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**ASSIGNMENT SHEET**  
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**BREAD, CEREAL, RICE & PASTA**  
 .....

DATE DUE \_\_\_\_\_

NAME \_\_\_\_\_ HOUR \_\_\_\_\_

**DIRECTIONS:** Complete all activities. A challenge project must be completed to earn an "A" on this unit. Put your unit together in the order listed below.

TEACHER    STUDENT

_____	_____	1. GRAINS ON PARADE (20)
_____	_____	2. COMPUTER PROGRAM (20)
_____	_____	3. GRAINS CROSSWORD PUZZLE (20)
_____	_____	4. GRAINS DISCOVERY (30)
_____	_____	5. QUICK BREADS MATCH-UP (20)
_____	_____	6. PASTA PUZZLE (20)
_____	_____	7. LEARNING ABOUT LEAVENING PYRAMID (20)
_____	_____	8. MANAGEMENT OF CLASS TIME AND ROOM (20)
_____	_____	9. SUMMARY SHEET (3 points per day)
_____	_____	10. CHALLENGE PROJECT(S) (30 EACH)
_____	_____	LEARNING ABOUT LOUIS PASTEUR
_____	_____	HOMEMADE YOGURT
_____	_____	THREE FACES OF DAIRY PRODUCTS
_____	_____	TOTAL
_____	_____	GRADE

SUMMARY SHEET

Name \_\_\_\_\_ Class \_\_\_\_\_

Day One

- 1.
- 2.
- 3.

Day Two

- 1.
- 2.
- 3.

Day Three

- 1.
- 2.
- 3.

Day Four

- 1.
- 2.
- 3.

Day Five

- 1.
- 2.
- 3.

## GRAINS TRIVIA QUESTIONS

1. **WHO INVENTED CORN FLAKES?**  
Dr. John Kellogg. He invented a food that would be nutritious and easy for his patients in the hospital to digest.
2. **WHAT KIND OF GRAIN PRODUCT IS SOMETIMES THE COLOR GREEN?**  
Spinach noodles
3. **WHAT IS THE NAME OF THE DINNER ROLL THAT IS MADE BY PLACING THREE SMALL BALLS OF DOUGH TOGETHER IN A MUFFIN TIN?**  
Cloverleaf rolls
4. **IN WHAT COUNTRY DID MUFFINS ORIGINATE?**  
England
5. **A SOPAPILLA IS A FAMOUS TEX-MEX FOOD. WHAT IS IT?**  
A little puffed doughnut served with honey
6. **THE BRITISH OFTEN HAVE CRUMPETS WITH THEIR TEA AT TEATIME. WHAT IS A CRUMPET ?**  
A small, round cake of rich unsweetened batter cooked on a griddle and then split and toasted before eating
7. **IN THE SOUTH, YOU MIGHT HAVE HOMINY GRITS FOR BREAKFAST. WHAT ARE THEY?**  
Coarsely ground corn served like a breakfast cereal
8. **WESTERN MOVIES MADE IN ITALY WERE NICKNAMED AFTER WHAT PASTA PRODUCT?**  
Spaghetti westerns
9. **WHAT FUNGUS IS USED IN MAKING BREAD?**  
Yeast
10. **WHAT FOOD DID MARCO POLO INTRODUCE INTO ITALY FROM THE COURT OF KUBLA KHAN?**  
Pasta
11. **WHAT WAS THE FIRST READY-TO-EAT BREAKFAST CEREAL?**  
Shredded wheat
12. **WHAT BASEBALL POSITION ARE YOU PLAYING IF YOU PLAY IN THE OUTFIELD?**  
In the corn

## GRAINS-----INFORMATION

13. WHAT'S THE MOST EXTENSIVELY GROWN AND EATEN FOOD?  
Wheat
14. WHAT IS INSIDE CORN THAT MAKES IT POP?  
Water
15. THE HAWAIIAN ISLANDS USED TO HAVE THE SAME NAME AS THIS FOOD PRODUCT. THE DEFINITION IS: ANY COMBINATION OF ALTERNATING DISSIMILAR THINGS PRESSED TOGETHER.  
The Sandwich Islands.
16. WHAT CRACKERS WERE NAMED FOR A U.S. DOCTOR WHO PROMOTED THEM TO COMBAT ALCOHOLISM?  
Graham Crackers
17. IN ANCIENT ROME THE WEALTHY PEOPLE VALUED THE WHITENESS OF BREAD SO BAKERIES WOULD SOMETIMES ADD THIS TEACHER'S FRIEND TO MAKE IT MORE SO.  
Chalk
18. THIS YELLOW SPICE IS THE MOST EXPENSIVE ONE TO BUY IT IS OFTEN ADDED TO QUICK BREADS. WHAT IS IT?  
Saffron
19. WHAT FRAMER OF THE DECLARATION OF INDEPENDENCE BROUGHT PASTA TO THE UNITED STATES?  
Thomas Jefferson
20. WHAT IS THE NAME OF THE ASIAN DUMPLING THAT CONTAINS A FILLING?  
Won Tons
21. WHAT GRAIN WAS FIRST SERVED WITH SUGAR AND CREAM BY THE EARLY COLONISTS--THE FIRST PUFFED CEREAL.  
Popcorn

## MUFFIN DEMONSTRATION

**DIRECTIONS:** Demonstrate the muffin method of mixing. This is the correct method for mixing muffins, waffles, griddle cakes, popovers and loaf breads. Use small muffin pans if you want them to be done by the end of the class period.

1. Sift dry ingredients into a mixing bowl.
2. Combine beaten eggs, milk and melted shortening or oil.
3. Pour liquid ingredients into the well in the dry ingredients.
4. Mix only enough to dampen the flour, but not enough to make a smooth batter. (Batter should be lumpy.)
5. Lift batter carefully into baking pans to avoid extra mixing.

Muffins must be very light when you lift them in your hand. On the outside they are pebbled, not smooth and their tops are slightly rounded. Cut one in half from top to bottom and you will see little holes scattered evenly inside. They are tender when they look like this.

If you mix muffin batter too much, you will have small, tough muffins with peaks or knobs on top. Inside them you'll find long holes called tunnels. The overmixing develops the gluten too much and makes it harder for the baking powder to do its work. The batter raises very little during the first part of the baking. After the muffin batter heats through, steam and carbon dioxide gas push between the toughened strands of gluten, making the tunnels in the muffins. The steam and gas also push some of the batter out at the soft center top of the muffins making the peaks.

### SUMMARY QUESTIONS:

1. What are two characteristics of baked, overmixed muffins?  
TUNNELS, PEAKS, COARSENESS (ANY TWO)
2. What should muffin batter look like?  
LUMPY
3. What leavening agent is used in muffins?  
BAKING POWDER

## BASIC MUFFINS

1 egg	2 cups flour
3/4 cup milk	1 tsp. salt
1/2 cup vegetable oil	1 Tbsp. baking powder
1/3 cup sugar	

Heat the oven to 400 degrees. Grease only the bottoms of 12 medium muffin cups or 24 tiny ones. Follow the method above. Bake about 20 min. for medium muffins and 10-12 min. for tiny ones.

### BLUEBERRY MUFFINS

Fold 1/3 cup blueberries in before putting in muffin cups.

### BANANA MUFFINS

Decrease the milk to 1/3 cup. Stir in 1 cup mashed bananas with the milk. Substitute packed brown sugar for the sugar.

### SURPRISE MUFFINS

Fill muffin cups about half full. Spoon 1 teaspoon strawberry jam onto batter in each cup. Top with enough batter to fill cups about 3/4 full.

## BISCUIT DEMONSTRATION

**DIRECTIONS:** Demonstrate the biscuit method of mixing.

1. Sift dry ingredients into a mixing bowl.
2. Cut solid shortening into the flour mixture.
3. Form a ball and place it on a lightly floured board.
4. Knead lightly (10-12 times).
5. Roll out the dough.
6. Cut out the dough.

Using a pastry blender or two knives to mix the shortening into the dough, make very thin layers of fat coated with flour. The thin layers of fat give a flaky texture when the biscuits are baked.

Do not twist the cutter when cutting out or the biscuits will be uneven. Usually an ungreased baking sheet is used. If you want soft sides, place the biscuits touching. If you want crusty sides, lay them about one inch apart.

When you pull a piece of hot biscuit up from the top crust with the finger tips, the inside should peel off in long, thin sheets. This is a sign that the biscuits are flaky and good. The flakes are sheets of dough that the expanding steam separates into layers while the biscuits bake. Knead biscuit dough lightly to distribute the shortening evenly; this helps form the layers of flakes.

### BASIC BISCUITS

1/3 cup shortening	3/4 teaspoon salt
1-3/4 cups flour	3/4 cup milk
2-1/2 teaspoons baking powder	

Heat the oven to 450 degrees.

Place on an ungreased baking sheet. Bake about 10-12 minutes.

### **SUMMARY QUESTIONS:**

1. How do you place biscuits on the baking sheet if you want them to have soft sides?  
**TOUCHING**
2. Do you usually use a greased or an ungreased baking sheet?  
**UNGREASED**
3. What should you do to the dough to make the biscuits flaky?  
**MIX THE SHORTENING INTO THE FLOUR MIXTURE VERY WELL.**

## PASTA DEMONSTRATION

Demonstrate the making of noodles either by hand or with a machine. Show students how to cook the noodles and how to know when they are done. (This can be used for the pasta salad lab.)

