Fantastic Foods

National 4-H Curriculum
BU-07144

SIX EASY BITES

Foods Youth Activity Guide



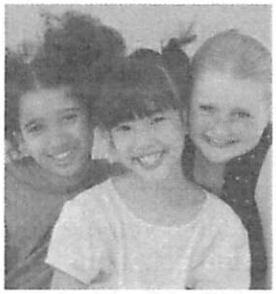

Name _____

County _____

Please return:
I.C. Cooperative Extension 4-H Office
1050 E. Holton Road
Holtville, CA 92250
760-352-9474

REVIEWED & RECOMMENDED
National 4-H Curriculum

SIX EASY BITES



For suggested exhibit requirements and lots of cool recipes check out the Fantastic Foods website at **www.youthlearningnet.org** (Click on Fantastic Foods)

Having Fun with Fantastic Foods!

Are you ready?

Are you ready to do fun experiments, prepare flavor-filled recipes, and go on fact-finding missions? That's what "Fantastic Foods" is all about. You'll have fun learning about different food ingredients, food characteristics, and food safety issues.

Your project manual is divided into six "bites": Once You Swallow, Money Talks, Play It Safe, Kitchen Magic, Eat It Later, and Imagine That. In addition to the activities in the manual, there are exciting recipes and interesting food facts on the website. Check out www.youthlearningnet.org and click on the computer that has the word "Fantastic Foods" on its screen. There is also a list of ideas that you can use as an exhibit at your county or state fair.

Use the achievement sheet to plan your activities. After completing an activity, write the date completed and have your project helper initial it. You also need to fill out the record sheet at the end of the book.

Your project helper

Your project helper is an important part of your experience in the Foods project. This person may be your project leader or advisor, a neighbor, a family member, a friend, or anyone who has the interest to work with you to complete your activities. You need to involve your helper as you work with each activity and answer the questions. They are there to give you support and help you be successful.
Write the name and phone number of your project helper here:
My project helper_____
Phone_____

Action Demonstrations

An action demonstration is a fun way to share what you have learned with others. The key is getting your audience involved in doing what you are doing, not just showing them. An action demo can be given anywhere there are a lot of people, like a county or state fair or a shopping mall.

An action demo can be on almost any topic. Here are some questions to ask yourself when choosing a topic.

- ❒ Is it something that can be done in 3 to 5 minutes?
- ❒ Is it something that would interest the general public?
- ❒ Is there something "hands-on" for the audience to do?
- ❒ Can the supplies for the "hands-on" activity be used over and over again or will they have to be replaced every time? (Note: If they have to be replaced, this will add to the cost.)

Your demonstration should last about 3-5 minutes and you need to be able to do it over and over again with many different people. There is no prepared speech in an action demo, it is a 2-way conversation. Your goal is to involve the audience and you can do this by having them:

- Do what you are doing.
- Answer questions.
- Play a game.
- Do a hands-on activity.

"Six Easy Bites" Achievement Sheet

Each year, you should complete a minimum of three (3) activities, each from a different "bite" category. Within the two-year project period, you should have completed at least 6 activities, at least one activity

1 Once You Swallow

	Date Completed Month/Day/Year	Helper Initial
1a Mama mia pizza pockets	___/___/___	____
1b Bone up on calcium	___/___/___	____
1c Fruit kabobs	___/___/___	____
1d Snackin' power	___/___/___	____

2 Money Talks

	Date Completed Month/Day/Year	Helper Initial
2a Tune into ads	___/___/___	____
2b Sweet sugary search	___/___/___	____
2c Juicy juice	___/___/___	____
2d Making brownie cents	___/___/___	____

3 Play It Safe

	Date Completed Month/Day/Year	Helper Initial
3a Danger zone	___/___/___	____
3b Fuzzies on my bread	___/___/___	____
3c Glo germ	___/___/___	____

4 Kitchen Magic

	Date Completed Month/Day/Year	Helper Initial
4a Pancakes, anyone?	___/___/___	____
4b Colossal cookies	___/___/___	____
4c Chip in muffins	___/___/___	____
4d Micro stuffed potatoes	___/___/___	____

5 Eat It Later

	Date Completed Month/Day/Year	Helper Initial
5a Scream for ice cream	___/___/___	____
5b You be the judge	___/___/___	____
5c Saga of a soggy sandwich	___/___/___	____
5d Frosty freezer fruit	___/___/___	____

6 Imagine That!

	Date Completed Month/Day/Year	Helper Initial
6a What's my line?	___/___/___	____
6b The chain gang	___/___/___	____
6c Thailand watermelon	___/___/___	____
6d Mexican churritos	___/___/___	____

Title of Action Demonstration Given_____ Location_____

Name_____ Age_____

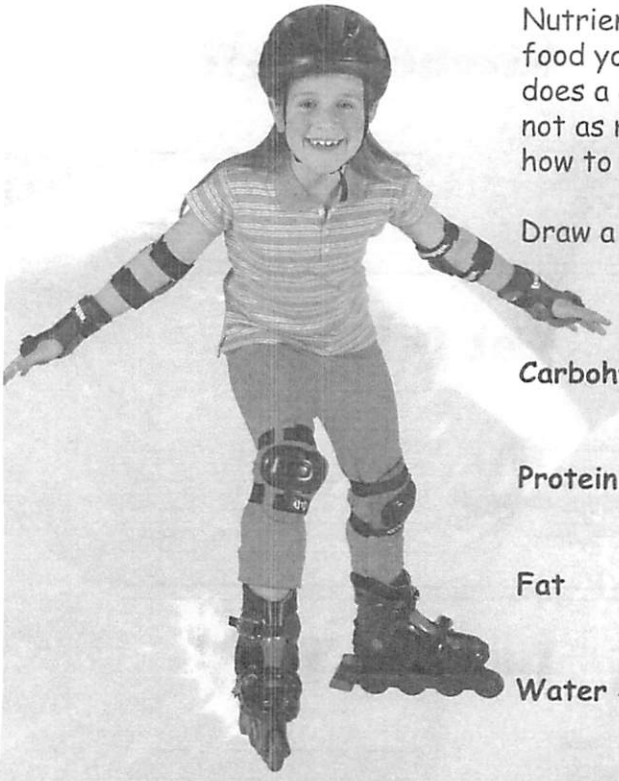
Club/School_____

I certify that this youth has completed all requirements for Level A of the Fantastic Foods project and is ready to move on to Level B.

Project Helper's Signature_____ Date_____

Bite 1 ONCE YOU SWALLOW

Nutrients - who needs them?



Nutrients are the special substances that your body gets from the food you eat. Your body needs many different nutrients. Each nutrient does a certain job for your body. You need a lot of some nutrients and not as much of others. Your body is an amazing machine that knows how to handle all the nutrients you give it.

Draw a line between each nutrient and the job it does.

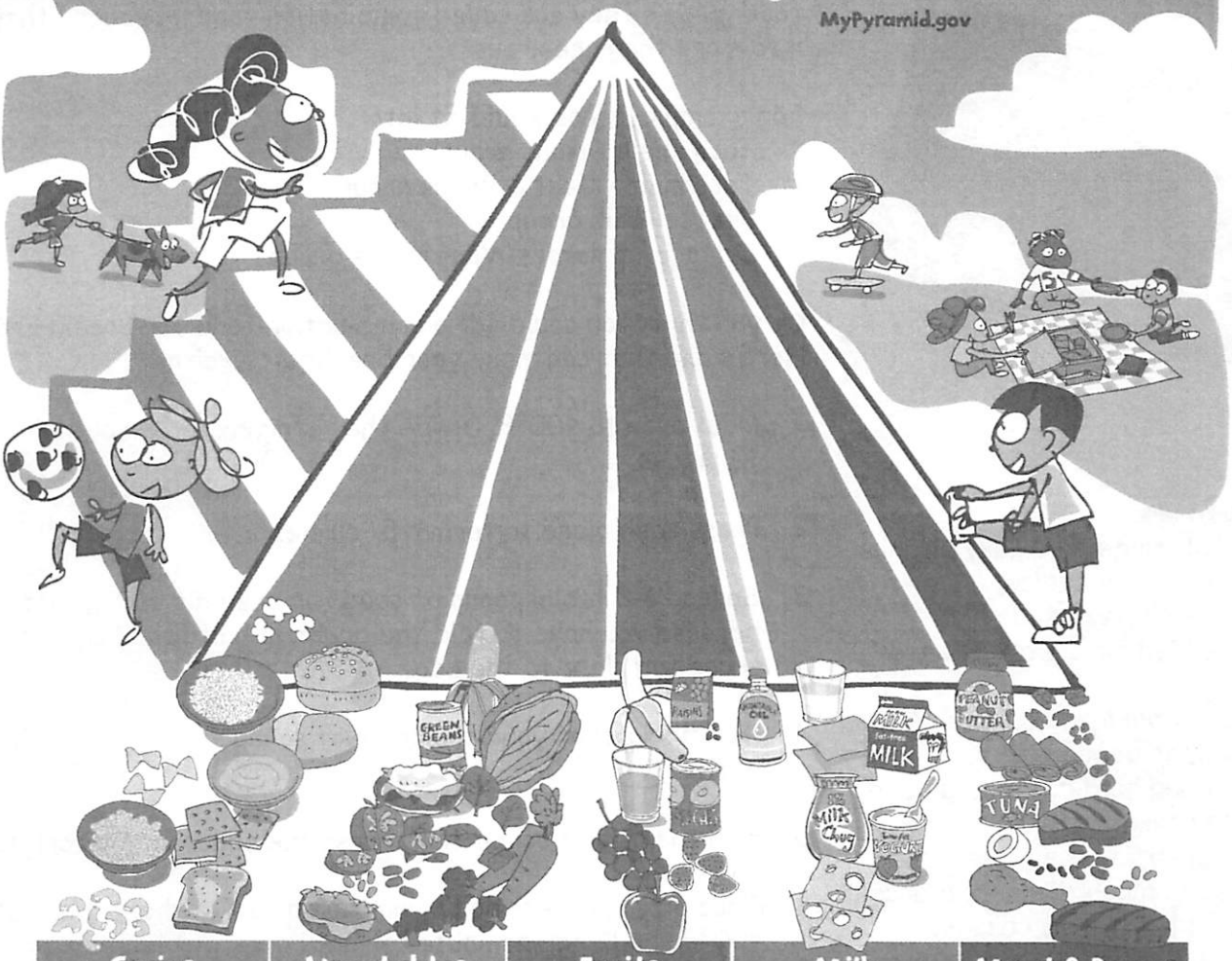
Carbohydrates	helps you see in the dark.
Protein	build and repair muscles and other parts of your body.
Fat	give you energy to grow, move, and do things.
Water	helps your blood to carry oxygen to all parts of your body - even your toes!
Calcium	gives you some energy and carries some vitamins to where they are needed.
Iron	helps heal cuts.
Vitamin A	regulates body temperature.
Vitamin C	keeps bones and teeth growing strong and sturdy. keeps heart and other muscles working.

Nutrients . . . How do I get them?
How do you know what foods to eat to get all the nutrients your body needs to stay healthy? There's an easy way to check. Just log on to MyPyramid.gov web site, develop your own MyPyramid recommendations, and eat the suggested amounts of each food group every day.

MyPyramid For Kids

Eat Right. Exercise. Have Fun.

MyPyramid.gov



Grains
Make half your grains whole

Start smart with breakfast. Look for whole-grain cereals.

Just because bread is brown doesn't mean it's whole-grain. Search the ingredients list to make sure the first word is "whole" (like "whole wheat").

Eat 6 oz. every day;
at least half should be whole

Vegetables
Vary your veggies

Color your plate with all kinds of great-tasting veggies.

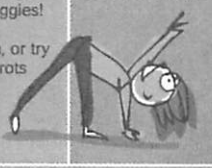
What's green and orange and tastes good? Veggies! Go dark green with broccoli and spinach, or try orange ones like carrots and sweet potatoes.

Eat 2 ½ cups every day

Fruits
Focus on fruits

Fruits are nature's treats – sweet and delicious.

Go easy on juice and make sure it's 100%.



Eat 1 ½ cups every day

Milk
Get your calcium-rich foods

Move to the milk group to get your calcium. Calcium builds strong bones.

Look at the carton or container to make sure your milk, yogurt, or cheese is lowfat or fat-free.

Get 3 cups every day;
for kids ages 2 to 8, it's 2 cups

Meat & Beans
Go lean with protein

Eat lean or lowfat meat, chicken, turkey, and fish. Ask for it baked, broiled, or grilled – not fried.

It's nutty, but true. Nuts, seeds, peas, and beans are all great sources of protein, too.

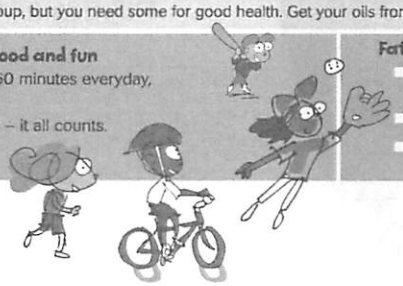
Eat 5 oz. every day

For an 1,800-calorie diet, you need the amounts below from each food group. To find the amounts that are right for you, go to MyPyramid.gov.

Oils Oils are not a food group, but you need some for good health. Get your oils from fish, nuts, and liquid oils such as corn oil, soybean oil, and canola oil.

Find your balance between food and fun

- Move more. Aim for at least 60 minutes everyday, or most days.
- Walk, dance, bike, rollerblade – it all counts. How great is that!



Fats and sugars – know your limits

- Get your fat facts and sugar smarts from the Nutrition Facts label.
- Limit solid fats as well as foods that contain them.
- Choose food and beverages low in added sugars and other caloric sweeteners.

MyPyramid.gov
STEPS TO A HEALTHIER YOU

U.S. Department of Agriculture
Food and Nutrition Service
September 2005
FNS-331

USDA

1a. Mama mia pizza

Project skill:
Making a breakfast food

Life skill:
Practicing creativity

Have you ever wondered where tacos and pizza fit in the MyPyramid food guide? They are called combination foods, because they fit into more than one group.

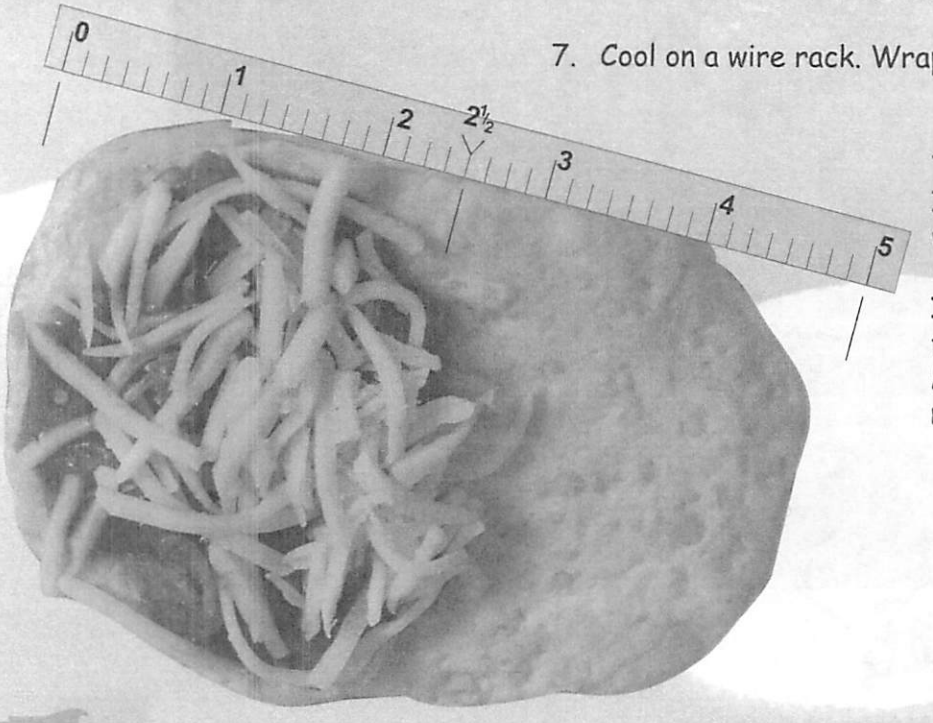
For example, tacos would fit into:
- Taco shell: Grains group
- Taco meat: Meat & Beans group
- Cheese: Milk group
- Lettuce/tomatoes: Vegetables group

Do you think you could eat a combination food for breakfast? Here's one that can make your breakfast exciting!

