, made into juice, or just enjoyed fresh. Name some flavors of jelly or jam you especially enjoy.

Vocabulary Match-Up

Directions: Match the vocabulary word to the correct definition. Write the correct letter in the blank before the vocabulary word. There will be two definitions leftover.

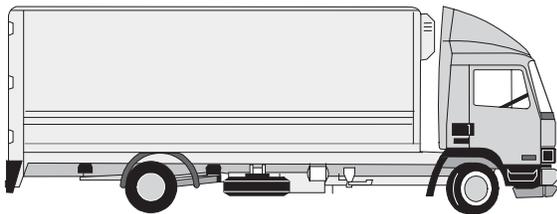
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|--------------------------|---|
| 1. _____ Agriculture | a. to rely or support one another |
| 2. _____ Consumer | b. the process of selling and making goods available |
| 3. _____ Food processors | c. companies that sell and market goods |
| 4. _____ Producer | d. the science of producing crops and raising livestock |
| 5. _____ Interdependent | e. items used in making a sandwich |
| 6. _____ Distributors | f. a person who buys and uses goods |
| 7. _____ Marketing | g. a person who grows agricultural products |
| | h. a crop grown by a farmer |
| | i. companies that change raw materials (corn, wheat, milk) into other products (chips, bread, butter) |



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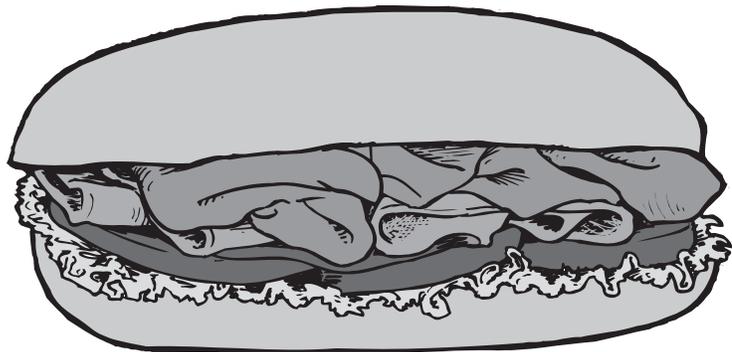
Secret Sandwiches

Four classmates, Sara, Sam, Sally, and Steven (seated in that order) enjoyed their favorite sandwich for lunch yesterday. Each child had a different sandwich. Can you match the child with the correct sandwich?

	Peanut Butter & Jelly	Bologna	Egg Salad	Ham & Cheese
Sara				
Sam				
Sally				
Steven				

Clues:

1. Sam had two different ingredients on his sandwich.
2. Sara sat next to the boy who was eating the Ham & Cheese sandwich.
3. Steven's sandwich was not made with meat.
4. Sally always eats potato chips with her Egg Salad.



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