### PASTA MAKER PASTA

3 eggs	3 cups sifted flour
3 Tbsp. oil	About 3 Tbsp. water
1-1/2 tsp. salt	

Mix the eggs, oil and salt together in a mixer. Slowly add the flour. Add the water one tablespoon at a time. You may need to adjust this amount. Knead until smooth and elastic, about 10 min. Cover the dough and let it rest for about 10 min. Roll out and shape. After shaping, you may allow pasta to dry about 2 hours. Cook in salted, boiling water until tender. Drain and serve. (This pasta is much easier to handle if the recipe is cut in thirds)

### EGG NOODLES

2 cups flour	2 tsp. salt
3 egg yolks	1/4-1/2 cup water
1 egg	

Place flour in a large mixing bowl. Make a well in the center of the flour. Add egg yolks, egg and salt. Mix well with a wooden spoon. Mix in water one tablespoon at a time until the dough is stiff, but still easy to roll out. Divide the dough into four equal parts. Roll one out at a time. Cover the dough not in use to prevent it from drying out. Roll into a paper-thin rectangle on a floured counter. Loosely fold the dough in thirds. Cut crosswise into 1/8 inch wide strips or 1/4 inch wide strips. Unfold strips and allow to dry for about two hours. Cook in salted, boiling water until tender. Drain and serve.

### SUMMARY QUESTIONS:

1. What nutritious complete protein food is added to pasta?  
EGGS
2. How long should the pasta dry before cooking?  
TWO HOURS
3. How hot should the water be before adding the pasta?  
BOILING



## LEAVENING EXPERIMENT

**DIRECTIONS:** Perform the following experiments for students.

### THE EFFECT OF LIQUID ON BAKING SODA

1/2 cup water

1 tsp. baking soda

Place water in a beaker. Add baking soda to the water.

STIR. Top the beaker with a balloon.

Read the ingredients on a baking soda box.

### THE EFFECT OF LIQUID ON BAKING POWDER

1/2 cup water

1 tsp. baking powder

Place water in a beaker. Add baking powder to the water.

STIR. Top the beaker with a balloon.

Read the ingredients on a baking powder can.

### THE EFFECT OF LIQUID ON YEAST

1/2 cup water

1 tsp. yeast

Place water in a beaker. Add yeast.

Top the beaker with a balloon.

### THE EFFECT OF SUGAR ON YEAST AND LIQUID

1/2 cup water

1 tsp. yeast

1 tsp. sugar

Place the water in a beaker. Add the sugar. Stir.

Add the yeast. Top the beaker with a balloon.

Stir.

HAVE THE CLASS DO THE ACTIVITY, "LEARNING ABOUT LEAVENING", and the "Leavening Pyramid". At the end of the class, discuss the following information.

Leavening agents make breads rise in the oven so they are light and porous (full of little holes). Compare the sizes of the balloons. What conclusions can you make about leavening agents and the chemical reactions that take place?

Baking powder is made of baking soda, a dry acidic powder, and cornstarch. The taste of baking soda alone is quite objectionable, so an acid is added to make the flavor more pleasant.

Baking powder often contains sodium aluminum sulfate which is a slow-acting acid. When using baking soda alone in a recipe, an acid such as vinegar, lemon juice or molasses is added to inhibit the strong baking soda flavor.

Baking powder is often referred to as double-acting. This means it works twice--once when first mixed with a liquid such as in the experiment above and again when heated. Baking powder is the leavening agent most often used in quick breads.

Yeast is a living organism which is composed of living yeast plants. It is rich in B vitamins and protein. Yeast needs liquid, food and a warm temperature to grow new yeast plants and form the gas that lightens the bread and makes it rise. The food used in experiment #3 was sugar. When the sugar was added, the yeast was able to grow more than in experiment #2 because it then had food and moisture to grow new plants.

Yeast is not used in quick breads. It is used in leavening breads, rolls, breakfast cakes and raised doughnuts.

#### SUMMARY QUESTIONS:

1. What is a leavening agent?  
IT MAKES BREADS RISE SO THEY ARE LIGHT AND POROUS.
2. What are the three main leavening agents?  
YEAST, BAKING POWDER, BAKING SODA
3. Which leavening agent is most often used in quick breads?  
BAKING POWDER

## TAKE A CLOSE LOOK AT BREAD

**DIRECTIONS:** Have students examine a piece of 100% whole wheat bread and a piece of white bread. Notice the cells or bubbles which make up the pieces of bread. The leavening agent used to make bread is usually yeast. It releases carbon dioxide during baking which makes the bread rise. This leaves the little spaces or cells in the bread. The walls of these small cells are gluten which was made strong by the kneading of the dough. Compare and contrast the size and shape of the cells in the two kinds of bread. What caused the differences you observed?

### SUMMARY QUESTIONS:

1. Does the brown bread or the white bread have larger cells?  
WHITE BREAD
2. Which kind of leavening agent is most often used in breads?  
YEAST
3. What is the name of the protein that makes up the cell walls in bread?  
GLUTEN

## RICE DISPLAY

Rice is an important food in Asia and the Far East. It is used in a variety of breakfast cereals and as an accompaniment to meats instead of potatoes or as an ingredient in many main dishes.

Display the following forms of rice in clear containers: brown, converted, instant, white and wild. Label each product with its price, weight and cooking time. Cook enough of each kind for each student to sample. Let the students taste test the results and fill out the evaluation sheet--RIGHT ON RICE!

There are many types of rice available. These include brown rice, long grain, converted, wild rice and raw white rice. White rice has had the bran removed by abrasion which leaves a white polished rice.

Brown, polished and wild rice are unheated. Converted (parboiled) rice has been steamed under pressure to force water-soluble nutrients from the bran and germ into the endosperm. After this treatment, the rice is dried and then polished as for white rice.

It has had the hull removed.

It has a nutty flavor and is very chewy.

It has had the hull, the outer bran and part of the germ removed. usually enriched with thiamine, niacin, iron and riboflavin.

### CONVERTED RICE

This is white rice that has been partially cooked. Some of the nutrients from the hull move into the endosperm and so it naturally has more nutrients than regular white rice.

### INSTANT RICE

This has been cooked, rinsed, dried and packaged. It only needs to be heated through and served. As it has already been pre-cooked, it will not expand further when heated. It is usually more expensive than regular white rice.

Wild rice is actually not a rice at all, but a brown grass with a nutty flavor. Wild rice is actually more like barley than like ordinary rice. It is generally the most expensive, because there is less of it grown than other types. It can be purchased in flavored mixes.

### SUMMARY QUESTIONS:

1. Which kind of rice has had nutrients forced into the endosperm?  
CONVERTED
2. Which kind of rice is actually not a rice at all but a wild grass?  
WILD RICE
3. Which kind of rice has been pre-cooked and will not expand after further cooking?  
INSTANT RICE

## GRAINS ON PARADE

Bread has often been referred to as the Staff of Life. In nearly every part of the world some form of food made from one of the grains is found to be the largest single source of energy in the diet. This is because grains have always been an abundant and inexpensive source of food energy. Grains are high in nutritive value and low in cost. The Food and Agricultural Organization of the United Nations recommends that more land be used to grow cereal grains and to provide milk and less land be used to supply meat, especially in areas where food resources are limited.

Grains were cultivated in central Asia as early as 5000 B.C. The word cereal comes from the Roman goddess of grain, Ceres. Each year from April 12 to 19, the Romans honored Ceres with a festival called the Cerealia. The aim was to win Ceres' favor so that she would protect farmers from drought and provide good harvests.

Wheat is the most important grain because it is available in almost every country. It provides more nourishment for all people than any other grain.

(Pass around small, clear jars filled with the different types of grains as they are discussed.)

See if you can name the different grains that are available. Then name the country where it is most used and some products that are often made with that grain.

- WHEAT:** All countries (Europe, Africa, North and South America, Australia, part of Asia)--flour, breakfast cereals;  
U. S.--breads, pancakes, waffles;  
South and Central America--Tortillas;  
Italy--Pasta;  
Europe--noodles and dumplings
- CORN:** South and Central America, southern U. S.--Breakfast Cereals, Hominy, Grits, Breads
- RICE:** Asia, Far East--breakfast cereals, accompaniment to meats, main dishes
- OATS:** U. S. Breakfast Cereals, Ingredient in Baked Products
- RYE:** European Countries--breads
- BARLEY:** U. S. --Pancake flour, main dishes
- BARLEY:** U. S.--Soups

GRAINS-----GRAINS ON PARADE, continued

**SUMMARY QUESTIONS:**

1. **NAME THE SEVEN TYPES OF GRAINS.**  
Wheat, corn, oats, rye, rice, buckwheat, barley
2. **WHO WAS THE ROMAN GODDESS OF GRAIN?**  
Ceres
3. **WHICH GRAIN IS THE MOST WIDELY USED THROUGHOUT THE U.S. AND THE WORLD?**  
Wheat

**PARTS OF GRAINS**

Each grain has three basic parts: bran, endosperm and germ.

**BRAN:**

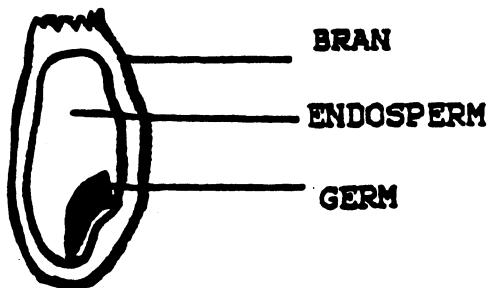
The bran is the brown outside covering of the grain. It contains several layers and protects the inside until it is milled. It contains carbohydrates, minerals, protein and vitamins. The name of the main protein in wheat flour is gluten. Gluten formation is very important when producing different kinds of breads with wheat.