Supplies
- roll of refrigerated flaky biscuits
- filling of your choice
- prepared pizza sauce
- shredded mozzarella cheese

Choose from these sample fillings
- chopped pepperoni
- chopped hard-cooked egg and dice cooked ham
- chopped veggies (green pepper, mushrooms, or broccoli)
- shredded cooked chicken

1. Heat oven to 400°F. Divide the refrigerated biscuits into 10 pieces.
2. Press each piece to form a 5" circle.
3. Spread 1-2 tablespoons of sauce on one half of the circle, because you have to fold the dough in half later. Don't put sauce too close to the edge.
4. Add filling(s) of your choice. (Not so much that you can't fold it over.)
5. Fold the pizza circle in half. Press the edges with a fork to seal.
6. Place pizza pockets on an ungreased cookie sheet. Bake at 400°F for 12 to 15 minutes or until a deep golden brown.
7. Cool on a wire rack. Wrap in foil and refrigerate.



To reheat:
In the oven - preheat to 350°F and warm pockets for 10-15 minutes.

In the microwave - remove pockets from foil and wrap in a paper towel. Microwave on medium power for 1½ minutes or until heated through.

Kitchen Talk

1. What filling(s) did you choose?

   _____

   _____

2. How did you decide what filling(s) to use?

   _____

   _____

   _____

3. What did you learn about being creative when you are cooking? _____

   _____

   _____

4. How might you practice creativity in another project you are working on? _____

   _____

   _____

   _____

Extra bite

1. Invent some other fillings. Try leftovers, taco-seasoned meat, etc.
2. Design another breakfast entrée that you could eat on the run and that has at least three of the food groups in it.
3. Check out school lunches for a week. Do they offer all five food groups every day?

Scrambled eggs

Supplies

- 2 large eggs
- 2 tablespoons milk or low-fat milk
- pinch of salt
- pinch of pepper
- 1 teaspoon butter or margarine

Variations:

You can add fun ingredients to your scrambled eggs. Just mix them in with the other ingredients before adding them to the skillet. Here are some ideas.

- 1 tablespoon Parmesan cheese
- 1 tablespoon Cheddar cheese
- 1 tablespoon salsa
- 2 teaspoons chopped green peppers
- 2 teaspoons chopped ham
- 2 teaspoons chopped tomatoes

1. Crack eggs into a small bowl.

2. In a mixing bowl add cracked eggs, milk, salt, and pepper. Beat and stir with a fork until mixture is combined.

3. Melt butter in a skillet on the stove over medium heat. Pour the egg mixture into the skillet.

4. Hold the handle of the skillet with a pot holder and lift the cooked portion of the egg mixture with a wooden spoon as it starts to set, or cook along the edges of the skillet.

5. Move the cooked eggs toward the center so the uncooked eggs can run underneath and cook. Repeat until all eggs are set and still moist.

6. Turn off heat when all eggs are cooked. Using a potholder, carefully spoon the scrambled eggs to a plate.

1b. Bone up on calcium

Project skill:
Discovering the importance of calcium for bone strength

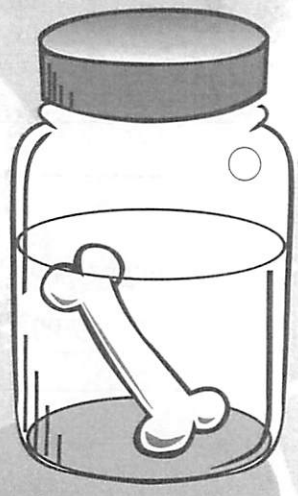
Life skill:
Using scientific methods

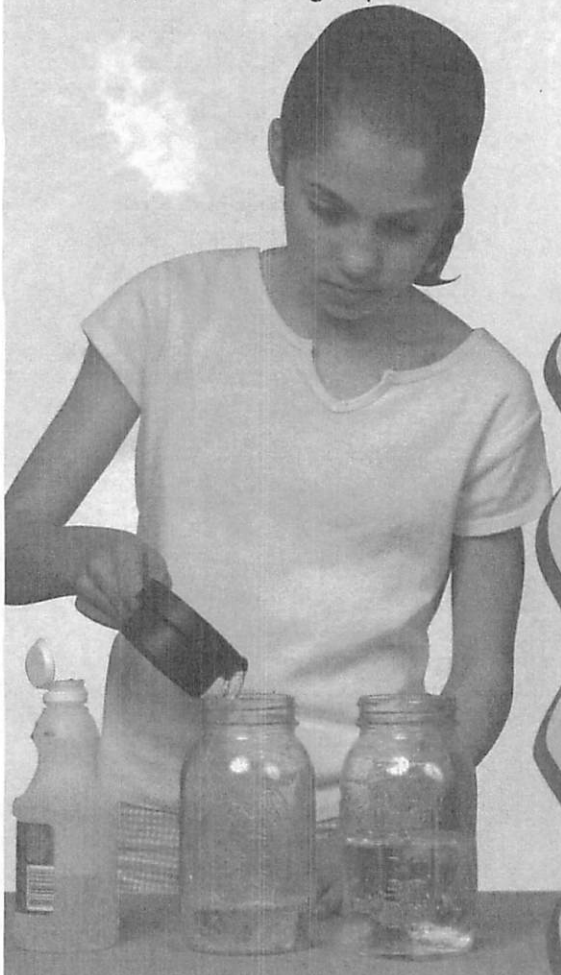
In this science experiment, you will see why calcium is important to keep your bones strong. To do a science experiment you need to have both a control (something you don't change) and a variable (something you do change). Then you compare the two. In this experiment, you will soak a chicken bone in vinegar, which is an acid that dissolves calcium. Older people who have not had enough calcium in the foods they eat develop weak bones that break easily.

Supplies

- 2 quart jars
- 2 chicken leg bones
- white vinegar
- water
- liquid measuring cup

1. Place a chicken leg bone in each jar.
2. Add 2 cups of water to one jar and 2 cups of vinegar to the second jar.
3. Put the lid on each jar and leave for at least three days.
4. Remove the bones and rinse them with water.
5. Compare how flexible the bones are. Try to bend each one.
6. If you want to see more dramatic results, put the bones back in their jars and leave them for four more days.





Science experiments

You can design your own science experiment! Find a topic that interests you and can be tested. Go to the library, look up your topic, then write a hypothesis.

- A hypothesis is an educated guess or statement of your prediction of what will happen after your testing.
- Next, develop a step-by-step procedure to test your hypothesis. In your procedure, there is a control and variable. In the control, nothing is changed. In the variable, one thing is different from the control. This could be an ingredient or the amount of an ingredient.
- After completing the steps in your procedure, look at the results and make a conclusion. The conclusion answers your hypothesis. Was your hypothesis correct?

Kitchen Talk

1. Which bone bent easily? Why? _____

_____

_____

2. Which part of the bone became soft first?

_____

_____

_____

3. Why did you have one bone in the water and one in vinegar?

_____

_____

_____

_____

Which one was the control and which one was the variable you changed? _____

_____

_____

_____

4. How can you use what you learned to design another science experiment with food?_____

_____

_____

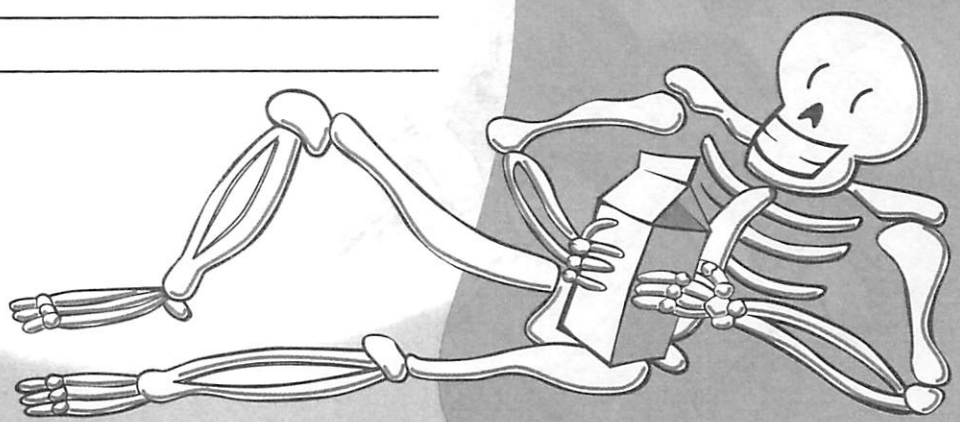
_____

Extra bite

Find and prepare a recipe featuring a food that gives you lots of calcium. Serve it to your family or bring it to the next meeting for everyone to taste!

Calcium

Calcium is a mineral that is a nutrient for your body. There is more calcium in your body than any other mineral. Almost all of the calcium is in your bones and teeth. Together with vitamins and other minerals, calcium keeps your bones and teeth growing strong and sturdy. Your body also uses calcium to keep your heart and other muscles working. Most of the calcium you get comes from foods in the Milk Group of the MyPyramid food guide such as milk, cheese, and yogurt. But you can get calcium from other foods such as broccoli. Also, many foods such as cereals and fruit juice have calcium added to them. The food label will tell you if a food has calcium added to it.



1c. Fruit kabobs

Project skill:
Creating fruit kabobs

Life skill:
Making healthy lifestyle choices

Eating fresh fruits is a great way to get many needed vitamins and minerals. Your body needs vitamins to perform different functions. Your body cannot make vitamins, so you must get them from foods. Below are a couple vitamins that are in fruits.

- **Vitamin A** - helps you to see in the dark, helps your body to fight infections, and promotes the growth and repair of tissues.
- **Vitamin C** (sometimes called ascorbic acid) - helps your body heal cuts and burns. It also helps your body absorb the mineral iron.

Some fruits, such as bananas and apples, turn brown very easily after they are cut or opened. This happens because these fruits have an enzyme called polyphenol oxidase. When air touches this enzyme, the enzyme turns brown. You can slow this browning down by dipping the cut fruit in lemon juice or ascorbic acid (vitamin C).

Make these fun fruit kabobs for you, your friends, and family!

Supplies

- 12 long skewers
- 1 banana
- 24 small strawberries
- 1 kiwi fruit, peeled and cut into 12 wedges
- 12 marshmallows
- 12 green seedless grapes
- 1 tablespoon lemon juice

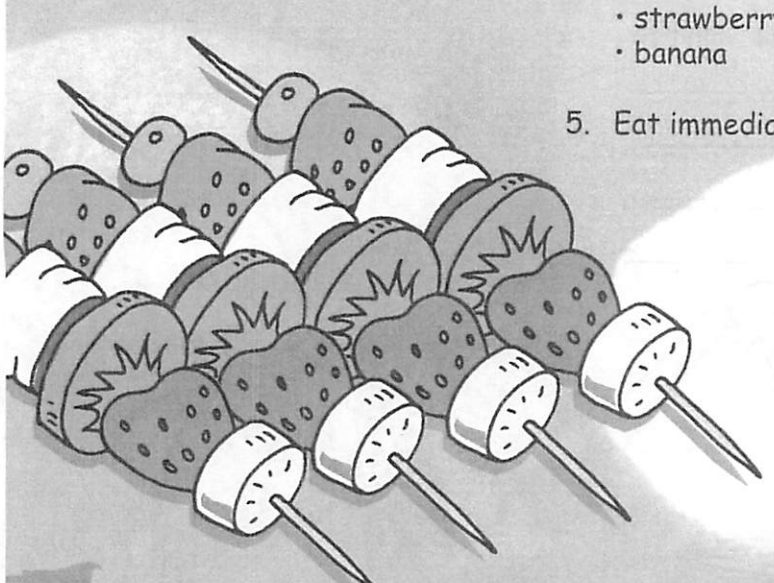
1. On a skewer, thread a grape, strawberry, marshmallow, cut kiwi, and strawberry.

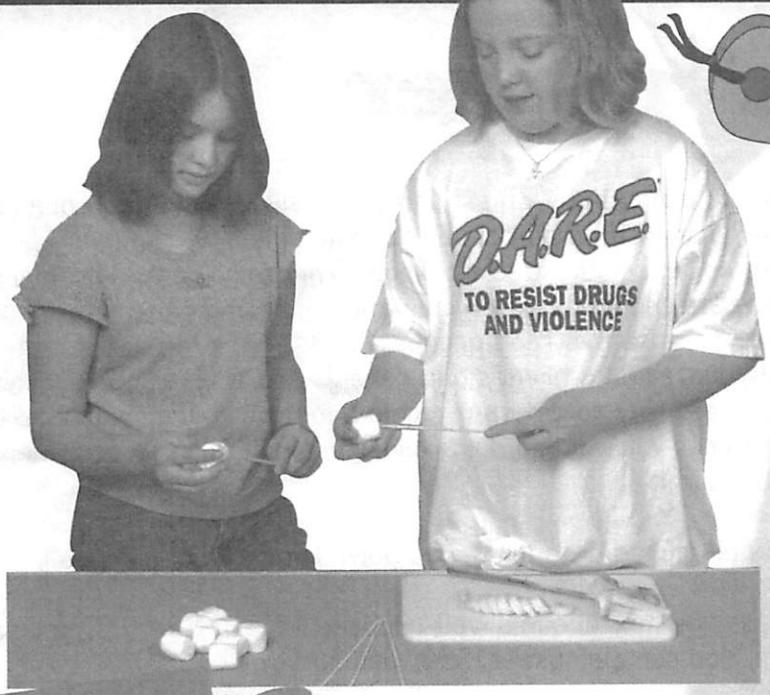
2. Put the lemon juice in a small bowl.

3. Peel banana and slice into 12 pieces. Put each piece in the lemon juice. Then add a piece to your filled skewer.

4. Thread each additional skewer in the same order.
   - grape
   - strawberry
   - marshmallow
   - kiwi
   - strawberry
   - banana

5. Eat immediately, or refrigerate until ready to share.





Extra bite

1. Try different fruits on the skewer. Then think up names for your kabob, like "Fruit on a stick."
2. Think of other nutritious foods you could put on a skewer.

Kitchen Talk

1. Why did you put the slices of banana in the lemon juice?

_____

_____

_____

2. What vitamins are in the fruits you used for your kabob?

_____

_____

_____

3. Name three other foods not used in your kabob that contain vitamin A or C. _____

_____

_____

4. The MyPyramid food guide shows that you need 2-4 servings of fruits each day. What fruits are you going to eat tomorrow to keep healthy?_____

_____

_____

_____

Dip it!

You can take the fruit off your fruit skewer in a fun way! Make this fondue recipe, then dip each fruit in it just before you pull it off the skewer.

Supplies

- $^{3}/_{4}$ cup heavy cream
- $^{1}/_{4}$ teaspoon salt
- 2 tablespoons light corn syrup
- $1^{3}/_{4}$ cups semi-sweet chocolate chips
- $2^{1}/_{2}$ teaspoons vanilla extract

1. Bring the cream, salt, and corn syrup to a boil in a medium saucepan over medium heat.
2. Remove the pan from heat and add all the chocolate chips. Stir until completely melted.
3. Stir in the vanilla extract.
4. Pour into a serving bowl.
5. Enjoy dipping your fruit kabobs!

1d. Snackin' power

Project skill:
Making granola bars

Life skill:
Making healthy lifestyle choices

Foods like candy bars, chips, and other sweets are not found on the MyPyramid food guide. Look at the pyramid on page 7. Do you see any recommended servings? There are none. This means that sweets should be eaten only after meeting the recommended servings for the five food groups. Foods that are good sources of carbohydrates, like breads and cereals and fruits and vegetables, are the best way to get that extra boost of energy you need to do all the things you want to do. Granola is a high-energy food. Here's how to make it.

1. Mix all ingredients in a large bowl using a wooden spoon.
2. Press the mixture in a well-greased $15^1/_2 \times 10^1/_2 \times 1$" jelly roll pan. You can also use a 13x9" pan for thicker bars.
3. Bake in the jelly roll pan at 350°F for 12-15 minutes. (If using the 13x9" pan, bake for 15-20 minutes.)
4. Cool pan on a wire rack. Cut into bars when cool.