**ENDOSPERM:**

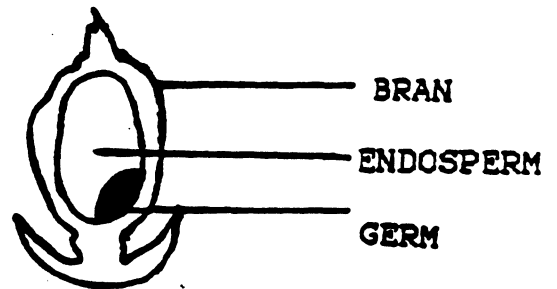
The endosperm is the large, white, inner portion. It contains carbohydrates and proteins.

**GERM:**

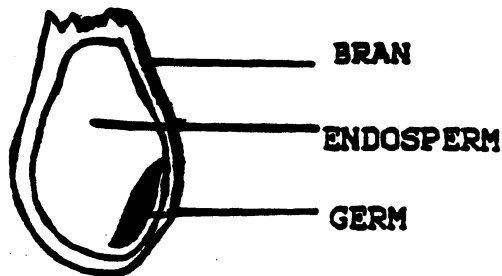
The germ is a small part found at one end of the kernel. It is the living part of the grain. It is where the new part sprouts when it is allowed to grow. The germ is rich in fat and when exposed to oxygen it quickly becomes rancid. Removing the germ greatly lengthens the shelf life of the wheat product. It is rich in protein, vitamins, minerals, carbohydrates and fat.



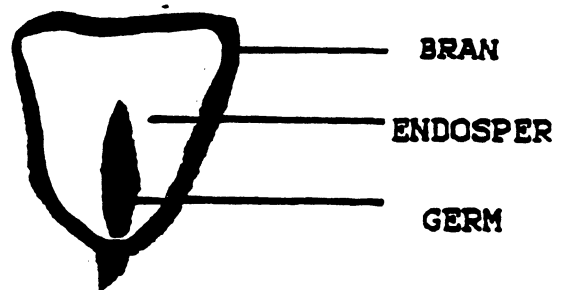
**OATS**



**RICE**



**CORN**



**WHEAT**

### WHOLE GRAIN CEREAL

Cereals and grains are rich sources of nutrients, but the quality depends on which parts of the grain are used. The highest nutrient values are in products made from the whole grain. These are called whole grain or whole wheat. They have had no nutrients removed.

### RESTORED CEREAL

When milled, the germ and bran are removed. This also removes many of the nutrients found in the grain. The U. S. Department of Agriculture studies in the late 1930's showed that many of the people were not getting enough nutrition in the foods they ate. Deficiency diseases such as beriberi, pellagra, riboflavin deficiency and anemia were common. These are all caused by the lack of B vitamins and iron. At this time we were also engaged in World War II. The government knew that men needed to be well nourished to fight. The government passed a law stating that the major nutrients lost must be restored. Since this law was enacted, these deficiency diseases have all but disappeared.

A restored cereal has had the removed nutrients put back in. These are most often Vitamin B1 (thiamine), Vitamin B2 (riboflavin), niacin and iron. White rice which has had the nutrients preserved by parboiling is called converted rice. The parboiling draws the nutrients into the endosperm.

Restored products do not taste any different or look any different from the unrestored product.

### ENRICHED OR FORTIFIED CEREAL

An enriched cereal has had vitamins and minerals added beyond the original whole grain level. This is a common procedure in ready-to-eat breakfast cereals.

### **SUMMARY QUESTIONS:**

1. What is the name of the outside covering of the grain kernel?  
**BRAN**
2. Which part of the grain kernel contains the most nutrients?  
**GERM**
3. What is cereal grain called that has had nutrients added beyond the original whole grain level?  
**ENRICHED**



## MAJOR NUTRIENTS FOUND IN GRAINS

Proteins are a part of all living things. They are needed for the growth and repair of body tissues. Enzymes, hormones and antibodies are also proteins. Amino acids are the building blocks of protein. There are twenty different kinds which form, break down and re-form into many different proteins. Nine of these cannot be made in the body and so must be eaten in food. They are considered to be essential.

Gluten is the protein that develops in flour when you add water or milk and beat the batter or knead the dough. The gluten stretches and surrounds the gas bubbles made by the yeast. As the gas expands, the batter or dough rises along with it. During the baking, steam and air also help the bread rise. The oven heat hardens the gluten. That is why bread holds its shape when removed from the pans.

Plant sources of protein are considered incomplete. The protein in grains is an incomplete protein. This means it does not contain all of the nine essential amino acids. For this reason, it is a good idea to combine grains with other protein sources like milk, cheese, meat or other grains so it will be better utilized by the body.

The chemical name for Vitamin B1 is thiamine. It was the first B vitamin to be discovered. The B vitamins are water soluble. Thiamine is lost through lengthy cooking and by standing in the cooking water for a long period of time.

Thiamine is needed by the body for:

1. growth
2. good appetite
3. healthy nerves
4. good body coordination
5. helping the body release energy from carbohydrates

It prevents the deficiency disease, Beri Beri, which means "I cannot". This disease produces a swollen belly, mental problems, irritability, bad memory and lameness of the legs. (Beri Beri--I Cannot Walk)

In the 1800's the Japanese Navy was losing almost half of its men to this disease. Dr. Takaki was the physician in charge. Many thought the men were dying because of unsanitary conditions. Dr. Takaki knew his ships were as clean as the British ships, yet the British were not dying of the disease. Dr. Takaki decided to perform an experiment. Two shiploads of men went on a nine-month cruise. The first shipload ate only white polished rice. They had 169 cases of Beri Beri and 25 deaths.

**GRAINS-----INFORMATION**

The second shipload had less white rice to eat and also added barley, vegetables, meat and condensed milk. Only the 14 men who wouldn't eat other foods besides the rice got Beri Beri. When they began feeding these men the other foods, they got well. Dr. Takaki discovered there was something in the variety of foods that kept the sailors from getting Beri Beri. Eventually, they isolated the vitamin, thiamine.

Before this time, people had eaten brown rice which does not have the natural thiamine removed and so people did not get Beri Beri.

Wheat, barley and oats are about twice as rich in thiamine as rice. That is one reason it is important to eat a variety of cereal grains.

**CARBOHYDRATES**

There is a popular idea that carbohydrates are fattening. Many tests have proven that this is not necessarily so. Complex carbohydrates are excellent sources of energy, low in calories and have many vitamins and minerals as well.

There are two kinds of carbohydrates: simple and complex.

Simple carbohydrates are made of one or two sugars. Some of these are sugar, brown sugar, honey, jams, jellies and candy. These foods contain few, if any, nutrients.

Complex carbohydrates are composed of many sugars hooked together to form a long chain. Examples of these are starch and fiber. High starch foods include vegetables, breads and cereals. Food sources rich in fiber include bran, whole-grain breads and cereals, and skins of fruits and vegetables.

Complex carbohydrates are time release energy foods. Simple carbohydrates provide a quick lift that disappears in minutes. But with complex carbohydrates like those of pasta and whole grain breads, a chemical reaction must take place in the body first. The starch is slowly broken down into glucose--the ultimate food for brain and brawn. Glucose is stored in muscle tissue and the liver as glycogen. When you need it, the glycogen is released as glucose to supply energy and the stamina to win--whether a race or in school exams.

Two forms of carbohydrates are found in grains. Starch is used for body energy. Three-fourths of the grain is made up of starch.

**GRAINS-----INFORMATION**

Cellulose is found in the bran and is much more concentrated than that found in vegetables. Cellulose is needed by the body for regularity. It cannot be digested, but it supplies roughage or fiber. The fiber absorbs water and acts as a natural laxative. It is generally recognized that low-fiber diets can contribute to getting some forms of cancer.

**SUMMARY QUESTIONS**

1. What is the chemical name for vitamin B1?  
THIAMINE
2. Lack of thiamine causes which deficiency disease?  
BERI BERI
3. Are grain products complete or incomplete proteins?  
INCOMPLETE

## NAME THAT DOUGH

**DIRECTIONS:** Write the names of the following kinds of breads on cards. Distribute them to students. On the board, label the three main categories. Have students put the recipe name under the appropriate category.

Pour batters are of a thin consistency. They usually contain about the same amount of liquid as flour.

Drop batters are fairly thick and need to be scraped from the spoon. They usually contain about twice as much flour as liquid.

Soft dough is thick enough to roll out or shape by hand. It has about three times as much flour as liquid.

### POUR BATTERS

POPOVERS  
PANCAKES  
WAFFLES  
CAKES

### DROP BATTERS

DROP BISCUITS  
MUFFINS  
LOAF BREAD  
COFFEE CAKE  
COOKIES

### DOUGHS

ROLL BISCUITS  
COBBLERS  
PASTRY  
COFFEE CAKE  
YEAST BREAD  
ROLLED COOKIES

### SUMMARY QUESTIONS:

1. What is the ratio of flour to liquid in a pour batter?  
1-1
2. Name two types of pour batters.  
POPOVERS, PANCAKES, WAFFLES, CAKES
3. What is the ratio of flour to liquid in a drop batter?  
2-1
4. Name two types of drop batters.  
DROP BISCUITS, MUFFINS, LOAF BREADS, COFFEE CAKES, COOKIES
5. What is the ratio of flour to liquid in a soft dough?  
3-1
6. NAME TWO TYPES OF SOFT DOUGHS.  
ROLL BISCUITS, COBBLERS, PASTRY, COFFEE CAKES, YEAST BREADS,  
ROLLED COOKIES

## QUICK BREADS

The kinds and amounts of ingredients used in quick breads influence their nutritive value.