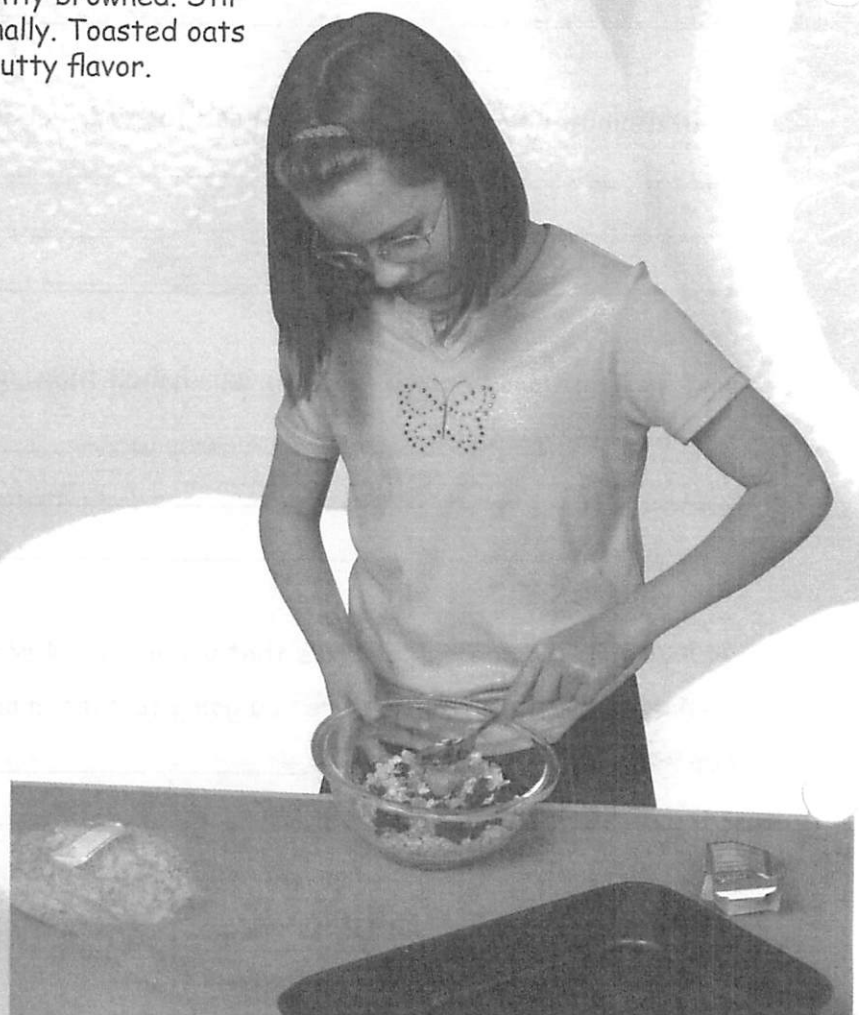
To toast oats: Spread rolled oats or oatmeal on a cookie sheet or large baking pan. Bake at 350°F for 15-20 minutes or until lightly browned. Stir occasionally. Toasted oats have a nutty flavor.

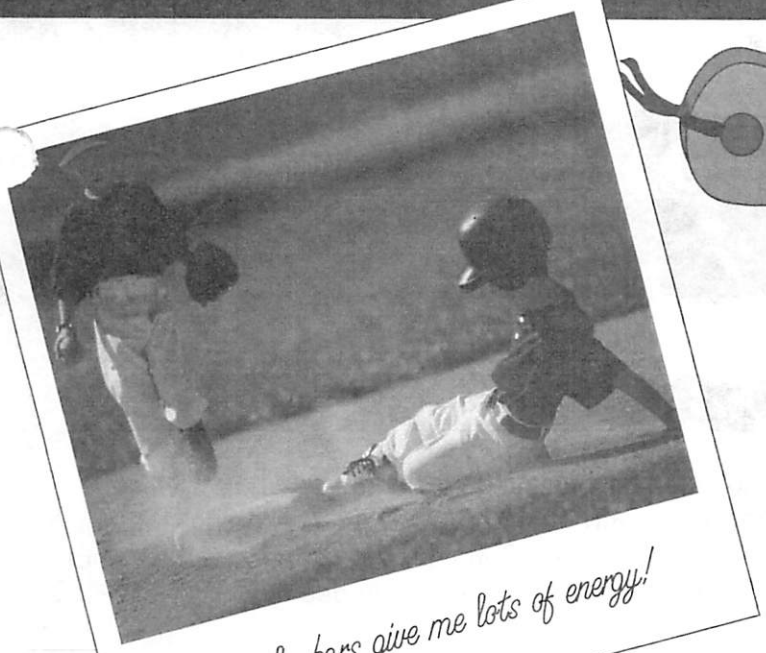
Supplies

- $3^1/_2$ cups rolled oats or oatmeal, toasted
- 1 cup nuts, chopped
- 1 cup raisins
- $^2/_3$ cup butter or margarine, melted
- $^1/_2$ cup brown sugar, packed
- $^1/_3$ cup honey, corn syrup, or molasses
- $^1/_2$ teaspoon salt
- $^1/_2$ teaspoon vanilla extract

Variations

- Substitute chocolate chips for raisins.
- Add $^1/_2$ cup of flaked or shredded coconut.
- Substitute $^1/_2$ cup sunflower seeds for $^1/_2$ cup nuts.





Granola bars give me lots of energy!

Extra bite

1. Invent your own combination of foods for a new snack idea, like a mix of your favorite dried fruits.
2. Ask a friend or a family member what kinds of snacks they eat now or ate when they were little. Try making one of their suggestions!

How much is enough?

The average third-grade boy or girl needs about 2,000 calories a day. The average fourth-grade boy needs 2,500 calories a day, while the average fourth-grade girl needs 2,200 calories a day.

How many calories you need to eat each day depends on your body build (your size and weight) and how active you are. But averages can help you plan.

Oven safety

- Use a potholder when putting foods in and taking foods out of the oven.
- Follow the directions on preheating the oven. Preheating means the oven needs time to heat to the baking temperature before you put the food in. Cooking times are based on a preheated oven, so make sure your oven is preheated.

Kitchen Talk

1. What was the most difficult thing about making the granola bars? _____
2. Did they taste like the granola bars you buy in the store? _____
3. What are some other healthy snacks that you can eat instead of candy, sweets, or chips? _____
4. What foods not in the MyPyramid food guide are you going to eat tomorrow to give you energy? _____

2 MONEY TALKS

2a. Tune into ads

Project skill:
Understanding TV commercial messages

Life skill:
Communicating

Do you ever find yourself humming or singing the tune from a catchy commercial you saw on TV? Have you ever thought about why commercials do that to you? Maybe you're going to buy what was advertised, and maybe not. How do you decide?

The next time you watch TV, tune into food ads! If you don't watch TV, you can find food ads in magazines or newspapers. Count how many food ads you see while watching TV or reading a magazine for just a half-hour. Saturday morning is the best time to catch commercials aimed at you!

Supplies

- TV or a magazine
- pencil

1. Use the chart to record what you see.
2. Write the name of every food ad you see. Try to catch the main message and the snappy power words or images that are used to sell the food. Remember, ads might use devices such as jingles, funny noises, giveaways, cartoon characters, or sports figures.

Type of food	Brand name	Ad device	Message

Extra bite

Use your imagination to invent a new food product. Call it a crazy name, like broccoli pancakes. Make a commercial to "sell" your food to a member of your family or a friend.

Kitchen Talk

1. How many different foods did you see advertised?

   _____

   _____

   _____

2. What methods did the advertisers use to sell their food product? _____

   _____

   _____

   _____

3. What did all the commercials have in common?

   _____

   _____

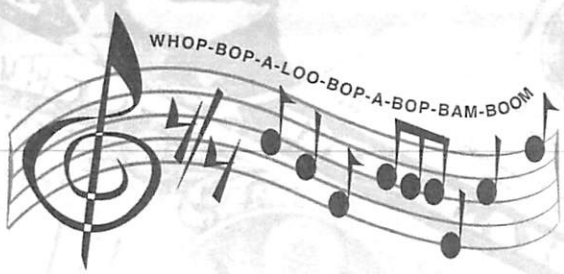
   _____

4. How would you design a commercial to get people to buy an apple? _____

   _____

   _____

   _____



Ad devices

Here are some ways advertisers make you think something is great.

- **Jingles** - catchy, simple songs.
- **Power words** - "new," "improved," make you think something is "better."
- **Giveaways** - freebies in "specially marked" packages. Think about it - are these products really "free" if you have to send box tops, inner seals, or money to get them? Even if they are packaged with the product, you pay for them in the price of the product.

- **Cartoon characters or celebrities** - to identify with. They suggest that if you eat the food, you will be more like the celebrity. Did you know celebrities get paid to say those things?

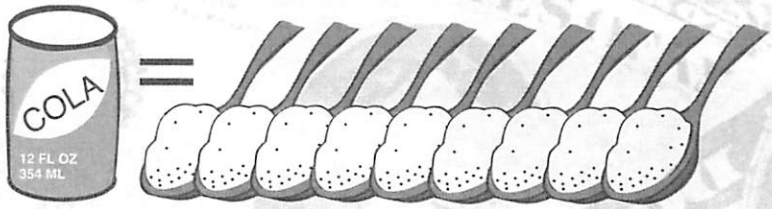
The bottom line for commercials is to get you to buy something. Commercials do that by making the product seem **EXCITING!** and **FUN!** because it's **NEW! IMPROVED!** or maybe even **GOOD FOR YOU!**

2b. Sweet sugary search

Project skill:
Determining sources of sugar in different foods

Life skill:
Processing information

The average American consumes about 139 pounds of sugar per year. Most of this sugar comes from soft drinks. A 12-ounce soft drink contains 9-10 teaspoons of refined sugar.



The guidelines that accompany the MyPyramid food guide recommend that we choose beverages and foods to reduce our intake of sugars.

Sugary foods don't provide much nutrition. Excessive sugar in your diet may cause cavities or tooth decay and can be a factor in becoming overweight.

Supplies
- food labels from different food packages
- pencil

1. Find out how many foods you eat list sugar in the ingredient list on labels. You can look at food labels on products already in your home or go to a grocery store. (See the list on the next page for other names for sugar.)

Nutrition Facts

Serving Size	1 Cup (50g/1.8 oz.)
Servings per Container	About 10
Calories	180
Amount per Serving	
Total Fat	0.5g
Saturated Fat	0g
Cholesterol	0mg
Sodium	330mg
Potassium	100mg
Total Carbohydrates	43g
Protein	3g
Percent Daily Requirements	
Vitamin A	15%
Vitamin C	25%
...in D	10%
...n E	100%
...e	100%
...d	100%

...: Rice, whole grain wheat, sugar, oat clusters ...oasted oats, honey, brown sugar, malt, salt), ...syrup, honey, cinnamon, artificial vanilla flavor, high ...uctose corn syrup, honey, malt flavoring, reduced iron, alpha tocopherol acetate (vitamin E), artificial flavor.

Food	Type of Sugar

Food Fact
In the United States, 1 in 5 children are considered overweight.

Kitchen Talk

1. How many different sugars did you find?

_____

_____

_____

2. What was the most surprising food product you found that contained sugar?

_____

_____

_____

3. What did you learn about reading food labels?

_____

_____

_____

4. How might reading food labels affect what foods your family buys?

_____

_____

_____

Extra bite

How does the amount of sugar in the breakfast cereal you eat compare with others you can buy? How many cereals contain less sugar than yours? How many cereals contain more sugar than yours?

Sugar names

You can be one step ahead of the sugar game by reading food labels for nutrition information. You'll find sugar in some of the most unlikely foods! The word "sugar" may not be in the ingredient list even if the food tastes sweet. That's because sugar is called by other names. The word "sugar" on a label refers only to pure sugar refined from beet sugar or sugar cane. Other words for "sugar" on a label include:

- Corn syrup
- Molasses
- Invert sugar
- Fructose
- Maltose
- Lactose
- Honey
- Honey sugar
- Sucrose
- Glucose
- Malt syrup
- Dextrose
- Sorghum
- High-fructose corn syrup

2c. Juicy juice

Project skill:
Reading food labels

Life skill:
Making decisions

Believe it or not, a fruit drink is not always a juice!
No foolin'! If you're into reading labels, you know what's going on. The name of a food on the package label can tell you a lot about what's in it. Juices are no different! Check the fine print on a food package. Did you know:

- **Fruit juice** is 100% real juice.
- **Juice drink** is 30% or more real fruit juice.
- **Fruit-flavored drink** is 10% or less real fruit juice.
- **Imitation drink or ade** is 0% real fruit juice.
- **Artificially-flavored fruit soda** is 0% real fruit juice.

Beside what's in a food, labels also tell you:

- What nutrition is in the food.
- The serving size.
- How much is in the package.
- An address where you can send questions about the food.

So let's use what you know about labels to check out some fruit drinks.

Supplies

- frozen orange juice concentrate
- orange soda
- orange box drink
- orange beverage crystals
- orange sports beverage
- pencil

1. Check out the labels on the juices. Compare the labels closely. What's different? What's the same? Remember, the ingredient listed first makes up most of the food.

2. Taste the juices, too. Be sure to add water to the frozen orange juice concentrate!

Name of juice	% of fruit juice	Sugar

Extra bite

Make your own fruit drink by mixing together different kinds of real fruit juices. Start out with a big glass and add $\frac{1}{3}$ ice, $\frac{1}{3}$ soda water, and $\frac{1}{3}$ orange, apple, grape, or cranberry juice. If you could sell this juice, how would you write the ingredient label?

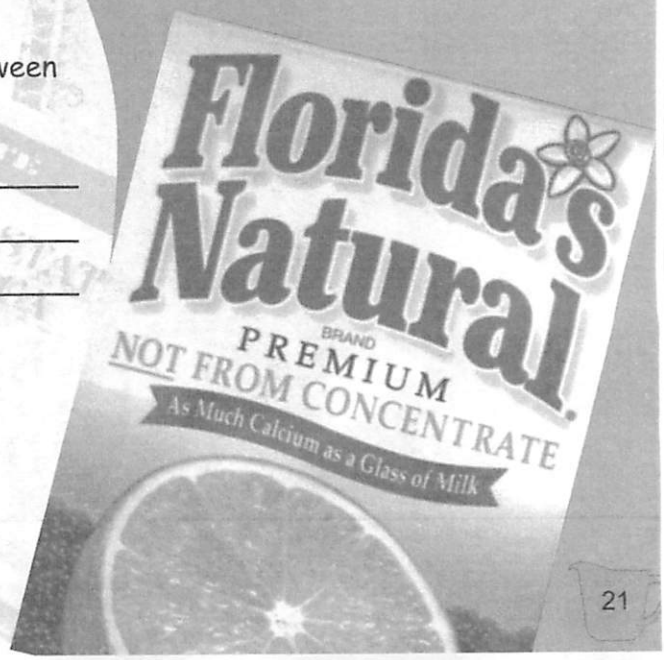
Labels

Labels on food products are the best information you have to tell you about the food. The name itself tells you a lot about what is in the package. If you look closely, you'll notice that chicken noodle soup is different from chicken noodle soup with white meat. One soup has meat pieces, the other does not.

The ingredient list can give you this information, too. The main ingredient is always listed first. Next is the ingredient that makes up the second-biggest part of the food, and so on.

By knowing how to read a label, you can:

- Tell what you are actually buying.
- Compare similar products to see which one you really want.



Kitchen Talk

1. Which drink has sugar as the main ingredient?

   _____

2. Which drink has the most real fruit juice in it?

   _____

3. Based on your comparison, which drink do you think would be the healthiest?

   _____

4. Describe the things you will consider when deciding between two food products.

   _____

   _____

   _____

2d. Making brownie cents

Project skill:
Comparing costs

Life skill:
Managing resources

Some families cook primarily with convenience foods because they don't want to spend a lot of time in the kitchen. Others make everything "from scratch" because taste and nutrition are more important to them, or because it's cheaper that way.

Which is more important for your family when it comes to meals and snacks?

- Cost.
- Nutrition.
- Taste.
- Time.
- Ease of preparation.

Maybe the answer is a combination of these factors. For example, time and cost could be the biggest issues for your family. Let's make brownies from a mix and from scratch to see how they differ.

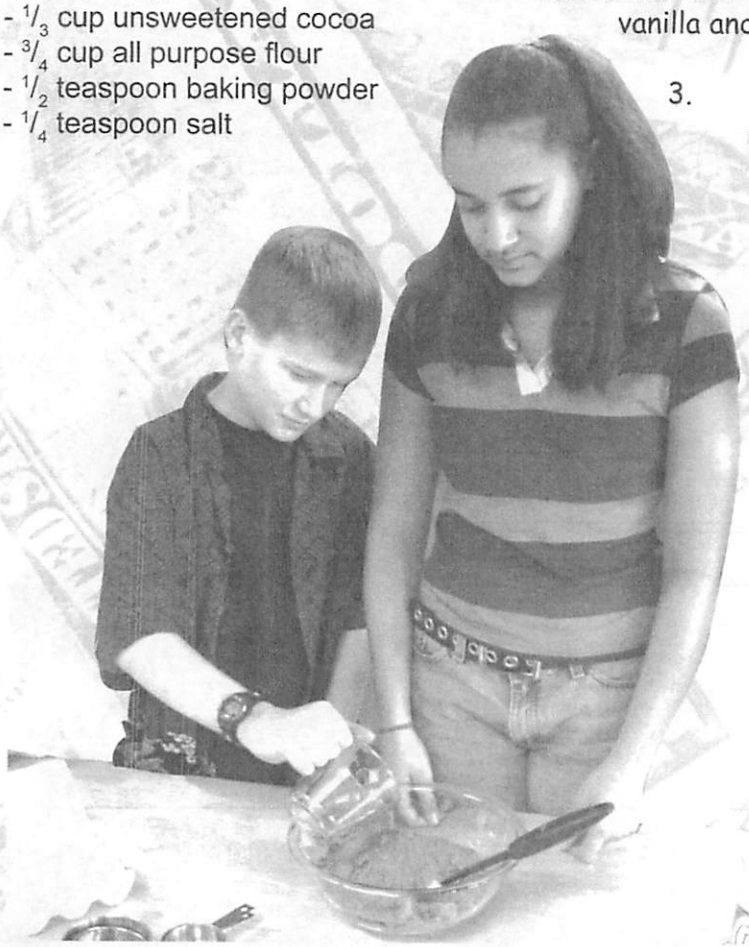
Supplies

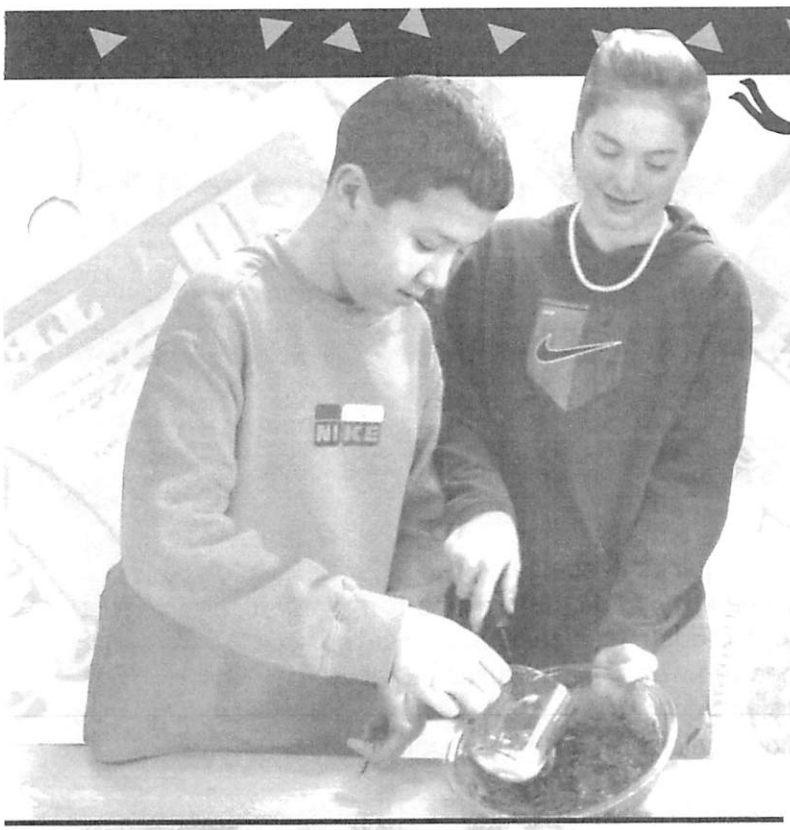
- pre-packaged box mix for plain brownies, small-batch size
- ingredients to make homemade brownies
  - 1 stick plus 2 tablespoons butter or margarine, softened (not melted)
  - 1 cup sugar
  - 1 teaspoon vanilla extract
  - 2 large eggs
  - $^1/_3$ cup unsweetened cocoa
  - $^3/_4$ cup all purpose flour
  - $^1/_2$ teaspoon baking powder
  - $^1/_4$ teaspoon salt

Make the pre-packaged brownie mix according to the directions on the box.

Directions for homemade brownies:

1. Pre-heat oven to 350°F. Grease an 8-inch-square baking pan.
2. Beat butter and sugar together with an electric mixer. Add vanilla and eggs, mixing well.
3. In a separate bowl, stir together the flour, cocoa, baking powder, and salt.
4. Add the flour mixture to the butter batter. Mix it well using an electric mixer.
5. Spread batter in greased pan. Bake for 30 minutes.
6. Cool for at least one hour before cutting. Store tightly covered.





Extra bite

You'll notice in the store that specialty brownie mixes cost much more than the plain kind. Try flavoring a batch of plain brownies with peanut butter chips. Is the cost the same, less, or more compared to a specialty mix?

To buy or not to buy?

Supermarket researchers study what people buy and why they buy it. Sometimes people buy things because:

- It's on sale.
- They have a coupon for it.
- It looks good.
- It smells good.
- There's a sample and it tastes good.

When people buy something they didn't plan on, it is called "impulse buying." It's a good way for the grocery store to take in extra money, which is what it's in business to do. Store managers know that a lot of what we buy has to do with what we feel good about. It's our emotions. Managers arrange items in the store so we feel good about them and buy them.

Kitchen Talk

1. How much time did it take to make the different brownies?
   Store mix: _____ minutes
   Homemade: _____ minutes

2. Which batch of brownies (store mix or homemade) do you think cost the most to make? Why?
   _____
   _____
   _____

3. Which is more important for your family - saving time or saving money? _____

4. How can you apply what you learned the next time you are deciding whether to make homemade cookies or use a mix?
   _____
   _____
   _____

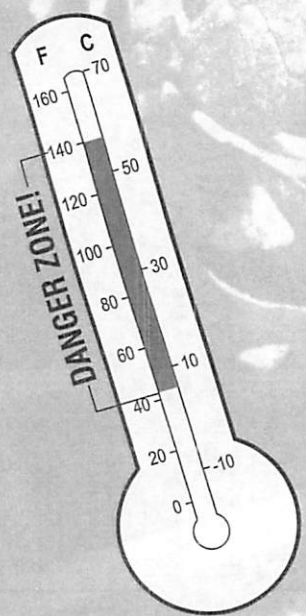
Side 3 PLAY IT SAFE

3a. Danger zone

Project skill:
Identifying food safety issues

Life skill:
Preventing illness

Supplies
- brown paper sack
- insulated lunch sack
- pack of ice
- 2 thermometers
- 2 sandwich baggies
- 4 pieces of bread
- 6 thin slices of ham
- 2 slices of your favorite cheese



Keeping food safe requires keeping hot foods hot and cold foods cold. This may sound easy to do, but failure to follow this simple rule often is a factor in foodborne illness. Bacteria that cause foodborne illness multiply and grow at temperatures between 41°F and 140°F, which is known as the danger zone. Temperatures between 70°F and 120°F allow microorganisms to grow especially fast.

Perishable food should be thrown away if it has been kept at temperatures between 40°F and 140°F for more than two hours. Perishable food includes both hot and cold foods. That means cooked food must be kept hotter than 140°F until it is served.

Cold foods such as salads, lunchmeats, and dairy products should be kept below 40°F.

Knowing this is important when packing lunches for school, field trips, day camps, canoe trips, etc. You must be extra careful packing your lunch so cold foods are kept below 40°F so bacteria cannot grow and multiply. Try this experiment with two types of lunch containers. Remember, if food is in the temperature danger zone, 41°F - 140°F, for more than two hours, it is not safe to eat!

1. Place the pack of ice in the insulated lunch sack.
2. Prepare two sandwiches, each with 3 slices of ham and 1 slice of cheese.
3. Put one sandwich in the brown paper sack and the other in the insulated lunch sack.
4. Put a thermometer in each of the sacks and close.
5. Leave bags on a countertop for two hours out of direct sunlight.
6. After two hours, open each sack and record the temperature on the chart on the next page.
7. Place thermometers back in sacks and wait two more hours.
8. Again after two hours, open each sack and record the temperature on the chart.

Extra bite

If you eat sack lunches a lot, try this quick and safe process. Make and freeze your favorite sandwiches for lunch ahead of time. Pack your frozen sandwich in the morning so by lunchtime it is thawed, but cold enough to keep bacteria from growing.

The sandwich kept in the brown paper sack is not safe to eat!

Record temperature data in the chart below.

	Temp. after 2 hours (°F)	Temp. after 4 hours (°F)
Sandwich in bag		
Sandwich in cooler		

Kitchen Talk

1. Which sack was in the danger zone at the two-hour mark?

   _____

   At the four-hour mark? _____

2. Which sandwich would you eat? _____

3. What have you learned about preventing microorganisms from growing? _____

   _____

4. The next time you need a sack lunch, how will you pack it to prevent foodborne illness? _____

   _____

   _____

Thawing foods

Frozen raw meat and poultry should never be thawed at room temperature. This means you shouldn't set something out on the counter in the morning that you are going to eat that evening. The best way to thaw frozen meats is to put them in the refrigerator on the bottom shelf 24-48 hours before cooking. You can also thaw frozen meats in the microwave on a low-power or defrost mode.

3b. Fuzzies on my bread

Project skill:
Understanding how foods spoil

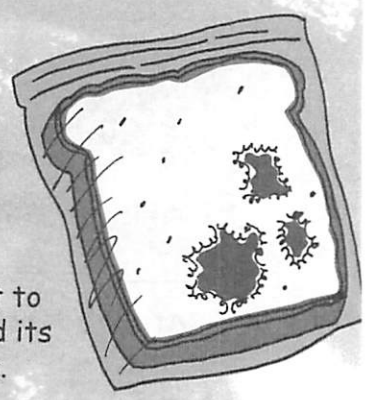
Life skill:
Using scientific methods

The air you breathe is full of many tiny living things that are way too small to see. They're called microorganisms, or you might know them as germs. Some of them are bacteria and others are molds.

Sometimes you can even see mold growing on a piece of food. It looks bad, it smells bad, and you know there's no way you should eat it! But many times you can't see those germs, or smell them. If most food has germs on it, how can you tell what's safe to eat and what's unsafe? You can't. That's why it's important to use clean cooking habits. Here's an experiment that's guaranteed to grow a bold mold!

Supplies
- reclosable plastic sandwich bag
- slice of bread
- spoon

1. Rub a slice of bread on the kitchen counter and leave it there for 30 minutes.
2. Then place in a reclosable plastic sandwich bag.
3. Add one tablespoon of water to the bag.
4. Seal the bag.
5. Keep the bag in a dark warm place (like a cabinet near the refrigerator, oven, or dishwasher) for three to five days. Be sure you tell a parent where you put it!
6. Look at the bread every day through the plastic. If you have a magnifying glass, use it to look at the mold growth. Discard the bag and its contents after you record your observations.



DO NOT TASTE THE BREAD.

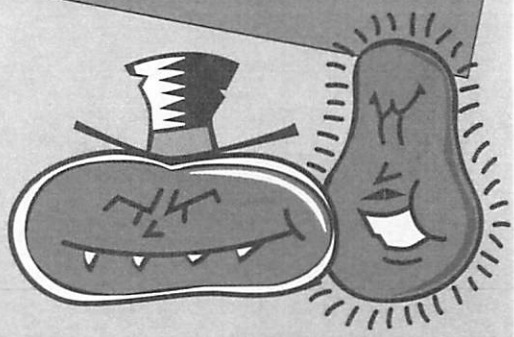
Food Fact
Each year in the United States, foodborne diseases cause 76 million illnesses, 325,000 hospitalizations, and 5,000 deaths (Centers for Disease Control).

TIP
If a food looks spoiled when you take it out of the refrigerator, has something weird growing on it, smells funny, or in any other way makes you think about whether you should eat it, it's best to discard it.

Never taste food you're not sure about. When in doubt, throw it out!

Extra bite

Try using different types of food for the same experiment, if your parents will allow it. Check out various pieces of cheese, cut in 1-inch squares, a different type of bread, potato chips, an apple slice, a small piece of cold cut, or any other food. Did all the foods grow germs? How many different types of germs did you find?



Kitchen Talk

1. Describe what you saw growing on the bread.

_____

_____

_____

2. Why did you leave the bread on the counter for 30 minutes before you placed it in the bag?

_____

_____

_____

3. How can you prevent bacteria and mold from getting on the food you eat?

_____

_____

_____

4. How can you slow down the growth of bacteria and mold on bread during the summer when it is especially hot and humid?

_____

_____

_____

Cross-contamination

Cross-contamination occurs when harmful substances or microorganisms are transferred from one food product to another. This can happen by touching food without properly washing your hands, by letting juices from raw meat get on other food, or by preparing food on a dirty countertop. Cross-contamination is easy to prevent. Here are some easy steps you can take to stop cross-contamination.

- Wash hands before working with food.
- Use different cutting boards for meat, vegetables, and fruit. You can get colored cutting boards and create a color-coding system.
- After working with raw foods, clean the workspace before getting out a different type of food.

3c. Glo germ

Project skill:
Examining germs using Glo germ

Life skill:
Processing information

NOTE: Glo germ and UV lights are available from your local county Extension office. They are also available from:

Glo Germ Company
P.O. Box 537
Moab, Utah 84532
1-800-842-6622

Supplies

- soap
- paper towel
- Glo germ oil (baby oil or vegetable oil and ground cinnamon can be substituted for Glo germ)
- UV light (any type of black light can be used in place of an UV light)
- sink
- peanut butter
- knife
- bread
- sandwich bag
- stopwatch or watch with second hand

Good and bad bacteria are everywhere. They are on your hands, under your fingernails, in the folds of your skin, in your nose and throat, and even on your hair. Bacteria are easily transferred to food from dirty hands, aprons, utensils, and counters.

Using proper hand washing techniques can keep harmful bacteria out of food. Hands should be washed:

- Before handling food.
- After handling raw foods.
- After eating or drinking.
- After handling garbage or dirty plates.
- After handling dirty utensils, objects, or equipment.
- After using the restroom.
- After touching your nose, mouth, hair, and skin.

To properly wash your hands:

- Use warm soapy water. Soap helps lift dirt and grime off of your hands. Warm water dissolves dirt faster than cold water.
- Wash for at least 20 seconds. Count them out, 1001, 1002, etc.

Pay special attention to:

- Your fingernail cuticles.
- The area in between your fingers.
- The edge of your palm.

These areas are the ones most overlooked during hand washing! Try this activity and see how good your hand washing techniques are.

1. Place 2-3 drops of Glo germ oil on your hands. Rub oil over both your hands. If you are using oil and cinnamon, put a few drops of oil on your hands. Then rub hands together to distribute the oil evenly. Sprinkle cinnamon lightly over the oiled hands.

Wash hands for 20 seconds!

2. Shine the UV or black light on your hands and notice the "glowing germs."

3. Wash your hands using the proper hand washing techniques. Use a stopwatch or watch with a second hand to time how long you washed your hands.

4. Shine the UV or black light on your clean hands. Note how many germs are left.

5. Repeat step #1, reapplying Glo germ.

6. Make a peanut butter sandwich.

7. Hold your sandwich under the UV or black light. Note how many "germs" are glowing.

8. You can eat your sandwich or store it in a sandwich bag for later.

Kitchen Talk

1. How long did you wash your hands? _____

2. Were there any germs on your peanut butter sandwich?

   _____

3. After completing this activity, describe the proper hand washing technique. _____

   _____

   _____

4. How can you teach others about bacteria and hand washing?

   _____

   _____

   _____

Extra bite

Use Glo germ to see how germ-free your kitchen counters are. Wash your kitchen counter and let it dry. Rub 3-4 drops all over your counter. Look at your counter under the UV light or black light. How many germs did you see? Clean counter again.

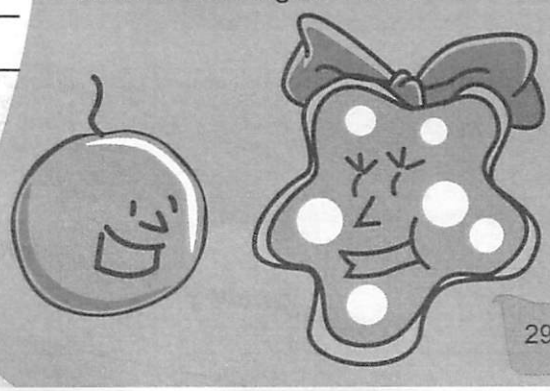
Keeping food germ-free

- When you're tasting food, use a clean spoon every time you dip into the food so you avoid spreading your germs to the food.
- Thaw frozen foods in the microwave or overnight in the refrigerator.
- Wipe dust and dirt from the tops of cans, boxes, and bottles before you open them.
- Wash fresh fruits and vegetables under cold running water to remove soil particles and pesticide residues.

Do you have to be clean only when you're cooking? Think about it. Every time you do something to food you have to remember to keep it "clean" so it is safe to eat when you want to eat it. That means every time you

- buy;
- store;
- prepare; and
- serve food

you have to do it "clean." It sounds like a big bother, but if you just get the hang of doing things with food the clean way, you'll start doing it naturally without thinking about it.