Quick breads have gotten their names from many different sources.

**HUSH PUPPIES**--These originally were little leftover pieces of corn batter that hunters would bake in the open fire and throw to the dogs to keep them quiet--Hence the name Hush Puppies.

**WAFFLES**--In England in the 13th century, a crusader sat on an oat cake in his armor. His wife liked the way the melted butter remained in the imprints and ordered him to wear his armor and sit on the cakes each week. It was called a waffle which means flat and honeycomb-like.

We usually separate breads into yeast breads and quick breads. Yeast breads contain yeast and take time to rise. Quick breads do not contain yeast. They rise because of baking powder or baking soda and don't take as long to rise which is why they are called quick. Some are baked in an oven. Others are fried on a griddle or in a deep-fat fryer. They are usually best when served piping hot.

To make good quick breads, start with a good recipe and mix quickly. Overmixing develops the gluten in the flour and causes tunnels and coarseness in the bread.

**EXAMPLES:** Waffles, pancakes, popovers, muffins, biscuits, coffee cakes, scones, corn bread, hush puppies.

There are two basic methods for mixing quick breads: the muffin method and the biscuit method. You can demonstrate these to the class if you wish.

### SUMMARY QUESTIONS:

1. Give three examples of quick breads.

#### VARIOUS ANSWERS

2. What leavening agent is used most often in quick breads?  
BAKING POWDER
3. What quick bread was first made by a crusader sitting on an oat cake?  
WAFFLES OR WAFFRES

## PREPARING CEREAL GRAINS

The term cereals refers to any specially prepared cereal grain which is usually eaten at breakfast. They are generally of two types: the ready-to-eat cereals which have already been cooked and the cereals which need to be cooked before eating.

Cereal grains used to be grown in fields surrounding the home and the kernels of cereal were pulverized with stones to crack them. They were then soaked in water and boiled to soften the kernels. Ready-to-eat cereals have been precooked and are rolled, flaked, puffed, shredded and sometimes even sugar coated. They are usually made of corn, oats, wheat or rice. The combination of grain, milk and fruit makes an excellent contribution to the day's nutrient requirements.

Many manufacturers add sugar to their cereals in processing. Both the unsweetened and sweetened varieties contain the same amounts of nutrients such as vitamins and iron. Pre-sweetened cereals add many calories--1 tablespoon of sugar equals 46 calories. One cup of many cereal grains contains only about 100 calories. Some cereals contain as much as 50% sugar. A few list sugar as their main ingredient meaning they contain even more sugar than cereal grain. You can usually use less sugar when you add it yourself and pay less for it too. Pre-sweetened cereals cost more than the unsweetened variety.

Ready-to-eat cereals are also used as toppings for casseroles or crushed into crumbs for breading. They add extra nutrients when added to cookies, quick breads and desserts. The uncooked cereal grain usually replaces part of the flour.

A few cereals still need to be cooked before eating. Some are labeled instant which means that most of the cooking has already been done. They are ready to eat with the addition of boiling water or milk. Precooked cereals mean they have been partially precooked and the final cooking takes only a minute or two to complete.

When cereals need to be cooked before eating, the goal is to avoid lumps. The cereal granules need to be separated during this process so that lumps will not form.

Two methods for cooking are often used.

1. Cereals may be added slowly to boiling water while stirring.
2. Very fine cereals such as cream of wheat or cornmeal may be mixed with a little cold water first and then stirred into boiling water.

When water is first added to the cereal, it will become sticky. In order to prevent lumps, continue stirring until the water begins to boil again.

The process of starch cookery, which is called gelatinization, includes:

1. Starch absorbing water
2. With the addition of heat and water, starch swells enormously
3. With the addition of more heat, the starch becomes translucent
4. The dish becomes thick

**SUMMARY QUESTIONS:**

1. What has been done to instant cereals?  
**THEY HAVE BEEN PRECOOKED**
2. Gelatinization is a process of cooking what kind of food?  
**STARCH**
3. What three things happen to starch when heat and water are added?  
**IT SWELLS ENORMOUSLY, BECOMES TRANSLUCENT, AND THICK.**

## PASTA PUZZLE

Pasta is a very versatile product. It can be used for everything from main dishes to desserts. It is thought that Marco Polo first brought macaroni products home to Italy from China in the 13th century.

The best pasta is made from a special kind of very hard durum wheat. It is yellow or amber in color. This wheat will hold its shape during cooking without becoming mushy: the water remains clear.

The durum wheat flour is mixed with water to form a dough. This dough is then forced, under pressure, through dies to form the macaroni product. The shape of the openings in the die and the amount of pressure used, determine what the resulting product will look like.

To make a tubular product, a pin is suspended in the middle of each die chamber. The dough flows around this pin, causing the product to have a hole in the center like the characteristic elbow macaroni.

The elbows of macaroni curve when the rate of flow of the dough is greater on one side of each chamber in the die. This rate of flow is responsible for the curves in many different macaroni products such as seashell macaroni.

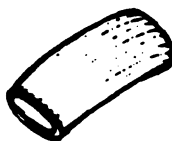
Noodles are made from durum flour combined with at least 5 1/2% egg solids. Water is then added to the flour to make a dough which is rolled out and cut into strips.

The many different shapes of macaroni can be used interchangeably in most recipes. There are over 200 different kinds of pasta. The four basic shapes are listed below:

**HOLLOW PASTA:** These are long or small and are hollow.



macaroni



rigatoni



ziti



manicotti

**LONG, THIN PASTA:** This pasta is not hollow.



linguine



spaghetti



vermicelli



GRAINS-----PASTA PUZZLE, continued

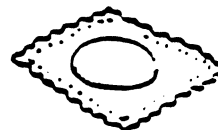
**FLAT PASTA:** This pasta look ribbon-like and comes is different widths and lengths.



cannelloni



lasagna



ravioli

**DECORATIVE PASTA:** This pasta comes in a variety of shapes such as shells, alphabets, and wheels. Some of the larger shells can be stuffed.



fusilli



route



giant shells

### TO COOK PASTA

Pasta will double in size when cooked. The starch will gelatinize and the pasta will become tender and easy to chew without breaking apart. Eight ounces of macaroni require two quarts of boiling water with one teaspoon of salt.

1. Use 2 quarts of water for every 8 ounces of pasta.
2. Bring water to a boil.
3. Add 1 teaspoon of salt to water for enhanced flavor.
4. Add 1 tablespoon of oil to prevent pasta from sticking together.
5. KEEP WATER BOILING and STIR OCCASIONALLY to keep pasta product separated.
6. Cook only until tender when pierced with a fork.

Do not overcook. Pasta should be cooked just until tender, never mushy. The Italians call this al dente meaning to the tooth. This means a strand of spaghetti, for instance, remains still firm in its core even after cooking.

If you are going to use the pasta in another dish like a casserole, slightly undercook while boiling so it will not become mushy with further cooking in the oven. If you wish to store pasta for later use, coat it lightly with oil, cover tightly and refrigerate. When ready to serve, immerse the stored macaroni in boiling water; drain immediately. Do not store cooked macaroni products in a sauce; they will get soggy.

## LEARNING ABOUT LEAVENING

Leavening agents produce gases which help to make batters and doughs rise so that they are light and luscious. The kind and amount used depends on the recipe you use. There are three basic kinds of leavening agents.

**AIR:** Air expands when it is heated. This is accomplished by sifting flour, creaming fat and sugar, beating air into a batter or by beating air into egg whites and folding them into batters. Then when the product is placed in the oven the air expands and the product rises. Some examples of foods leavened with air are angelfood cakes, sponge cakes and some waffles.

**STEAM:** Steam is produced by heating the liquid in the batter. Liquid expands greatly when it becomes steam--one teaspoon liquid makes about 1600 teaspoons steam. Steam is vapor and much of it evaporates from the batter, but enough is left to help make quick breads light. Products which are leavened by air need to have a great deal of liquid in the batter. Popovers are an example of a quick bread that is leavened with steam. Popovers have a very thin batter and require high heat. The heat raises the batter and sets the egg and flour cells firmly. Then the heat is reduced and the popovers finish cooking. The center is hollow, but they are quite tasty and nourishing.

### CARBON DIOXIDE:

Carbon dioxide gas is produced by yeast or as a chemical reaction when baking soda is mixed with an acid.

Yeast is a small plant that exists in the air and soil and like other fungi, requires air, moisture, and sugar or starch to grow. Yeast plants change sugars into carbon dioxide by the process known as fermentation.

There are many strains of yeast, but in the area of food preparation, we have baker's yeast and brewer's yeast. Both types produce carbon dioxide gas when they feed on sugar, but they cannot be used interchangeably since brewers' yeast will not raise bread dough.

Yeast for baking is made in the laboratory where yeast plants are cultivated. A single, healthy yeast cell is chosen under the microscope and transferred to a test tube where it produces a cultivating medium. As the cells reproduce, they are transferred to giant fermenters where they are fed molasses, protein and minerals. Many tons of yeast are produced in this manner and after washing, the pure yeast mass is formed into either cakes of compressed yeast or dried and granulated to form active dry yeast.

**GRAINS-----LEARNING ABOUT LEAVENING, continued**

Yeast is the leavening that makes dough rise and causes bread to turn out light. Yeast, the living plant, thrives on the sugar in bread dough and produces tiny bubbles of carbon dioxide gas that makes dough or batter rise.

Yeast is rich in B vitamins and protein and so adds extra nutrients that are missing in quick breads.