4 KITCHEN MAGIC

Kitchen safety

It's OK to have fun while you cook. After all, that's what it's all about! But accidents can happen when you're:

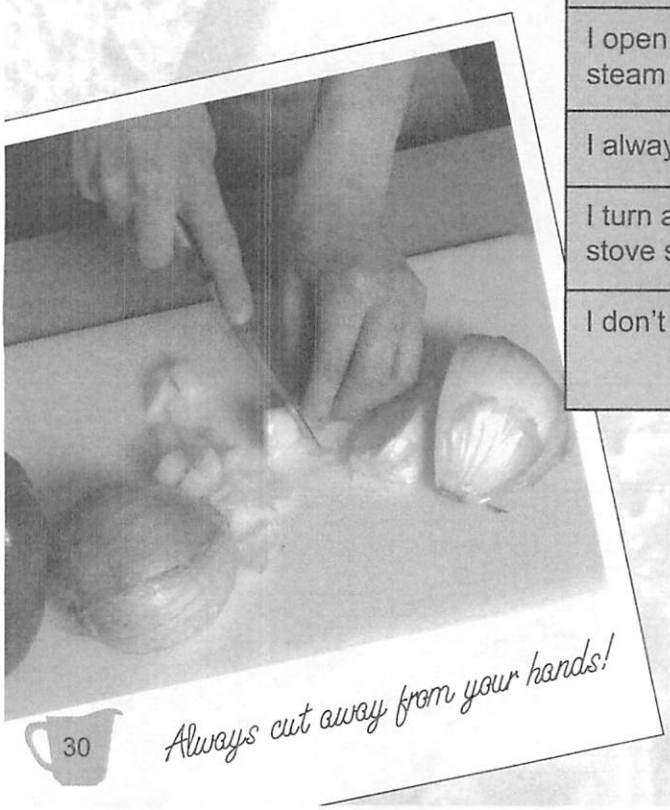
- In a hurry.
- Messy and not cleaning up spills.
- Not paying attention to what you're doing.
- Using machines you don't know how to operate.
- Working in the kitchen without permission.

What kind of accidents happen most often?

- Burns
- Cuts
- Falls

Safe Cook Checklist ✓

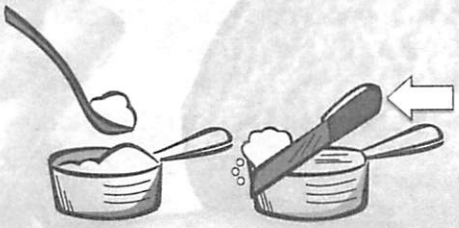
Are you a safe cook? How many of these things do you do in the kitchen?	Yes	No
I dry my hands well after washing to avoid slippery fingers and injuries from electrical shocks.		
I close cabinet doors and drawers after opening them.		
I wipe up spills on the floor and countertops right away.		
I place knives where they belong (butcher block or drawer) and not on the kitchen counter.		
When I use a knife, I cut away from my hand and not toward it.		
I wash a knife immediately after using it and put it away.		
I open pan lids away from my face to protect it from steam that can burn.		
I always use potholders when handling pots.		
I turn all pot and pan handles toward the middle of the stove so they won't tip over accidentally.		
I don't leave cooking utensils in a hot pot or pan.		



Always cut away from your hands!

How to measure

Measure liquids with glass cups that have headspace. Measure dry ingredients with cups that come in a set of 1 cup, $^1/_2$ cup, $^1/_3$ cup, and $^1/_4$ cup. Metal or glass measuring cups and spoons are better than plastic, which may crack or bend out of shape.



Sugar

- Spoon sugar into dry measuring cup higher than the top of the cup.
- Use the straight edge of a knife or a metal spatula to level off the top.

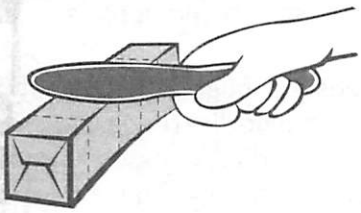
Flour

- Lightly stir, then spoon into a measuring cup.
- Pile it higher than the top of the cup. Do not shake or tap the cup.
- Use the straight edge of a knife or a metal spatula to level off the top.

Note: There is no longer a need to "sift" flour; it is pre-sifted at the mill.

Liquids

- Place the liquid measuring cup on a flat counter or table.
- Fill to the mark for the amount of liquid needed.
- Bend down to check that the bottom of the liquid line is at the mark for the amount needed. When doing this, the cook's eye should be level with the mark.
- Use measuring spoons to measure less than $^1/_4$ cup.
- Remove sticky liquids like molasses, corn syrup, and oil with a rubber spatula.

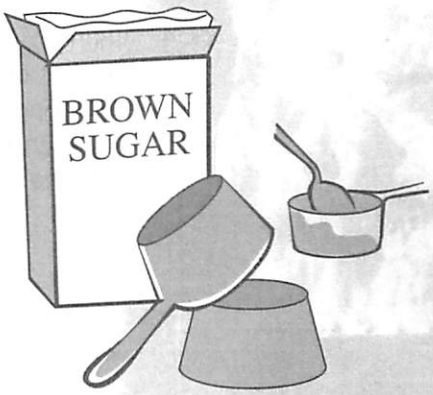


Margarine or butter (sticks)

- Cut using measuring marks on the wrapper as a guide.

Shortening

- Pack firmly into a dry measuring cup with a rubber spatula.
- Level with the straight edge or a knife or metal spatula.
- Remove with a rubber spatula.



Brown sugar

- Break up any lumps by squeezing or rolling.
- Spoon into a dry measuring cup.
- Pack it down firmly with the back of a spoon so that it keeps the shape of the cup when turned over.
- Level with the straight edge of a metal spatula or knife.

Liquid extracts and juices

- Pour the amount needed into the appropriate measuring spoon.
- Never measure over the mixing bowl or pan. Hold the spoon over a small cup.

4a. Pancakes, anyone?

Project skill:
Making pancakes

Life skill:
Managing resources

Who can resist pancakes for breakfast? You'll be surprised at how easy they are to make if you use a variety baking mix. (ex. Bisquick,™ Jiffy Mix,™ Recip-Ease.™)

A variety baking mix has all the ingredients you need except for milk and eggs. It's handy and it shortens the amount of time you spend measuring dry ingredients. The lumps you see in the batter are from shortening already added to the mix. Those lumps are supposed to be there! The lumps will dissolve when you cook the batter. So don't overmix or your pancakes won't be as tender. In this activity you are going to make pancakes from a mix and homemade pancakes from Germany.

Supplies for variety baking mix

- 2 cups variety baking mix
- 2 eggs
- 1 cup milk

Make pancakes according to the directions on the variety baking mix box.

Supplies for Germany pancakes

- 1 cup all-purpose flour
- 1 teaspoon baking powder
- $^1/_2$ teaspoon baking soda
- $^1/_2$ teaspoon cinnamon
- $^1/_4$ teaspoon salt
- 1 egg
- 1 cup milk
- 2 tablespoons oil
- 1 tablespoon honey
- 1 apple, peeled, cored, and thinly sliced
- butter or margarine

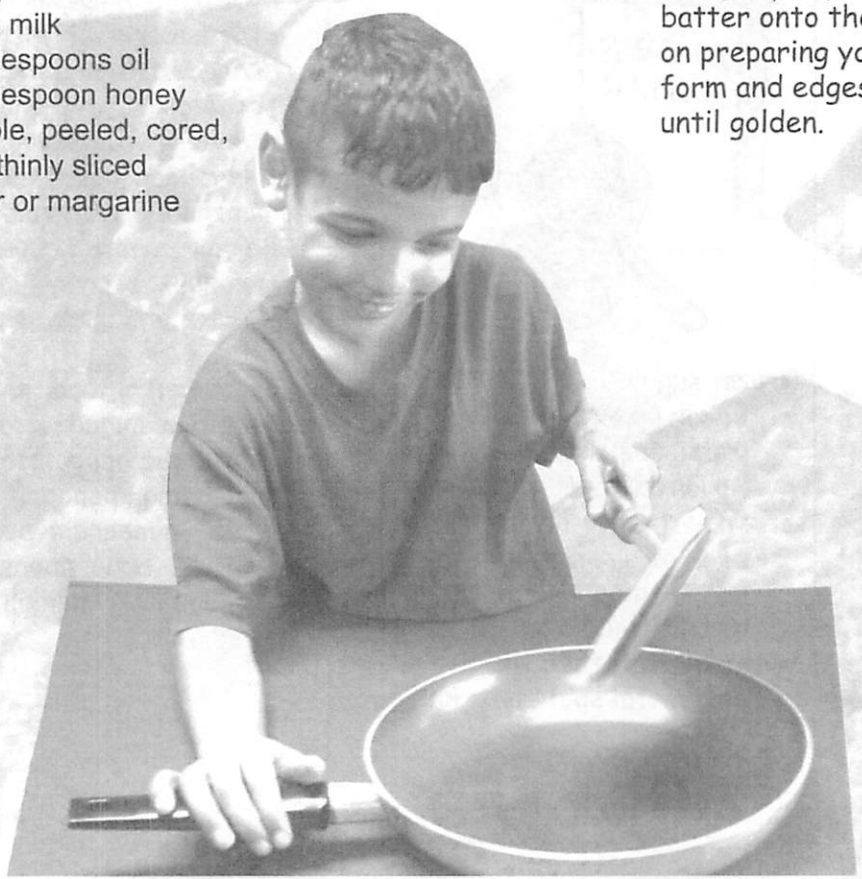
Directions for Germany pancakes.

1. Place the flour, baking powder, baking soda, cinnamon, and salt in a large mixing bowl.

2. Beat the egg in a medium-size bowl. Mix in the milk, oil, and honey.

3. Pour the egg mixture over the flour ingredients and stir just until all ingredients are wet. Gently stir in the apple slices.

4. Using $^1/_4$-cup measure, pour $^1/_4$-cup portions of batter onto the hot griddle. (Page 33 has tips on preparing your griddle.) Cook until bubbles form and edges start to dry. Turn and cook until golden.



TIP
Turn pancakes only once during cooking, so they won't get tough.

Kitchen Talk

Extra bite

It's easy to make blueberry pancakes using your variety baking mix. Just add 1 cup of drained fresh or frozen blueberries (thawed and drained) to the batter.

1. Why did you stir the batter just until it was "wet" and still had lumps in it? _____

2. Which pancakes (variety mix or homemade Germany) do you think cost the most to make? Why? _____

3. What other ingredients besides apples might you add to the batter to create your own special pancakes?

4. What other foods can you make using a variety mix?

Tips

1. To keep pancakes from sticking, grease a griddle evenly with shortening, unless you're using a non-stick pan.

2. Heat the griddle. You'll know it's hot enough if you sprinkle a few drops of water on the griddle and the drops sizzle and bounce around.

For recipes to make a complete breakfast meal check out the Fantastic Foods website at **www.youthlearningnet.org** (Click on Fantastic Foods)

4b. Colossal cookies

Project skill:
Making cookies

Life skill:
Processing information

Cookies come in all shapes and sizes. They're divided into four main categories by how they are made.

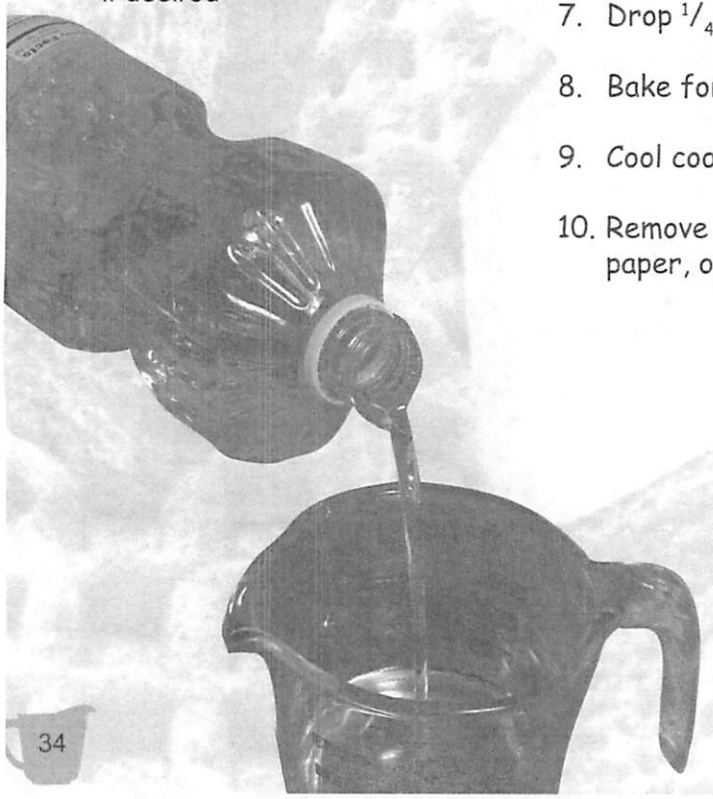
- **Shaped or molded** - stiff batter is shaped by hand. Batter can be chilled for easier handling.
- **Bar** - soft batter is poured into a shallow pan, baked, and cut into squares or rectangular shapes.
- **Drop** - soft batter is dropped from a spoon onto a baking sheet.
- **Icebox or refrigerator** - stiff batter is shaped into a roll, wrapped in plastic, foil, or waxed paper and thoroughly chilled, then sliced and baked.

Now let's make a big batch of Colossal Cookies.

Supplies

- 2 cups flour
- 1/4 teaspoon baking soda
- 1/4 teaspoon salt
- 1 cup (2 sticks) butter or margarine, softened
- 1 cup sugar
- 1/2 cup brown sugar, packed
- 1 teaspoon vanilla
- 5 tablespoons unsweetened cocoa powder
- 1/4 cup milk
- 1 1/2 cups semi-sweet chocolate chips
- 1 cup coarsely chopped nuts, if desired

1. Preheat oven to 325°F. Line a baking sheet with foil. Use the same foil for the three batches you bake.
2. In a medium bowl, mix flour, baking soda, and salt together with a spoon.
3. In a large bowl, cream the butter, sugars, and vanilla using an electric mixer.
4. Blend the cocoa and milk, beating at low speed into the butter mixture.
5. Add flour mixture slowly. Beat at low speed.
6. Fold in chocolate chips and chopped nuts.
7. Drop 1/4-cup portions of batter onto the foil-lined baking sheet.
8. Bake for 12-14 minutes, or until the tops look dry.
9. Cool cookies on sheet for 5 minutes.
10. Remove cookies from the foil, and place on brown paper, waxed paper, or paper toweling to finish cooling.



Kitchen Talk

1. Which cookie category do Colossal Cookies belong to?

   _____

2. What was the most difficult part about making these cookies?

   _____

   _____

   _____

3. What did you learn about making these cookies that you can use when you make bar cookies?

   _____

   _____

   _____

4. What tips would you give a friend about preparing cookies for judging? _____

   _____

   _____

   _____

Extra bite

Use a teaspoon or tablespoon your family uses everyday to measure some salt. Then note how much salt you have to add or remove to make one standard teaspoon or tablespoon. How accurately can everyday silverware measure?

Freezing tips

- Follow recipe to make cookies as usual. (Don't freeze meringue cookies.)
- Allow cookies to cool.
- Place in container designed for freezing that is moisture- and vapor-resistant (does not let moisture or flavor escape).
- Place foil, wax, or freezer paper between each layer of cookies.
- Label with kind of cookie, number of cookies, and the date.
- Place in freezer for no longer than six months.

Thawing tips for cookies

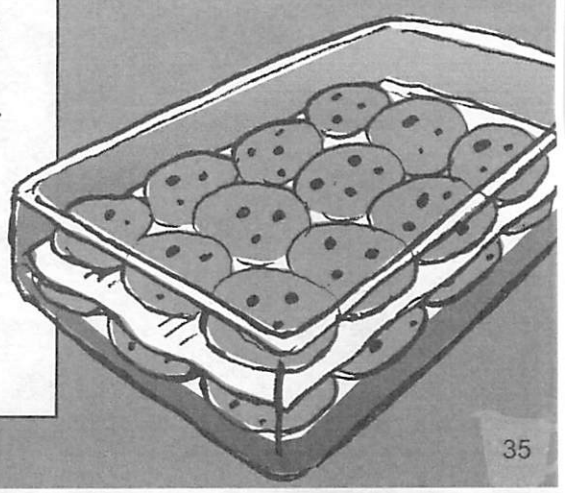
- Crispy cookies should be thawed in their freezer wrapping for 5-20 minutes. They will be less crisp than cookies baked from frozen dough.
- Soft cookies may be placed on a plate to thaw.

Baking tips for cookies

- Space batter carefully on baking sheets to avoid unattractive run-togethers.
- Cool baking sheets between baking times. Batter will spread too thinly if put on a warm baking sheet.
- Cool cookies on brown paper, waxed paper, or paper toweling.