**BAKING SODA AND ACID**

When baking soda is mixed with an acid food such as buttermilk or sour milk, carbon dioxide is produced. Soda does not leaven as well as baking powder. If you use too much soda, it ruins the taste of the food, leaves brown spots on the surface and tends to destroy the thiamine in bread products. When milk or another liquid touches the acid in baking powder, it starts action in the soda which then gives off bubbles of carbon dioxide gas. The bubbles of gas and the air you beat into the batter make quick breads rise. During the baking, the heat expands the bubbles and they form spaces. These spaces, plus the steam that forms from the liquid when the batter gets hot in the oven or other heating element, make quick breads light.

**BAKING POWDER**

Baking powder was the first convenience food ever created. Baking powder is baking soda combined with a dry acid and cornstarch to stabilize the mixture. The kind used most often is S.A.S. (Sodium aluminum sulfate) which works two ways. Some of its leavening takes place as soon as it is mixed with liquid and some takes place when it is heated in the oven. Many cakes, cookies, and quick breads are leavened with baking powder.

## RICE COOKERY

The different types of rice vary in their nutritive value, cooking time and price. When rice is subjected to a high temperature, as in puffing or toasting, the heat may destroy some thiamine and lower the nutritive value of the protein. Regular white rice is lower in nutritive value than brown rice unless it has been enriched.

Rice expands during cooking. One cup of raw, white rice will yield three cups of cooked rice. Minute Rice and converted rice do not expand as much because they have already been pre-cooked.

When cooking rice, bring the water, salt and 1 tablespoon of butter to a boil. Stir in the rice slowly so the water doesn't stop boiling. Cover the pan and turn the heat down to low. Stir the rice occasionally.

To cook white rice, use 2 cups of water for every cup of rice, salt and butter. Cook 25 to 30 minutes.

To cook brown rice, use 2-1/2 cups of water for every cup of rice, salt and butter. It will take about 40 to 50 minutes to cook.

Many people use white rice instead of brown rice. White rice has a white color, of course, and is lighter and fluffier. The flavor is quite mild. Brown rice has a nutty flavor and the grains are somewhat smaller.

**DIRECTIONS:** Demonstrate the correct method for steaming rice. This can then be used for the Lab--Fried Rice.

1. For each cup of white rice put 2 cups of water, 1 tsp. salt and 1 tablespoon margarine into a large saucepan.
2. Bring the water to a boil.
3. While stirring the boiling water, add the rice slowly so the boiling does not stop.
4. Cover the pan and turn the heat down to low.
5. Stir the rice occasionally.
6. White rice will cook in about 25-35 minutes.

### SUMMARY QUESTIONS

1. How hot should the water be before adding the rice?  
**BOILING**
2. Which rice takes longer to cook--white rice or brown rice?  
**BROWN RICE**
3. Should the pan be covered or uncovered while steaming?  
**COVERED**

GRAINS-----MOTIVATOR

NAME \_\_\_\_\_ CLASS \_\_\_\_\_

**CARBOHYDRATE SEARCH****ITEMS NEEDED:**

Tincture of iodine  
 Wax paper  
 2 tablespoons water  
 1 teaspoon flour  
 1 vanilla wafer

1 teaspoon sugar  
 1 tablespoon corn syrup  
 1 tablespoon honey  
 1 slice bread  
 1 slice apple

**DIRECTIONS:**

1. Put one teaspoon of iodine in 2 tablespoons water. (It should be a dark brown color. (Be careful, because iodine can stain.)
2. Lay the foods on the wax paper leaving plenty of space between items.
3. Put a few drops of the iodine solution on each one of the food items.  
\*Note the color change.
4. Record the color each food changes to and determine which foods are simple carbohydrates and which foods are complex carbohydrates.

Complete the following chart

<b>FOOD SAMPLE</b>	<b>COLOR</b>	<b>SIMPLE OR COMPLEX</b>
<b>1. Flour</b>		
<b>2. Sugar</b>		
<b>3. Apple</b>		
<b>4. Corn syrup</b>		
<b>5. Bread</b>		
<b>6. Honey</b>		
<b>7. Vanilla wafer</b>		

### CARBOHYDRATE SEARCH--KEY

FOOD SAMPLE	COLOR	SIMPLE OR COMPLEX
1. Flour	BLUE	COMPLEX
2. Sugar	YELLOW	SIMPLE
3. Apple	YELLOW	SIMPLE
4. Corn syrup	YELLOW	SIMPLE
5. Bread	BLUE	COMPLEX
6. Honey	YELLOW	SIMPLE
7. Vanilla wafer	BLUE	COMPLEX

Carbohydrates are the major suppliers of energy in the diet. There are three types of carbohydrates: simple, complex and cellulose.

Simple carbohydrates are made of one or two sugars and include items like table sugar, brown sugar, honey, jams, jellies, milk and many fruits. Complex carbohydrates are broken down into simple sugars during digestion. They are found most often in grains, rice and legumes. Cellulose is a complex carbohydrate found in plant cells. It is tough and stringy and does not break down completely during digestion. Fiber aids in digestion and is thought to prevent some intestinal diseases. Cellulose is found in bran, whole-grain products, some raw vegetables and fruits as well as legumes and nuts.

Choosing foods high in refined sugars like table sugar, candies, jams, jellies and soft drinks gives you carbohydrates but few, if any, other nutrients. These foods provide mainly empty calories.

It is recommended that Americans obtain about 60% of their total caloric intake from carbohydrates, but confine the intake of refined sugars to 10% of their total caloric intake. Eat more whole-grain cereals and breads, fresh fruits and vegetables and eat less sugar, candy, jams, jellies and soft drinks.

GRAINS \_\_\_\_\_ MOTIVATOR

NAME \_\_\_\_\_ CLASS \_\_\_\_\_

### READY-TO-EAT CEREALS

**DIRECTIONS:** Use the display of cereals your teacher has for you. Calculate the CALORIES/SERVING without milk. Fill in the information below. Your teacher will correct this assignment for you.

CEREAL	SERVING SIZE	CALORIES/SERVING	COST/PKG.	SERVINGS/PKG	COST/SERVING
1. Oatmeal (pkg.)					
2. Oatmeal (packet)					
3. Cream of Wheat					
4. Booberries					
5. Oatbake					
6. Raisin Bran					
7. Rice Krispies					
8. Trix					
9. Corn Chex					
10. Cheerios					

Rank the cereal in categories from largest amounts to smaller amounts.

CALORIES/SERVING	COST/PACKAGE	COST/SERVING
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		

GRAINS \_\_\_\_\_ MOTIVATOR

NAME \_\_\_\_\_ CLASS \_\_\_\_\_

**RIGHT ON RICE**

**DIRECTIONS:** Gather the information and sample the different kinds of rice provided by your teacher. In the PREFERENCE column evaluate by numbering from 1-10. 1=liked least, 10=liked most Your teacher will correct this assignment for you.

Type	Preference	Preparation time	Servings/ pkg.	Cost/pkg.	Cost/ serving
Brown					
Converted					
Instant					
Regular					

9. Which rice takes the least amount of time to prepare?
10. Which rice takes the longest amount of time to prepare?
11. Which rice give the most servings per package?
12. Which rice gives the least servings per package?
13. Which rice costs the most per package?
14. Which rice costs the least per package?
15. Which rice costs the most per serving?
16. Which rice costs the least per serving?
17. Which rice did you like the best?
18. Which rice did you like the least?
19. Which types of rice have been precooked?
20. Which rice has been processed the most?



BREAD, CEREAL, RICE &amp; PASTA ----- INDIVIDUALIZED ACTIVITY

NAME \_\_\_\_\_ CLASS \_\_\_\_\_

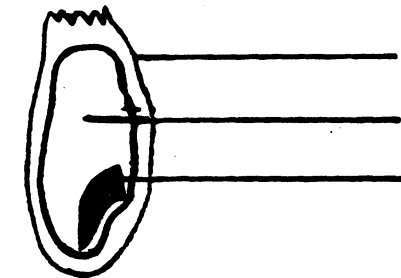
**GRAINS ON PARADE**

Take part in the discussions: **TYPES AND PARTS OF GRAIN AND NUTRIENTS FOUND IN GRAINS.** Fill in this worksheet as you do so.

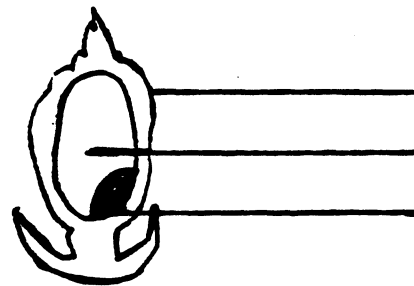
1. The seven types of cereal grains are:
2. The most widely used cereal grain is:
3. The word cereal comes from the Roman goddess:
4. The three most widely used grains in the U.S. are:
5. The brown outside covering of the grain kernel that contains carbohydrates, minerals, proteins and vitamins is:
6. The inner portion of the kernel is:
7. The tiny living part of the kernel that contains proteins, vitamins, minerals, carbohydrates and fat is:
8. When the whole grain kernel is used the product is referred to as:
9. When the product has original nutrients put back in, it is:
10. When extra nutrients have been added above the original amounts, a product is said to be:
11. The special protein found in wheat is called:
12. Is the protein in cereal grains complete or incomplete?
13. The other name for Vitamin B1 in whole grains is:

BREAD, CEREAL, RICE & PASTA -----GRAINS ON PARADE, continued

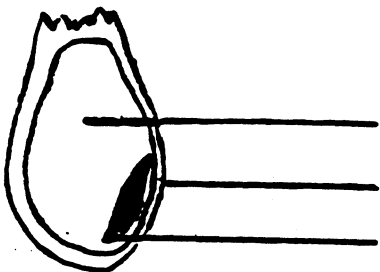
14. The deficiency disease caused by lack of Vitamin B1 is:
15. Vitamin B1 is needed by the body for: (give five reasons)
  - A.
  - B.
  - C.
  - D.
  - E.
16. The two major kinds of carbohydrates are:
17. Three examples of simple carbohydrates are:
18. Three examples of complex carbohydrates are:
19. Starch is used in the body for:
20. Label the diagrams:



OATS



RICE



CORN



WHEAT

**GRAINS ON PARADE--KEY**

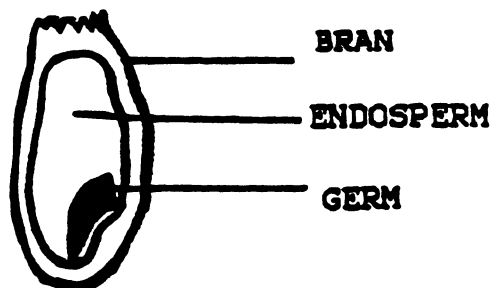
ONE POINT FOR EACH CORRECT NUMBER. 20 POINTS TOTAL POSSIBLE.