Tips for cookie exhibits

- Bake cookies the day before judging.
- To make more evenly shaped cookies, use a melon scoop for drop-shaped cookies.
- Arrange cookies on a foam plate or clean paper plate for judging.



4c. Chips in muffins

Project skill:
Making muffins

Life skill:
Using scientific methods

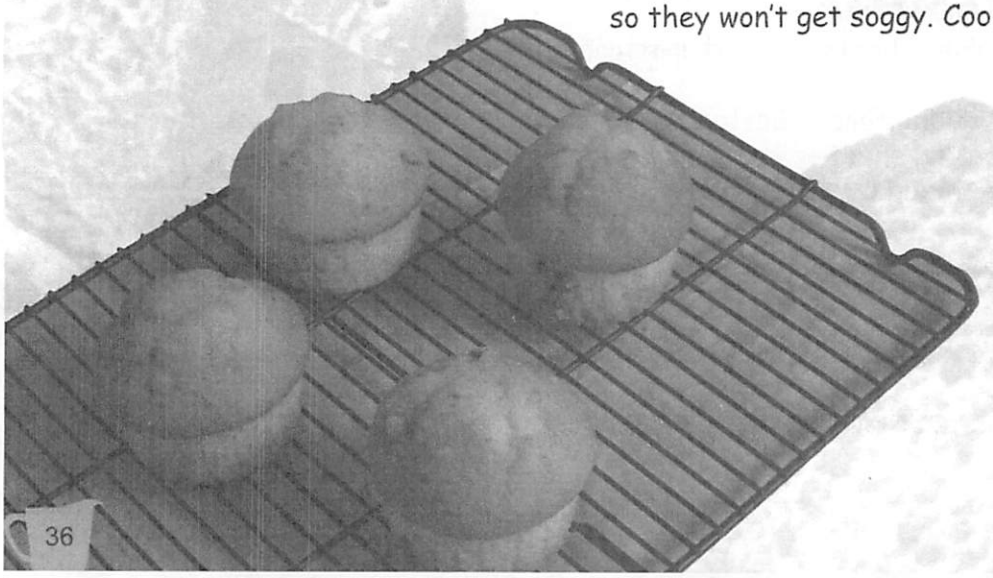
So, what do perfect muffins look like? Muffins should be light and tender with rounded, pebbly (or bumpy) tops. The crusts are golden brown. If you open the muffin, it has fine, even holes. Let's see if you can make some muffins that your friends will call "perfect."

In this activity you are going to experiment to find out the effects overmixing has on the quality of your muffins. You are going to make two batches of muffins using the recipe below. The difference in the two batches is described in the steps.

Supplies

- 1 stick of margarine or butter
- 2 eggs
- 1 cup milk
- 2 cups all-purpose flour
- $^{3}/_{4}$ cup packed brown sugar
- 1 tablespoon baking powder
- 1 teaspoon salt
- $^{1}/_{2}$ cup semisweet chocolate chips

1. Heat oven to 400°F. Grease the bottoms of muffin cups in a 12-cup pan.
2. In a small bowl, cover butter or margarine with waxed paper and microwave on high for 30 to 45 seconds (or until melted). Let the margarine cool 5 minutes.
3. Crack the eggs into a medium bowl, and then add the butter and milk. Beat mixture with a fork until mixed well.
4. In a separate medium bowl, mix together all the "dry" ingredients: the flour, brown sugar, baking powder, and salt. Stir until mixed.
5. Batch 1 - Add the "wet" ingredients to the "dry" ingredients. Stir just until the flour is wet. The batter will be lumpy.
6. Batch 2 - Stir batter until there are hardly any lumps present.
7. Stir the chocolate chips in both batches.
8. Spoon the batter into each muffin cup until it is about $^{2}/_{3}$ full.
9. Bake for 18 to 20 minutes or until golden brown. Carefully remove muffins from the pan as soon as you take them out of the oven, so they won't get soggy. Cool muffins on a wire rack.



Extra bite

Make another batch of muffins but this time "forget" to add the baking powder. What happened? Compare these muffins with the others you have made.

Kitchen Talk

1. Rate the two batches of muffins in the chart below.
   Use a 1-3 scale (1 = excellent, 2 = good, 3 = poor)

	Batch 1	Batch 2
Outside appearance		
Flavor		
Texture		
Inside appearance		

2. Which of the above things was affected most by overmixing the batter? _____

3. What was the most important thing you learned doing this experiment? _____

4. How can you use what you learned to design another science experiment with food? _____

Exhibit tips

- Don't bake your quick bread product on the day of judging. Bread is best if baked the day before.
- Paper cups are not recommended for muffins. The judges want to see the crust.
- To make muffins of equal sizes, measure batter into muffin cups with a small measuring cup.
- If you over-grease your pan, your muffins will have darker sides. Wipe off the excess grease with a paper towel.
- Quick breads usually have a crack, preferable in the center. Placing the pan in the middle of the oven helps the crack to form. Some quick breads, especially those made from a runny batter, do not crack.
- Test for doneness in the crack. This is the area that gets soggy if the bread is underbaked.
- Cool completely before wrapping and storing.

Storing quick bread loaves and muffins

- Be sure the bread is cool before it is wrapped. Wrapping while it is still warm causes sogginess.
- Wrap in foil or plastic.

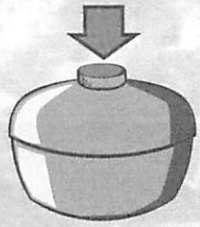
4d. Micro stuffed potatoes

Project skill:
Microwaving potatoes

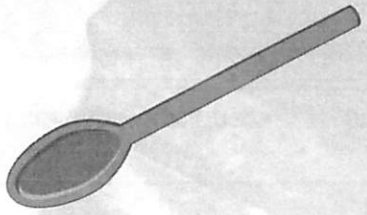
Life skill:
Mastering technology

Everyone loves to zap food for a quick snack or meal. But a microwave heats in an uneven pattern. That's why directions in recipes always say to do one or more of the following when microwaving:

Arrange food in a circle



Cover



Stir

Turn or rotate

Allow standing time after cooking.

Supplies

- 1 potato for baking
- 2 tablespoons sour cream or plain yogurt
- 2 tablespoons milk
- 1-2 teaspoons butter or margarine
- dash of salt
- pinch of pepper
- 2 tablespoons grated cheddar cheese
- 2 teaspoons bacon bits
- 1 teaspoon chopped fresh chives, optional

For microwave safety information check out the Fantastic Foods website at **www.youthlearningnet.org** (Click on Fantastic Foods)

1. Scrub potato and prick with a fork several times to let built-up steam escape.

2. Place potato on a paper towel in the center of the microwave.

3. Microwave on high power for 6-8 minutes. Turn and rotate potato halfway at midpoint of cooking time. To check if it's done, pinch it. It should feel softer than a raw potato.

4. Let the potato "stand" for 5 minutes. It continues to cook as it stands.

5. To stuff the potato:
   - Cut a lengthwise slit in the top and scoop the center out into a large mixing bowl.
   - Mash it using a fork.
   - Add sour cream or yogurt, milk, butter, salt, pepper, and chives.
   - Blend it with a spoon or use an electric mixer for a very smooth mixture.
   - Spoon mashed potatoes back into potato skins. Top with grated cheese and bacon bits.

6. Microwave on high power for 2 minutes to melt the cheese.

Kitchen Talk

Extra bite

What happens when you try to make more than one micro-baked potato? How much more time does it take to "bake" two or four potatoes?

1. What ingredients did you use to stuff your potatoes?

_____

_____

_____

2. What things did you do to make sure the potato was cooking evenly?

_____

_____

_____

3. What other foods have you cooked in a microwave?

_____

_____

_____

4. What would you tell a friend about how to use a microwave?

_____

_____

_____

That spud's no dud

Instead of stuffing your potato, soup up your spud with a tasty topping.

- **Broccoli and cheese** - get a frozen package of cut broccoli and heat it in cheese sauce in a saucepan. Check the broccoli package for more detailed instructions. When hot, spoon over your baked potato.
- **Cheese and chili** - take one 15-ounce can of chili with beans and $^1/_2$ cup shredded cheese and heat in a saucepan. Heat on low until hot and then spoon it over your baked potato.
- **Salsa** - Measure $^1/_2$ cup of your favorite salsa. Then spoon it over your baked potato. For extra "potato power," you may add $^1/_4$ cup of sour cream or guacamole and top with cheese.

5 EAT IT LATER

5a. Scream for ice cream!

Project skill:
Making ice cream

Life skill:
Mastering technology

Everybody likes ice cream. Now it's easy to buy ice cream in the store, but did you know that it used to be only for kings and queens after Marco Polo brought a recipe for fruit ice back with him from China? It didn't take too long before others added milk and cream to the concoction and made ice cream in a bucket. You can make it that way, too.

Supplies

- 2 cups (1 pint carton) whipping cream
- $^1/_3$ cup sugar
- 1 teaspoon vanilla
- clean one-pound coffee can with a plastic lid
- stir stick or a wooden spoon
- plastic pail or an ice bucket about five inches wider than the coffee can
- crushed ice (or snow if it's winter!)
- rock salt or table salt (rock salt works best)

1. Pour the cream, sugar, and vanilla into the coffee can. Mix them together well.

2. Make a hole in the coffee can plastic lid. Make the hole large enough so that when you push the wooden spoon or stir stick through the lid, you can easily move the spoon or stick. Place the lid back on the can.

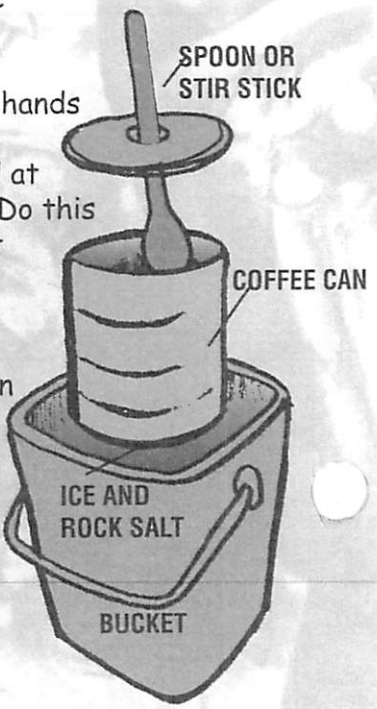
3. Put a layer of crushed ice on the bottom of the plastic pail or ice bucket. Add about $^1/_4$ cup rock salt on top of the crushed ice.

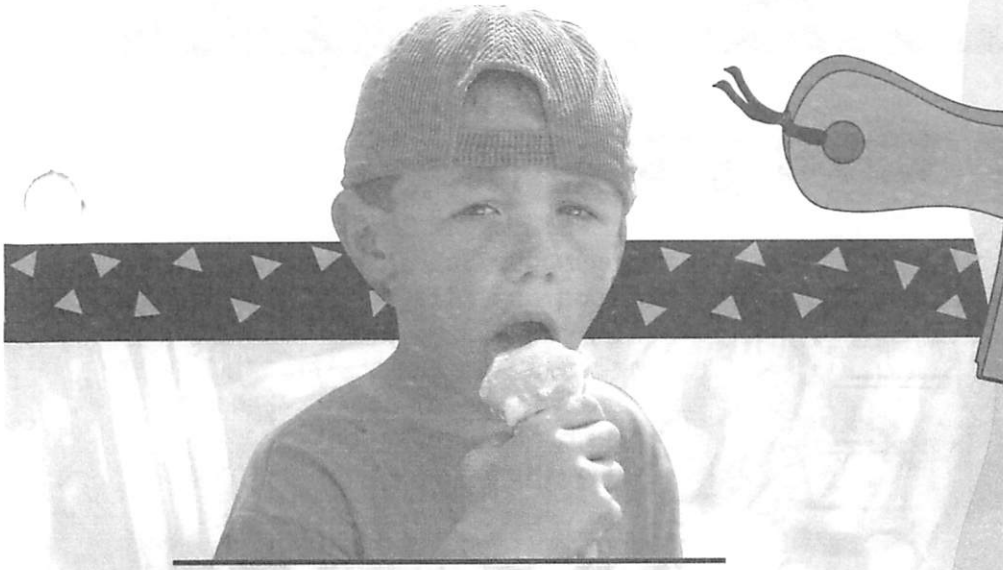
4. Now place the coffee can on top of the ice and salt layer in the bucket. Layer more rock salt and crushed ice around the coffee can until you reach the top of the bucket or the top of the coffee can. Use 3 parts ice to 1 part salt. (That's $^3/_4$ cup ice to $^1/_4$ cup salt.) If you use too much salt, the ice cream can turn "grainy." Let it sit for three minutes, so it gets really cold.

5. Grab a partner if you can, so you have four hands to work with. You need to twirl the spoon handle in your hands as fast as you can, and at the same time turn the coffee can around! Do this for at least 20 minutes. You'll notice that it gets harder to stir as the cream turns into ice cream.

6. Take the coffee can out of the bucket when the ice cream is firm enough. Remove the spoon, and put the lid back on the can. Try to keep the can in the freezer for at least one hour.

7. You can add a topping or sprinkles to your ice cream. Eat and enjoy!





Extra bite

Freeze 2 cups of plain yogurt for about two hours or so until it gets to be a mushy ice. Take it out of the freezer and use a spoon to mix in $\frac{1}{3}$ cup light corn syrup and 2 teaspoons vanilla extract. Then, return the yogurt to the freezer and freeze until firm! Top with fruit or chocolate syrup.

Kitchen Talk

1. How much ice cream did you end up with in the coffee can?

2. Was this more or less than what you started with?

3. Why?

4. Why did you salt the crushed ice?

5. What will you do differently the next time you make homemade ice cream?

Ingredients

Ice cream is made up of many different ingredients. Each ingredient plays a special part in the development of ice cream. For example:

- **Milk fat** produces the smooth texture and keeps ice cream from melting very easily.
- **Nonfat milk** gives ice cream a smooth and compact texture.
- **Sweeteners** such as sucrose, corn syrup, maple sugar, honey, and invert sugar give ice cream its sweet taste.
- **Egg yolk solids** improve the whipping ability of ice cream.
- **Stabilizers** help prevent formation of large, coarse ice crystals.
- **Emulsifiers** give ice cream a smooth, dry texture and help improve whipping quality.
- **Flavorings** include such things as spices, fruit juice, chocolate, candy, cookies, pie, and cake.
- **Air** adds volume to the ice cream and is incorporated into the mix during freezing.
- **Rock salt** in homemade ice cream is used to help freeze the ingredients. The one part salt to three parts ice creates a mixture that reaches a temperature for ice cream to form. If your ice cream is too soft, the mixture is not cold enough and salt needs to be added. If the ice cream becomes coarse quickly, it is too cold and too much salt has been used.

5b. You be the judge

Project skill:
Checking freezer packaging material

Life skill:
Making decisions

Freezing is a quick, easy way of saving a food you like to eat for another time. It works because at 0°F, the food ages, or ripens very slowly. After thawing the food, you have to eat it as soon as possible because it continues to age when it's not frozen until it spoils.

What your food is like after you freeze it depends on three things:

- ✔ The quality of the food before it was frozen.
- ✔ How careful you are in getting the food ready for freezing and packaging.
- ✔ The packaging material you use.

To help you decide what kind of package you want to buy or use, check to see if it is:

- ✔ Reusable - may cost more but it can pay for itself if you'll be freezing a lot.
- ✔ Easy to fill, close, and empty.
- ✔ The right size and shape for the food you want to freeze.
- ✔ Moisture- and vapor-resistant.

Find out how well foods are stored in your family's freezer!

Supplies
- freezer to investigate
- pencil

Kitchen Talk

1. Using the checklist, judge the contents of your freezer at home for the right kind of packaging materials and if the package was properly sealed and labeled.

Is the packaging material in the freezer:	Yes	No
Moisture- and vapor-resistant?		
Strong and not easily broken or torn?		
Easily cleaned when it's empty?		
The right type for the food in it?		
Using up the least amount of space possible?		
Easily filled, closed, and emptied?		
Reusable?		
Easily labeled?		
Sealed with freezer tape or a tight-fitting lid?		
Filled properly to squeeze out excess air?		

2. What kind of packaging material(s) did you see in your freezer?

_____

_____

_____

3. How would you rate the packaging material in your freezer?

_____

_____

_____

4. What recommendations would you give to the person who usually freezes food in your family? _____

_____

_____

Extra bite

Find out what happens to two cartons of ice cream in your freezer over a three-week span. One carton should be opened and then closed using only the carton lid. Another carton should be opened and then sealed with a sheet of plastic film before closing the carton lid. Compare and taste the two ice cream cartons. Which ice cream do you prefer? What does this tell you?

Packaging material

Two kinds of freezer packaging material are:

- **Bags** - reclosable plastic freezer type.
- **Containers** - tins and rigid plastic freezer types.

Don't use:

- Sandwich bags.
- Produce bags.
- Bread sacks.
- Margarine tubs.
- Whipped topping containers.
- Waxed paper.

Aluminum foil is a popular freezer wrap, but it tears. Only use heavy-duty aluminum foil. Don't wrap acid foods like tomato recipes or citrus fruits in foil because the acid eats through the foil, leaving tiny holes in it. Wrap such foods in plastic first, then use foil.

Tip:
Check that your freezer temperature is 0°F (-18°C) or lower. If ice cream in your freezer is soft, your freezer is too warm.

5c. Saga of a soggy

Project skill:
Freezing a sandwich

Life skill:
Using scientific methods

School day mornings are always hectic. One way to save time is to have a sandwich ready and waiting in the freezer. Sandwiches can be frozen for three to four weeks if they are packaged in a moisture- and vapor-resistant material. They'll thaw out in your lunchbox in three to four hours and keep other foods cold, too. Let's do a "which sandwich" experiment.

Supplies

- ingredients to make a sandwich (bread, a spread, filling, and toppings)
- freezer bag
- waxed paper or a sandwich bag

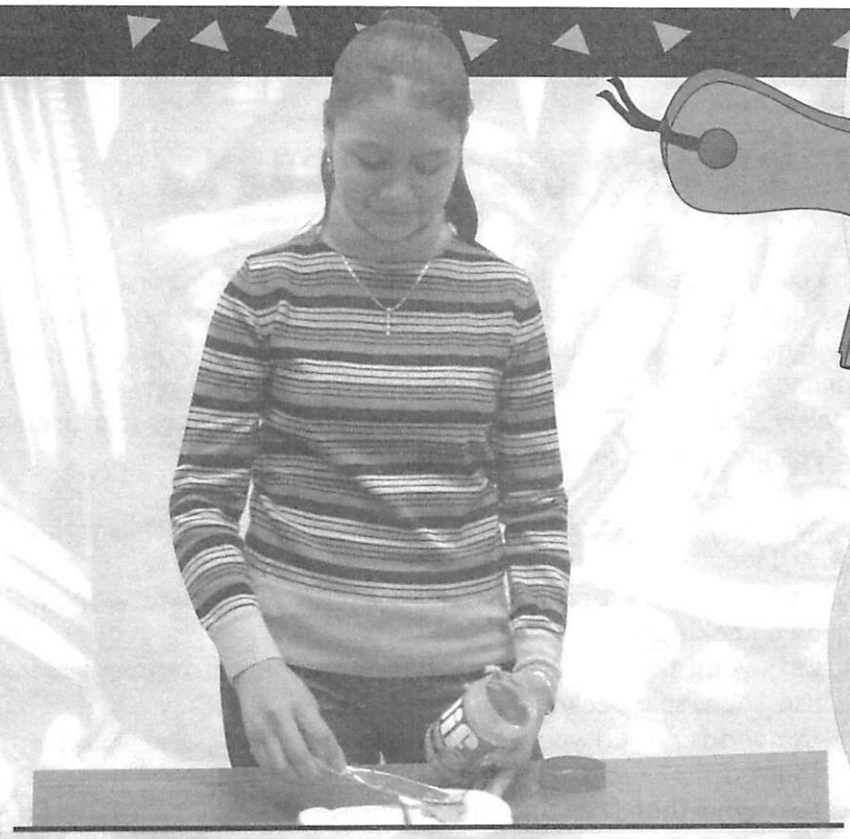
1. Prepare two identical sandwiches for freezing. Pay special attention to the ingredients you choose.
2. Pack one sandwich in a plastic reclosable freezer bag. Seal it tightly, squeezing out all the excess air. Label it with your name, the date, and the kind of sandwich.
3. Package the other sandwich in waxed paper or a plastic fold-over type sandwich bag. Seal it as best as you can, squeezing out all the excess air. Label it like the other sandwich you made.
4. Freeze both sandwiches for a week.
5. Look at the sandwiches when you take them out of the freezer and again after they have thawed.

Check to see:

- ✔ If sandwich holds together.
- ✔ How it looks.
- ✔ If filling is spread evenly.
- ✔ If the filling is moist, not dry.
- ✔ If there is enough filling to make it look good.
- ✔ How it tastes.

Some do's and don'ts for selecting ingredients for freezing sandwiches

	Do use	Don't use	Why
Bread	Any, but day old or firm breads are best.	Quick breads, corn breads, and biscuits.	These crumble when frozen.
Spreads	Margarine, butter, peanut butter, and cream cheese.	Mayonnaise, salad dressing, jellies, and jams.	These get watery and soak into the bread, making a very soggy sandwich.
Fillings	Cold cuts, sliced meats, or poultry, and cheese slices.	Salad fillings (egg, tuna, ham, and chicken salad).	These get watery because of the mayonnaise.
Toppings	Bacon, chocolate chips (especially on peanut butter sandwiches).	Any raw fruit or vegetable. Instead add these items after the sandwich thaws.	These get watery and mushy when frozen.



Extra bite

Do a demonstration for your family on freezing sandwiches using correct and incorrect ingredients. Freeze the sandwiches for a week, then have your family members do a taste test. Report on how your family reacted.

Freezer burn

Maybe you've heard of "freezer burn." What is it? It's what makes your food taste funny, kind of like what the freezer smells like. Freezer burn happens because there was too much air in the package, and it dried out the food, or because the food wasn't sealed away from the dry air in the freezer.

That's why it's important to use the right kind of package when you freeze. The whole point of freezing is to keep your food as fresh as possible! To do this, you must keep it from drying out. The material shouldn't let any air get in or any water get out. This is called "moisture- and vapor-resistant." If the seal is not tight, air and water passes through it, and affects the food inside the package.

Kitchen Talk

1. Describe the difference between the two sandwiches after they were thawed. _____

2. Which sandwich would you rather eat? Why?

3. How can you avoid freezer burn?

4. How would you use what you learned to freeze other items?

5d. Frosty freezer fruit

Project skill:
Freezing berries

Life skill:
Mastering technology

You can freeze most fruits, but some will be watery and mushy when you thaw them. Fruits like apples and bananas lose their texture and get mushy. But you could use frozen apple slices or frozen mashed bananas in cooking or baking because they get soft and mushy then, anyway. Individually frozen grapes or frozen banana slices are really refreshing treats for hot summer days!

A great way to freeze berries is to use the "dry pack" method. Why? It:

- Doesn't let the berries stick together if you freeze them first on a cookie sheet.
- Lets you take out how many berries you need without having to use the whole package.
- Is good for fruit you want to use for cooking or eating partially thawed.

Keep in mind that freezing won't improve the quality of the fruit you freeze - it won't ripen fruit, and it won't make bruises go away. The fruit should be the best quality possible.

Supplies

- at least one quart of berries
- reclosable freezer plastic bag, or a plastic freezer container with a lid
- paper towels or colander
- cookie sheet

Choose a berry you like to eat!

1. Wash the berries quickly in cold water. This helps to clean the fruit as well as firm it so you don't lose a lot of juice.

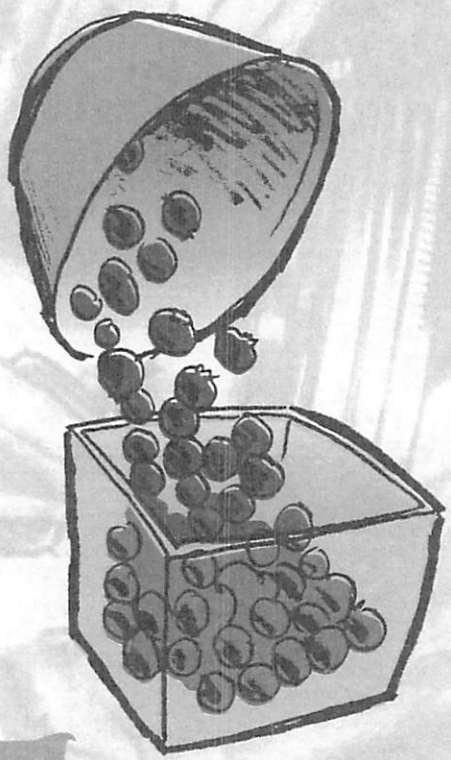
2. Drain the fruit very well on paper towels or in a colander.

3. Use a method called "dry pack" to prepare the berries for the freezer.
   - Spread clean, dry berries on a cookie sheet or tray and put in freezer.
   - When berries are frozen solid, pour them into a freezer plastic bag or container.
   - **Option:** just pour the clean dry berries into a freezer plastic bag or container.

4. Seal tightly with as little air as possible in the reclosable freezer plastic bag. If you're using a rigid plastic freezer container, allow for $^1/_2$ inch "headspace" before putting the lid on.

5. Use a wide, permanent marker to label the package with:
   - The name of the food.
   - The date you froze it.
   - How much of the food (or the number of servings) is in it.

6. Freeze immediately. Store at 0°F or lower. Fruit keeps better at a constant freezing temperature.



Kitchen Talk

Extra bite
Freeze banana slices on a cookie sheet. Taste the frozen slices. Ymmm - it's almost like ice cream!!

1. What kind of berries did you choose to freeze?

   _____
   _____
   _____

2. Did you have any problems freezing the dry-pack way? If so, describe the problem. _____

   _____
   _____
   _____

3. What are some common mistakes people make when freezing food?

   _____
   _____
   _____

4. What are two things you would do the next time you try to freeze a food? _____

   _____
   _____
   _____

Juice and ice cubes

Are juice cubes as hard as ice cubes? Fill half of an ice cube tray with orange juice and the other half with water. Put the tray in the freezer overnight.

The next day check out the frozen cubes! Which is harder? Take a bite!

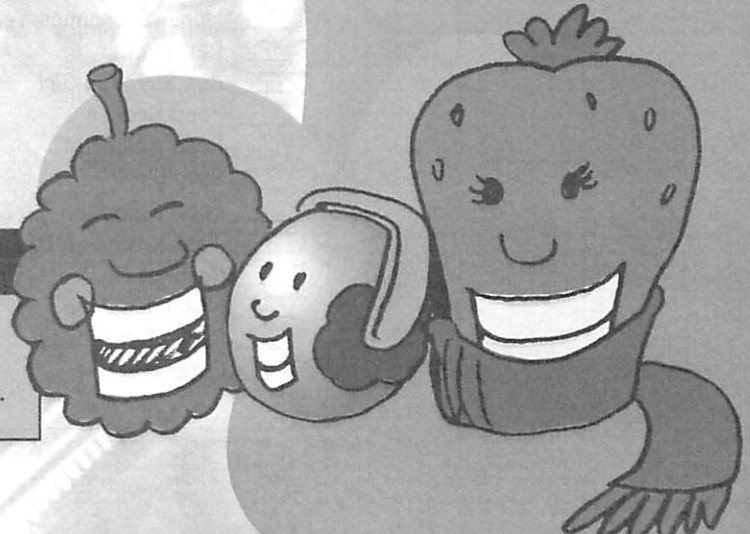
How does it work?
A frozen orange juice cube is not as solid as an ice cube because there's stuff in it other than water. It doesn't freeze like water. So, it's easier to eat because it has frozen and unfrozen stuff in it.

Tips on freezing

- Only freeze dry berries. If berries are wet when frozen, ice crystals will form and they can cause freezer burn.
- Always label your frozen food item with the name of the food, date frozen, and how much is in the container.

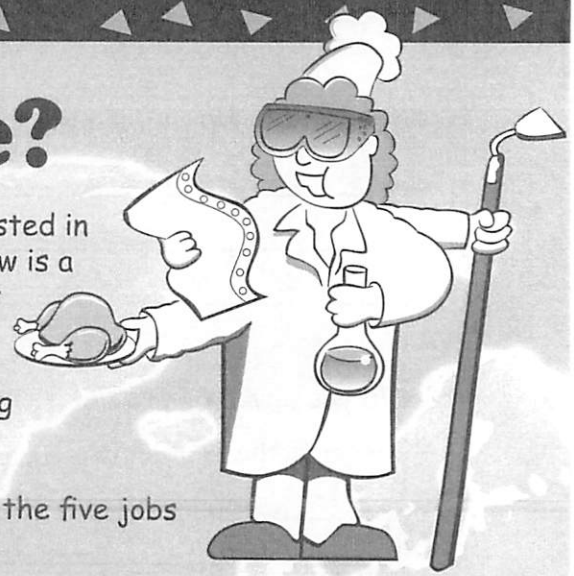
Thawing

Thaw berries in the refrigerator or at room temperature just enough so that the pieces separate. They're fun to eat partially frozen.



6 IMAGINE THAT!

6a. What's my line?



Project skill:
Identifying careers in the food industry

Life skill:
Making decisions

If you think you might be interested in a career in the food industry, now is a good time to find out more about it. How can you prepare for it? A great way to start is to talk with people who are already doing what you might want to do!

1. On the list below, put a ✔ by the five jobs you're most interested in.

2. Interview at least two people who are working in an area you're interested in. Ask both people the same questions, such as:
   - How did you get the job?
   - What's a "typical" day on the job like?
   - How long did you have to go to school?
   - How can I get a head start on finding out if I'd like to do what you do?

3. Take some notes during the interview. Jot down some interesting comments.

Supplies
- paper
- pencil
- interviewee

____ Advertising Specialist	____ Food Demonstrator
____ Grocery Store Manager	____ Writer for Newsletter
____ Food Processing Worker	____ Hospital Food Service
____ Extension Educator	____ Dietitian
____ Health Inspector	____ Nutritionist
____ Food Technologist	____ Host/Hostess
____ Baker	____ Dishwasher
____ Home Economics Teacher	____ School Lunch Server
____ Researcher	____ Vending Machine Stocker
____ Bus Boy/Bus Girl	____ Farmer
____ Food Broker	____ Stock Person
____ Food Scientist	____ Warehouse Supervisor
____ Butcher	____ Packer
____ Food Salesman	____ Waiter/Waitress
____ Test Kitchen Manager	____ Statistician
____ Cashier	____ Truck Driver
____ Nutrition Aide	____ Food Service Worker
____ Public Relations	____ Food Photojournalist
____ Caterer	

Extra bite

1. Tell a friend or an adult about the job choices you checked. What job does the adult (or your friend) do or want to do? They might have even more ideas for you!
2. Go to the library and find out more about a career you're especially interested in.

Kitchen Talk

1. Why are you interested in the jobs you ranked?

   _____

   _____

   _____

2. Is there a particular job that appealed to you more than the others?_____

3. Why? _____

   _____

   _____

4. What was the most interesting thing you found out from each of the people you interviewed?

   _____

   _____

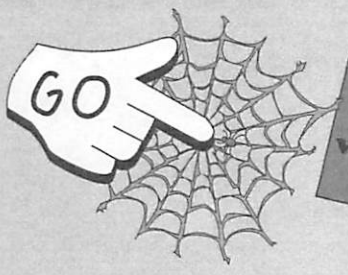
   _____

5. What suggestions did you get on how to get a head start on finding out what you'd like to do?

   _____

   _____

   _____



For a description of the listed careers in the food industry check out the Fantastic Foods website at **www.youthlearningnet.org** (Click on Fantastic Foods)

Food industry

Do you ever think about what goes into making the food you are eating? The food industry is the largest business in the United States. Farmers, scientists, producers, truck drivers, and grocers are just some of the many people who help get food into your home.

Let's take pizza for example. Where does cheese come from? Milk, which comes from a cow on a dairy farm. The milk must be pasteurized and processed into cheese. The pizza sauce has to be processed from tomatoes. The pizza crust must be processed from grain. After processing, all the foods have to be packaged and shipped to the pizzeria or grocery store.

There are a lot of steps that your food must undergo before you can eat it. This makes the food industry full of career opportunities. It takes a lot of people to get the food from the farmer's field to your table.

6b. The chain gang

Project skill:
Making a food handler chain mobile

Life skill:
Understanding systems

All the people involved in bringing food to your home are part of the food system. They work together as part of a chain. That means that everyone from the farmer to your mother who cooks the food is part of the system. Even the person in your family who does the grocery shopping is part of the food handling chain.

To help you think about the chain steps, look at this example for apple pie.