1. The seven types of cereal grains are:  
WHEAT, CORN, RICE, OATS, RYE, BARLEY, BUCKWHEAT
2. The most widely used cereal grain is:  
WHEAT
3. The word cereal comes from the Roman goddess:  
CERES
4. The three most widely used grains in the U.S. are:  
WHEAT, CORN, RICE
5. The brown outside covering of the grain kernel that contains carbohydrates, minerals, protein and vitamins is:  
BRAN
6. The inner portion of the kernel that is mostly carbohydrates and protein is:  
ENDOSPERM
7. The tiny living part of the kernel that contains proteins, vitamins, minerals, carbohydrates and fat is:  
GERM
8. When the whole grain kernel is used the product is referred to as:  
WHOLE GRAIN
9. When the product has original nutrients put back in, it is:  
RESTORED
10. When extra nutrients have been added above the original amounts, a product is said to be:  
ENRICHED OR FORTIFIED
11. The special protein found in wheat is called:  
GLUTEN
12. Is the protein in cereal grains complete or incomplete?  
INCOMPLETE
13. The other name for Vitamin B1 in whole grains is:  
THIAMIN
14. The deficiency disease caused by lack of Vitamin B1 is:  
BERI BERI

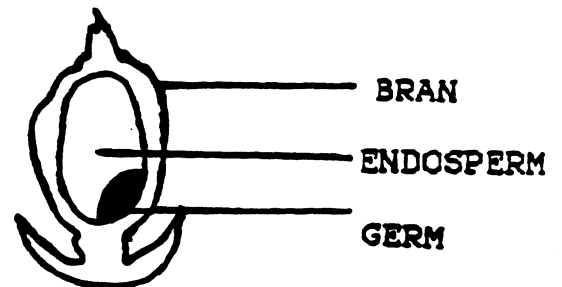
## BREAD, CEREAL, RICE &amp; PASTA

## \*\*\*GRAINS ON PARADE-KEY\*\*\*

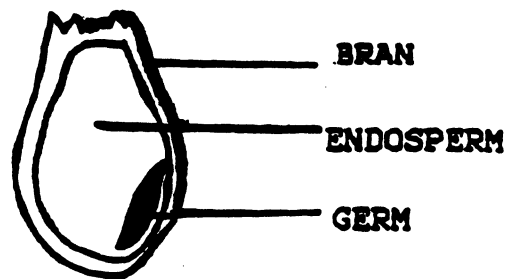
15. Vitamin B1 is needed by the body for: (give five reasons)
- GROWTH
  - GOOD APPETITE
  - HEALTHY NERVES
  - GOOD BODY COORDINATION
  - HELPS BODY RELEASE ENERGY FROM CARBOHYDRATES
16. The two major kinds of carbohydrates are:  
SIMPLE, COMPLEX
17. Three examples of simple carbohydrates are:  
SUGAR, BROWN SUGAR, HONEY, JAM, JELLY, CANDY (ANY THREE)
18. Three examples of complex carbohydrates are:  
VEGETABLES, BREADS, CEREALS, FRUITS (ANY THREE)
19. Starch is used in the body for:  
BODY ENERGY
20. Label the diagrams:



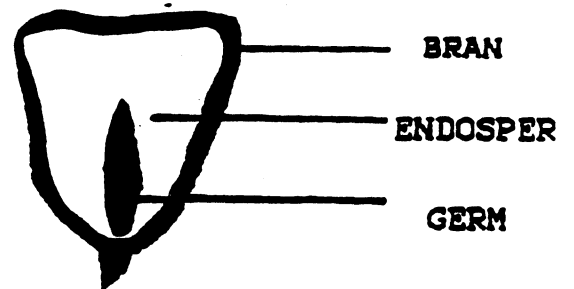
OATS



RICE



CORN



WHEAT

BREAD, CEREAL, RICE & PASTA ----- INDIVIDUALIZED ACTIVITY

NAME \_\_\_\_\_ CLASS \_\_\_\_\_

### COMPUTER PROGRAM--MECC FOOD FACTS

**DIRECTIONS:** Check the MECC Food Facts Computer Program out from your teacher. Go through the five programs listed. Make sure the CAPS LOCK is down. Fill in the activity page as you do so.

The teacher will correct this activity for you. It is worth 20 points.

USE THE FOLLOWING LISTS TO HELP YOU WITH THE COMPUTER PROGRAM.

- |                     |                    |
|---------------------|--------------------|
| 1. Cream Cheese     | 32. Corn           |
| 2. Cottage Cheese   | 33. Onions         |
| 3. Ice Cream        | 34. Spinach        |
| 4. Milk             | 35. Lettuce        |
| 5. Chocolate Milk   | 36. Green Salad    |
| 6. Skim Milk        | 37. Peas           |
| 7. Yogurt           | 38. Baked Potato   |
| 8. Beef Liver       | 39. French Fries   |
| 9. Bacon            | 40. Tomato         |
| 10. Fried Chicken   | 41. Wheat Bread    |
| 11. Breaded Perch   | 42. Corn Flakes    |
| 12. Frankfurter     | 43. Rice           |
| 13. Roast Beef      | 44. Baked Beans    |
| 14. Baked Ham       | 45. Macaroni       |
| 15. Bologna         | 46. Pizza          |
| 16. Tuna            | 47. Chocolate Bar  |
| 17. Port Chop       | 48. Butter         |
| 18. Hot Dog         | 49. Chocolate Cake |
| 19. Hamburger       | 50. Coffee         |
| 20. Spaghetti--Meat | 51. Sugar Cookie   |
| 21. Apple           | 52. Jell-O         |
| 22. Banana          | 53. Whiskey        |
| 23. Grapefruit      | 54. Apple Pie      |
| 24. Strawberries    | 55. Popcorn        |
| 25. Pineapple       | 56. Potato Chips   |
| 26. Orange Juice    | 57. Cola           |
| 27. Tomato          | 58. Doughnut       |
| 28. Watermelon      | 59. Taco           |
| 29. Broccoli        | 60. Peanuts        |
| 30. Green Beans     | 61. Peanut Butter  |
| 31. Carrot          | 62. Bagel          |
| 32. Corn            | 63. Chicken Soup   |
| 33. Onions          |                    |

## BREAD, CEREAL, RICE &amp; PASTA ----- MECC FOOD FACTS, continued

1. 40% Bran Flakes
2. 100% Bran
3. All Bran
4. Alpha Bits
5. Apple Jacks
6. Body Buddies
7. Boo Berries
8. Bran Buds
9. Bran Chex
10. Buckwheats
11. Captain Crunch
12. Cheerios
13. Cocoa Krispies
14. Cocoa Puffs
15. Cookie Crisp
16. Corn Bran
17. Corn Chex
18. Corn Flakes
19. Count Chocula
20. Cracklin' Bran
21. Crunch Berries
22. Fortified Oat Flakes
23. Frosted Mini Wheats
24. Frosted Rice
25. Froot Loops
26. Fruit And Fiber
27. Golden Grahams
28. Grape Nuts
29. Grape Nuts Flakes
30. Graham Crackos
31. Honey Bran
32. Honeycombs
33. Honey Nut Cheerios
34. Kaboom
35. King Vitamin
36. Kix
37. Life
38. Lucky Charms
39. Most
40. Pebbles
41. Post Toasties
42. Powdered Donutz
43. Product 19
44. Puffed Rice
45. Puffed Wheat
46. Quisp
47. Raisin Bran Post
48. Raisin Bran Kellogg's
49. Raisin Grape Nuts
50. Raisins Rice & Rye
51. Rice Chex
52. Rice Krispies
53. Shredded Wheat
54. Special K
55. Sugar Corn Pops
56. Sugar Frosted Flakes
57. Sugar Smacks
58. Super Sugar Crisp
59. Team
60. Total
61. Total
62. Waffleos
63. What Chex
64. What & Raisin Chex
65. Wheaties

BREAD, CEREAL, RICE &amp; PASTA -----INDIVIDUALIZED ACTIVITY

NAME \_\_\_\_\_ CLASS \_\_\_\_\_

COMPUTER PROGRAM--MECC FOOD FACTS

MAKE SURE THE CAPS LOCK IS DOWN.

1. CEREALS

List six cereals and the percent (%) of sugar they contain. Place an asterisk by those that contain 25% or more sugar.

chart

2. CHEMICALS IN FOODS

List your score here for the Matching Game \_\_\_\_\_/10.