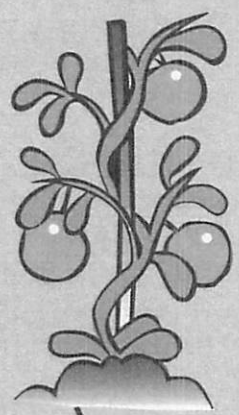
Form of food	Who handles food on its way to you?
Apples	Farmer
Transport to processing plant	Truck driver
Apple pieces	Food Scientist
Apple pie filling	Packer
Transport to grocery store	Truck driver
Cans of filling	Grocery store
Apple pie	Consumer

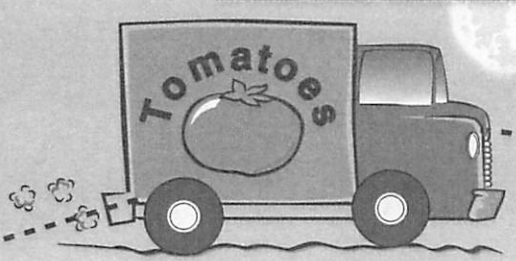
Supplies
- colored construction paper
- scissors
- pen or pencil
- paper puncher
- paper clips
- string

Now let's make a real chain out of construction paper.

1. Choose a favorite food.
2. Think of how that food came to you from the farmer's field. Write it in the left column of the chart.
3. Now write in the right column all the workers that "handled" your food.

Form of food	Who handles food on its way to you?





Extra bite

1. Show your mobile to your family, and tell them how your favorite food came to you from the farmer's field.
2. Pick a food business in your area. What food products does it produce? Describe the kinds of workers who work here. Report about it to your group.

4. Use colored construction paper to cut out shapes for a mobile. Cut one big shape and write the name of your food. You will hang two "chains" from it. One lists the items in the left column of the chart and the other lists the items in the right column of the chart.

5. String the mobile together.
   - Punch a hole at the top and bottom of each shape.
   - Put the shapes together by hooking paper clips or stringing thread through the holes.

6. Display your mobile!

Food scientists

Food scientists are the people who figure out what to put into a food or drink. They set up taste panels to see how well a food or drink compares to a competing brand. They work in a team with food processing engineers. They're the ones that come up with "new" or "improved" versions of an existing product, test it, and design the equipment to make it in a factory so you can buy it!

Kitchen Talk

1. How many "chains" did your food go through?

   _____

2. What jobs are involved in bringing it to the grocery store so you can buy it? _____

   _____

   _____

3. Who is the most important person in the food system? Why do you think that? _____

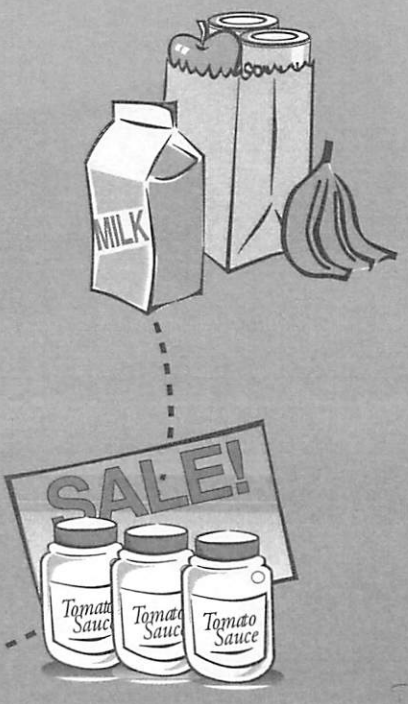
   _____

   _____

4. Describe what you discovered about food systems and how they work. _____

   _____

   _____



6c. Thailand watermelon

Project skill:
Making watermelon slushes

Life skill:
Valuing diversity

In Thailand watermelon is named Taeng-mo. It is eaten after a spicy dinner and is supposed to quench the hot chilies used in Thai food. Whole watermelons are used for decorating or fruit carving. You may see a watermelon turned into a beautiful flower on a table in Thailand!

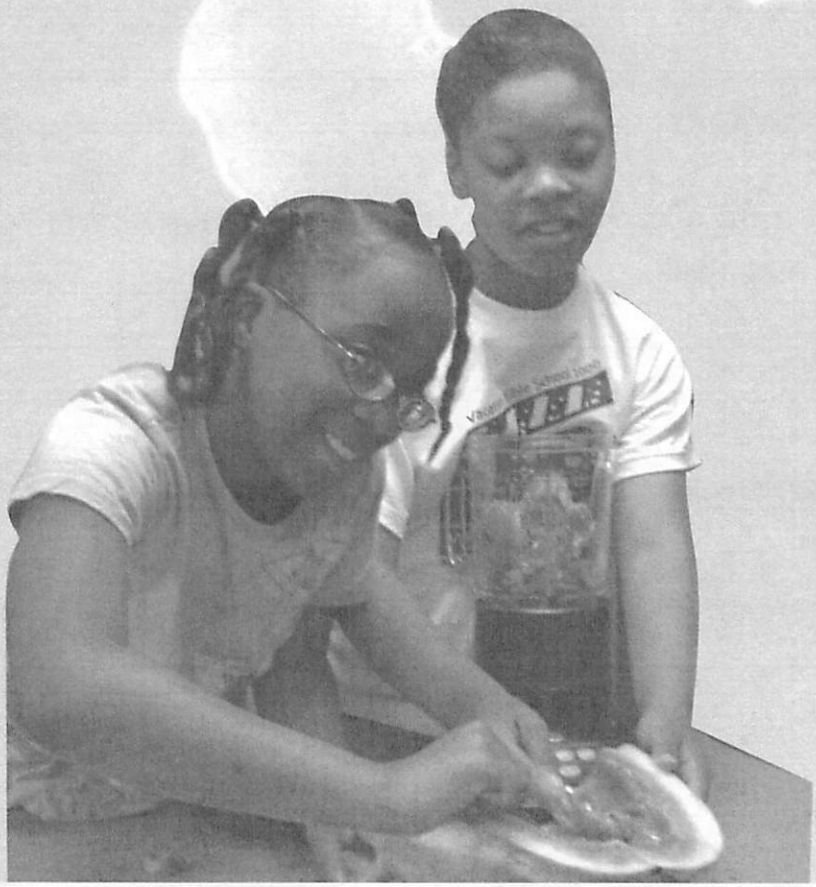
In Thailand fruit juice is very popular. There is pure fruit juice, concentrated fresh juice mixed with water, and some fruit juice is used as a major ingredient in bottled soft drinks. Watermelon juice is extracted and sold as a beverage. Try this watermelon slush from Thailand!

Supplies

- 6 large ice cubes
- 2 cups seedless pieces of watermelon
- 1 tablespoon sugar or honey

1. Have an adult help you prepare to use a blender or food processor.
2. Place the ice cubes in the blender or food processor.
3. Mix the ice cubes until crushed.
4. Add the watermelon and blend for 1 minute or until the shake is slushy.
5. Add the sugar or honey and blend for about 10 seconds.
6. Pour the slush into four tall glasses. Enjoy!

For more Thailand food recipes check out the Fantastic Foods website at **www.youthlearningnet.org** (Click on Fantastic Foods)



Extra bite

Pineapple is another fruit that is used a lot in Thailand. Try making pineapple slushes. Use the same directions for watermelon slushes, but use two cups fresh or canned pineapple chunks instead of watermelon pieces.

History

Thais eat six to seven meals a day, but only a tiny portion at each meal. They do not use knives, forks, or chopsticks; they cut and eat all their food with spoons. Thai food usually tastes hot because of the many spices, herbs, and seasoned sauces used in cooking.

Meat is roasted, grilled, or fried in Thailand. Fish and shellfish are always served fresh. Thais also enjoy small, dry, raisin cakes.

Kitchen Talk

1. How did your watermelon slush taste?

   _____

   _____

   _____

2. Did you have any problems getting all the seeds out?

   _____

   _____

   _____

3. The next time you are eating watermelons at a picnic with friends, how can you tell them about Thailand watermelons?

   _____

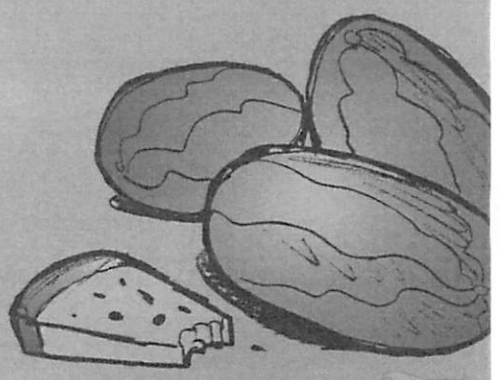
   _____

   _____

4. Read about Thailand, and write one thing you and the Thai people have in common. _____

   _____

   _____



6d. Mexican churritos

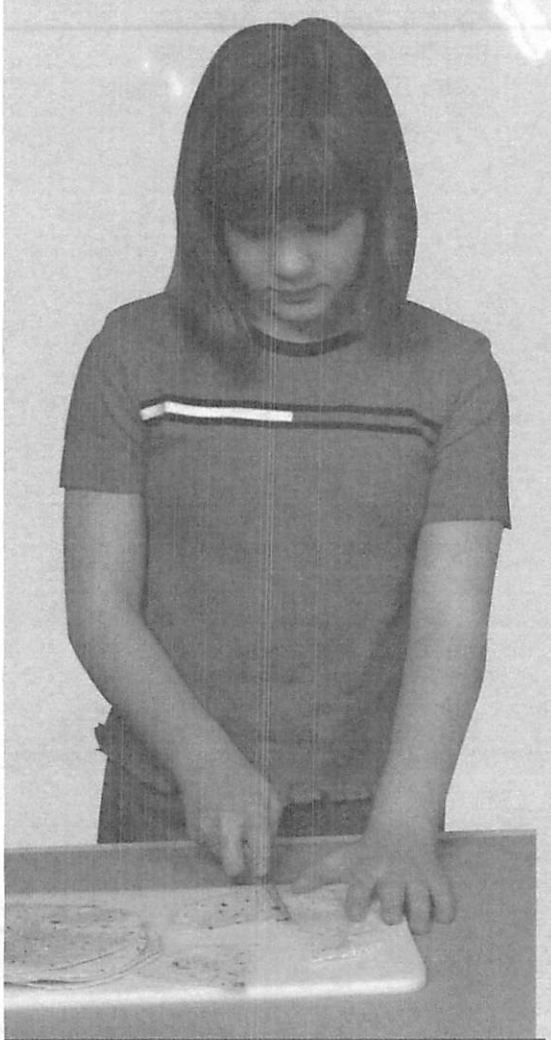
Project skill:
Making churritos

Life skill:
Valuing diversity

Churritos are a great treat that you can enjoy as a snack or dessert. They are sweet tortilla fritters that can be either baked or fried. Churritos are usually made with wheat flour tortillas. In Spanish, tortilla means small and flattened. Try your hand at making churritos.

Supplies

- 4 small wheat flour tortillas
- 1 cup vegetable oil, for frying
- $^1/_2$ cup sugar
- cinnamon to taste



For frying churritos:

1. Cut each of the tortillas into quarters.
2. Put oil into frying pan and place over medium high heat.
3. Have an adult help you place the tortillas in the pan. Be careful!! The oil is very hot and it could splatter on you and burn you.
4. Fry tortillas in batches. Turn them often. Fry until golden on both sides.
5. When done, place on a paper towel.
6. Sprinkle with cinnamon and sugar.
7. Serve and enjoy while still hot!

For baking churritos:

1. Turn oven to 350°F.
2. Lightly grease a cookie sheet.
3. Cut each tortilla into $^1/_2$-inch strips.
4. Twist each strip and put them on the cookie sheet.
5. Sprinkle each strip with cinnamon and sugar.
6. Bake in the oven until crunchy.

Serving options:

- Dipped in vanilla ice cream
- Dipped in melted chocolate

Food Fact
Tortillas are known as "the bread of Mexico" and Mexicans use them as plates, forks, and spoons.

1.

Extra bite
Find a Mexican cookbook at the library or bookstore. Pick out some recipes you would like to make. Invite some friends over and have a Mexican tasting party.

Kitchen Talk

1. Did you bake or fry your churritos?

   _____

2. Did you have any problems making them?

   _____

   _____

   _____

3. What did you learn about the Mexican culture when making churritos? _____

   _____

   _____

   _____

4. How can churritos help you teach your friends about the Mexican culture? _____

   _____

   _____

   _____

History of Mexican food

Mexican food has a very interesting history. What do you think of when you hear Mexican food? Corn and beans, right? Yes, corn, chilies, tomatoes, beans, peppers, and avocados are basic ingredients in Mexican cooking. But did you know chocolate was first found in Mexico?

In the early 1500s invading Spaniards created chocolate from the fruit of the Mexican cacao tree and vanilla from the fruit-pod of a Mexican orchid. The Spaniards also brought new plants and animals. They introduced olive oil, cinnamon, parsley, coriander, oregano, and black pepper. They also brought almonds, rice, wheat, barley, apples, oranges, grapes, lettuce, carrots, cauliflowers, potatoes, and the plant that sugar comes from, sugarcane.

Mexico had a ruler who was supported by French troops from 1864-1867. In this short time the French introduced many of their cooking ingredients and techniques. It's easy to say that Mexican food is a mixture of many different cultures. These include Spanish, French, and Native American.

For more Mexican food recipes check out the Fantastic Foods website at www.youthlearningnet.org (Click on Fantastic Foods)

Sig

Glossary

Acid - a substance that causes a sour taste; can also dissolve certain minerals.

Bar cookies - cookies cut with a knife into small squares or rectangles

Calories - measure of heat that helps to produce energy

Carbohydrates - energy-providing nutrients

Carbon dioxide - a colorless gas that helps make batter fluffy and rise during baking

Chopped - cut into small pieces

Dry pack - fruit frozen with no sugar or liquid added

Drop cookies - dough dropped by teaspoons

Enriched flour - flour that has some B vitamins and iron added

Fold - to gently spoon or pour one mixture over another mixture in a bowl to prevent loss of air

Food handler chain - includes the production, processing, marketing, and transportation of a food

Food poisoning - an illness caused by eating food contaminated by microorganisms due to improper storage, handling, or cooking of the food; characterized by vomiting and diarrhea

Food processor - prepares and preserves food including canning, freezing, dehydrating, refining, and formulating food at a food company

Food scientist - develops new food products that satisfy the consumers' wants and needs

Headspace - space left at the top of a container to let foods expand as they freeze

Ingredients - food items in a recipe

Moisture- and vapor-resistant - a material for freezing that does not let moisture or flavor escape

Molded cookies - formed by hand into desired shape; could be flattened by fork, end of glass, etc.

Microorganisms - tiny organisms too small to see with just the eye; germs

Muffin pan - cupcake pan

Nutrients - chemical substances found in food that are essential for good health

Packaging material - containers and wraps used for freezing foods; keeps food from drying out and preserves food value, flavor, texture, and color

Pastry blender - blends fat and flour; two knives can be used

Perishable - will spoil if not refrigerated or stored properly

Preheat - heat to temperature needed for recipe before baking; takes about 10 minutes

Preserving - keeping food so that it will not spoil; three ways are freezing, canning, and drying

Protein - body-building nutrient

Rotary egg beater - hand beater

Seal - to fasten or close securely and to keep airtight

Sugar pack - a method of freezing fruit using dry sugar

Unsweetened pack - fruit frozen with no added sugar

Year 1 Record Sheet

1. List three new things you learned in this project.

_____

_____

_____

2. What was the most surprising thing you learned about yourself while completing this project?

_____

_____

_____

3. Did you give an action demonstration on your Foods project? _____ Yes _____ No
   Name of Demonstration_____

4. List the foods you prepared and/or preserved this year and the number of times they were prepared and/or preserved.

Food Prepared	Number of Times

Food Preserved	Number of Times

5. Write in the number of times you did other things:

Activity	Number of Times
Set table	
Cleaned up kitchen	
Collected recipes	
Helped serve family meals	
Shopped for groceries	
Put away groceries	

I have reviewed this record and made comments about the individual's progress and project completion.

Signature of Project Helper_____Date_____

Year 2 Record Sheet

1. What did you learn about food safety from this project?

_____

_____

_____

2. What are some things to keep in mind when you go to the grocery store to buy food?

_____

_____

_____

3. Did you give an action demonstration on your Foods project? _____ Yes _____ No

Name of Demonstration_____

4. List the foods you prepared and/or preserved this year and the number of times they were prepared and/or preserved.

Food Prepared	Number of Times

Food Preserved	Number of Times

5. Write in the number of times you did other things:

Activity	Number of Times
Set table	
Cleaned up kitchen	
Collected recipes	
Helped serve family meals	
Shopped for groceries	
Put away groceries	

I have reviewed this record and made comments about the individual's progress and project completion.

Signature of Project Helper_____Date_____

The 4-H Pledge

I pledge
my Head to clearer thinking,
my Heart to greater loyalty,
my Hands to larger service, and
my Health to better living,
for my club, my community,
my country, and my world.

Explore more curriculum projects online at:
www.4-hcurriculum.org