3. FOOD FACTS

What menu did you choose:

What % of the RDA for calories did your meal contain?

What % of calcium did your meal contain?

What activity did you choose?

How long did it take to burn off the calories?

4. FOOD GRAPH

List six foods. Name the nutrient found in the greatest amount.

FOOD	NUTRIENT	FOOD	NUTRIENT
------	----------	------	----------

chart

5. VITAMINS

Take the Fat Soluble Vitamin Test. Score \_\_\_\_\_

Take the Water Soluble Vitamin Test. Score \_\_\_\_\_

List three things you learned about vitamins.

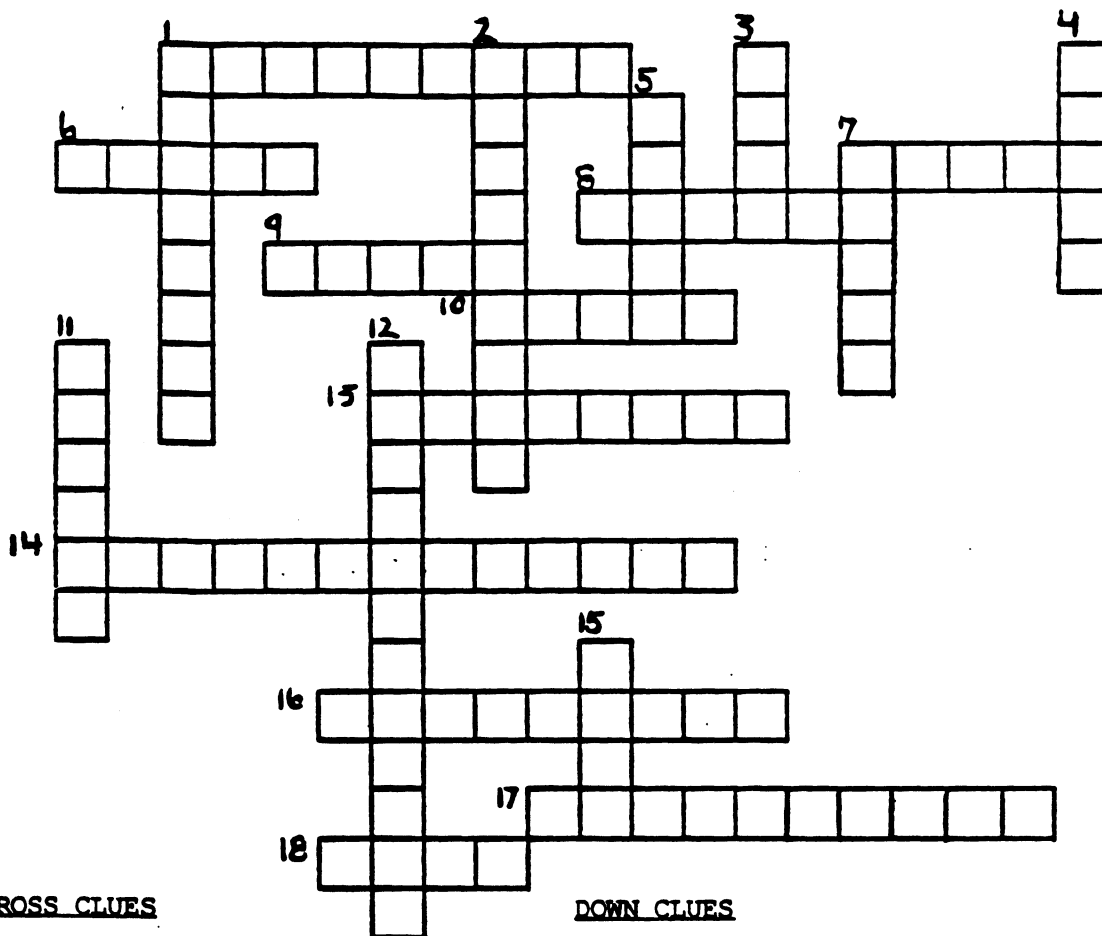
- 1.
- 2.
- 3.

BREAD, CEREAL, RICE &amp; PASTA -----INDIVIDUALIZED ACTIVITY

NAME \_\_\_\_\_ CLASS \_\_\_\_\_

## GRAINS CROSSWORD PUZZLE

DIRECTIONS: Read the chapter in your textbook that talks about grains. Fill in the blanks below.

ACROSS CLUES

1. Grain usually used in pancakes.
6. The Roman goddess of grains.
7. Bran contains concentrated source of this.
8. The common name for grains.
9. The goal of cooking cereals is to prevent these.
10. Another name for macaroni.
13. Adding nutrients to grain products.
14. The nutrient that supplies energy.
16. White rice in which nutrients have been preserved.
17. The kind of protein in grains.
18. Grain used for breakfast and as an ingredient in cookies.

DOWN CLUES

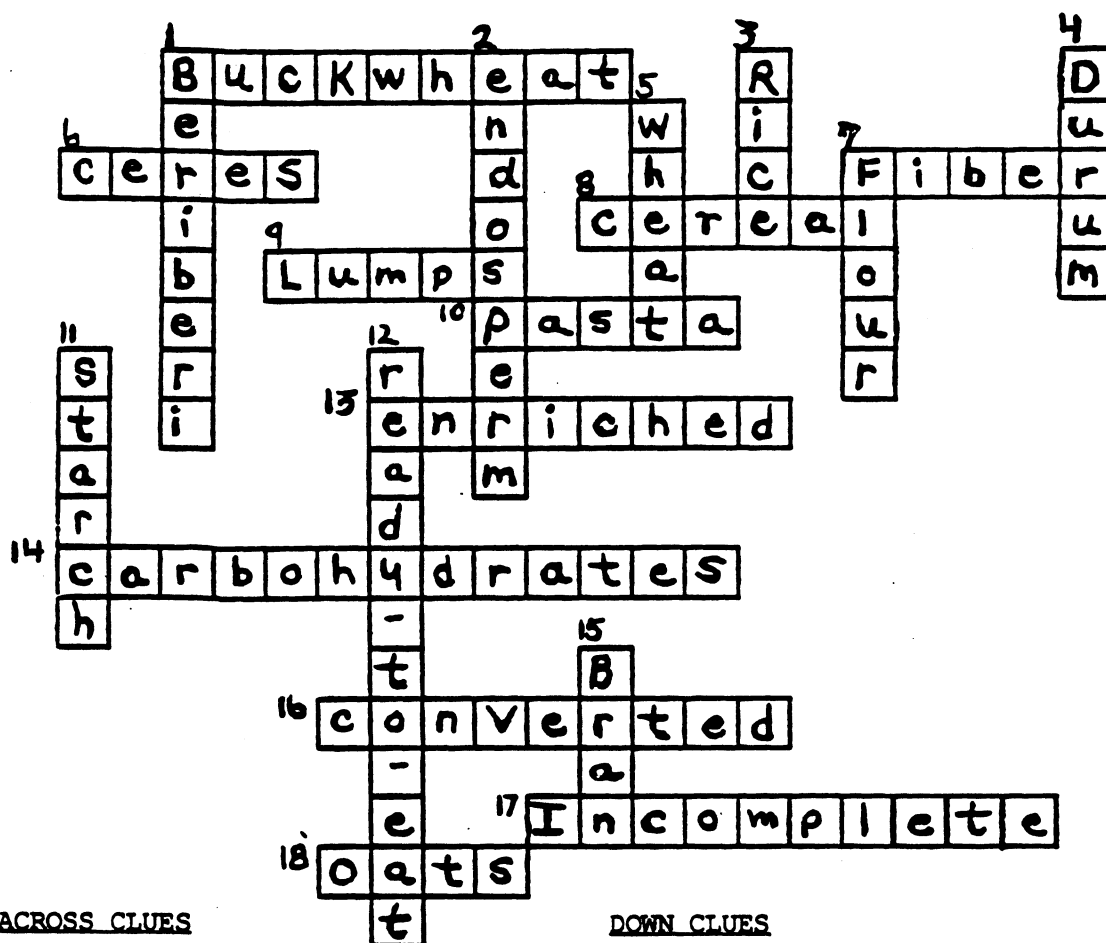
1. Lack of Thiamine causes this disease.
2. White, inner portion of grains
3. Most important grain in Asia.
4. Kind of wheat used in macaroni products.
5. Most important of all the grains.
7. Chief ingredient in most baked goods.
11. Ingredient in cornstarch and flour which thickens products.
12. These cereals have been precooked
15. Outside covering of grains.



## BREAD, CEREAL, RICE &amp; PASTA

\*\*\*KEY\*\*\*

## GRAINS CROSSWORD PUZZLE--KEY



## ACROSS CLUES

1. Grain usually used in pancakes.
6. The Roman goddess of grains.
7. Bran contains concentrated source of this.
8. The common name for grains.
9. The goal of cooking cereals is to prevent these.
10. Another name for macaroni.
13. Adding nutrients to grain products.
14. The nutrient that supplies energy.
16. White rice in which nutrients have been preserved.
17. The kind of protein in grains.
18. Grain used for breakfast and as an ingredient in cookies.

## DOWN CLUES

1. Lack of Thiamine causes this disease.
2. White, inner portion of grains
3. Most important grain in Asia.
4. Kind of wheat used in macaroni products.
5. Most important of all the grains.
7. Chief ingredient in most baked goods.
11. Ingredient in cornstarch and flour which thickens products.
12. These cereals have been precooked
15. Outside covering of grains.

BREAD, CEREAL, RICE & PASTA ----- INDIVIDUALIZED ACTIVITY

NAME \_\_\_\_\_ CLASS \_\_\_\_\_

### GRAINS DISCOVERY

Use the food comparison cards to find the following information.

FOOD	Serving (size)	Calories (Kcal)	% Thiamin	% Iron	% of 2000 cal.	% of daily fat budget
1. White Bread						
2. Bran Muffin						
3. Bagel						
4. English Muffin						
5. Whole Wheat Bread						
6. Tortilla						
7. Pancake						
8. Oatmeal						
9. Rice						
10. Corn Flakes						

11-12. Which two are the best sources of thiamin per serving?

13-14. Which two are the best sources of iron per serving?

15-16. Which two have the highest percentage of the daily fat budget?

17-18. Which two have the lowest number of calories per serving?

19-20. Which two do you like the most?

## BREAD, CEREAL, RICE &amp; PASTA

\*\*\*KEY\*\*\*

## GRAINS DISCOVERY--KEY

FOOD	Serving (size)	Calories (Kcal)	% Thiamin	% Iron	% of 2000 cal.	% of daily fat budget
1. White Bread	1 slice	65	8	4	3	1
2. Bran Muffin	1 small	140	5	9	7	6
3. Bagel	1/2 bagel	100	9	5	5	1
4. English Muffin	1 /2 muffin	70	8	5	4	1
5. Whole Wheat Bread	1 slice	70	7	6	4	1
6. Tortilla	8" flour	105	9	3	5	4
7. Pancake	1 pancake	60	6	4	3	3
8. Oatmeal	1/2 cup	73	9	4	4	1
9. Rice	1/2 cup	131	11	6	7	0
10. Corn Flakes	1 oz.	110	27	10	5	0

- 11-12. Which two are the best sources of thiamin per serving? CORN FLAKES, RICE
- 13-14. Which two are the best sources of iron per serving? CORN FLAKES, BRAN MUFFIN
- 15-16. Which two have the highest percentage of the daily fat budget? BRAN MUFFIN, TORTILLA
- 17-18. Which two have the lowest number of calories per serving? PANCAKE, WHITE BREAD
- 19-20. Which two do you like the most? VARIOUS ANSWERS

BREAD, CEREAL, RICE &amp; PASTA ----- INDIVIDUALIZED ACTIVITY

NAME \_\_\_\_\_ CLASS \_\_\_\_\_

### QUICK BREADS MATCH-UP

**DIRECTIONS:** Read about quick breads in your textbook. In Part I below are the first halves of sentences. Match them with endings from Part II that will make sensible statements.

- |       |   |
|-------|---|
| _____ | 1. Waffles, pancakes and popovers are:                      |
| _____ | 2. Eggs contribute to:                                      |
| _____ | 3. Leavening agents enable quick breads to rise:            |
| _____ | 4. Baking powders are made of:                              |
| _____ | 5. The liquids used in quick breads are usually:            |
| _____ | 6. When water is mixed with flour:                          |
| _____ | 7. Fat or shortening gives:                                 |
| _____ | 8. A soft dough is:   |
| _____ | 9. Flours are rich in:                                      |
| _____ | 10. Waffles may be served as:                               |
| _____ | 11. Drop biscuits are used as:                              |
| _____ | 12. Use the muffin method of mixing for these:              |
| _____ | 13. In the muffin method of mixing liquids:                 |
| _____ | 14. In the biscuit method, sift dry ingredients and:        |
| _____ | 15. Over-kneading biscuits:                                 |
| _____ | 16. Quick breads are best:                                  |
| _____ | 17. Carbon dioxide is a gas:                                |
| _____ | 18. Drop batters contain:                                   |
| _____ | 19. The ingredient used in largest amounts in quick breads: |
| _____ | 20. Quick breads require:                                   |

- A. are poured into a well of dry ingredients.
- B. soda, acidic powder and cornstarch.
- C. dumplings for stew.
- D. waffles, pancakes and popovers.
- E. little mixing.
- F. when served soon after baking.
- G. tenderness to breads.
- H. the main dish at breakfast or supper.
- I. gluten is formed which is a protein.
- J. is flour.
- K. about twice as much flour as liquid.
- L. cut in the shortening.
- M. examples of pour batters.
- N. and become light and porous.
- O. starch and will give you energy.
- P. milk, sour milk or buttermilk.
- Q. color, texture and nutritive values of breads.
- R. thick enough to roll out by hand.
- S. develops too much gluten and makes them tough.
- T. produced by baking powder, soda or yeast.

### QUICK BREADS MATCH-UP--KEY

ONE POINT FOR EACH CORRECT ANSWER.

- |         |     |  |
|---------|-----|--|
| ___M___ | 1.  | Waffles, pancakes and popovers are: EXAMPLES OF POUR BATTERS.                      |
| ___Q___ | 2.  | Eggs contribute to: COLOR, TEXTURE AND NUTRITIVE VALUES OF BREADS                  |
| ___N___ | 3.  | Leavening agents enable quick breads to rise: AND BECOME LIGHT AND POROUS          |
| ___B___ | 4.  | Baking powders are made of: SODA, ACIDIC POWDER AND CORNSTARCH                     |
| ___P___ | 5.  | The liquids used in quick breads are usually: MILK, SOUR MILK OR BUTTERMILK        |
| ___I___ | 6.  | When water is mixed with flour: GLUTEN IS FORMED WHICH IS A PROTEIN                |
| ___G___ | 7.  | Fat or shortening gives: TENDERNESS TO BREADS                                      |
| ___R___ | 8.  | A soft dough is: THICK ENOUGH TO ROLL OUT BY HAND                                  |
| ___O___ | 9.  | Flours are rich in: STARCH AND WILL GIVE YOU ENERGY                                |
| ___H___ | 10. | Waffles may be served as: THE MAIN DISH AT BREAKFAST OR SUPPER                     |
| ___C___ | 11. | Drop biscuits are used as: DUMPLINGS   |
| ___D___ | 12. | Use the muffin method of mixing for these: WAFFLES, PANCAKES AND POPOVERS          |
| ___A___ | 13. | In the muffin method of mixing, liquids: ARE Poured INTO A WELL OF DRY INGREDIENTS |
| ___L___ | 14. | In the biscuit method, sift dry ingredients and: CUT IN THE SHORTENING             |
| ___S___ | 15. | Over-kneading biscuits: DEVELOPS TOO MUCH GLUTEN AND MAKES THEM TOUGH              |
| ___F___ | 16. | Quick breads are best: WHEN SERVED SOON AFTER BAKING                               |
| ___T___ | 17. | Carbon dioxide is a gas: PRODUCED BY BAKING POWDER, SODA OR YEAST                  |
| ___K___ | 18. | Drop batters contain: ABOUT TWICE AS MUCH FLOUR AS LIQUID                          |
| ___J___ | 19. | The ingredient used in largest amounts in quick breads: IS FLOUR                   |
| ___E___ | 20. | Quick breads require: LITTLE MIXING  |

BREAD, CEREAL, RICE & PASTA -----INDIVIDUALIZED ACTIVITY

NAME \_\_\_\_\_ CLASS \_\_\_\_\_

### PASTA PUZZLE

Read the Pasta Puzzle Student Guide. WORDS MUST BE SPELLED CORRECTLY TO BE MARKED RIGHT.

UNSCRAMBLE THE LETTERS TO FIND THE CORRECT PASTA NAME.

1. TAHEGIPTS =
2. LIOVIAR =
3. NAAGSAL =
4. LESHLS =
5. GIULINNE =

MATCH THE FOLLOWING DEFINITIONS TO THE ANSWERS ABOVE:

6. Find these along the seashore
7. Long, wide and thick with ruffly edges
8. A favorite with meatballs
9. Square noodles filled with a meat mixture
10. Rhymes with another name for a hot dog

ANSWER THE FOLLOWING QUESTIONS:

11. What kind of wheat is used for pasta?
12. Name a pasta dish used as a main course.
13. What happens to pasta if the water you are cooking it in stops boiling?
14. What process in manufacturing causes macaroni to be tubular?

NAME THE SIX STEPS IN COOKING PASTA CORRECTLY.

- 15.
- 16.
- 17.
- 18.
- 19.
- 20.

## BREAD, CEREAL, RICE &amp; PASTA

\*\*\*KEY\*\*\*

## PASTA PUZZLE--KEY

ONE POINT FOR EACH CORRECT NUMBER. 20 POSSIBLE POINTS TOTAL.  
UNSCRAMBLE THE LETTERS TO FIND THE CORRECT PASTA NAME.

1. TAHEGIPTS = SPAGHETTI
2. LIOVIAR = RAVIOLI
3. NAAGSAL = LASAGNA
4. LESHLS = SHELLS
5. GIULINNE = LINGUINE

MATCH THE FOLLOWING DEFINITIONS TO THE ANSWERS ABOVE:

- |  |           |
|--|-----------|
| 6. Find these along the seashore             | SHELLS    |
| 7. Long, wide and thick with ruffly edges    | LASAGNA   |
| 8. A favorite with meatballs                 | SPAGHETTI |
| 9. Square noodles filled with a meat mixture | RAVIOLI   |
| 10. Rhymes with another name for a hot dog   | LINGUINE  |

ANSWER THE FOLLOWING QUESTIONS:

11. What kind of wheat is used for pasta?  
DURUM
12. Name a pasta dish used as a main course.  
VARIOUS ANSWERS
13. What happens to pasta if the water you are cooking it in stops boiling?  
THE PASTA WILL STICK TOGETHER
14. What process in manufacturing causes macaroni to be tubular?  
A PIN IS SUSPENDED IN THE CENTER OF EACH DIE CHAMBER

NAME THE SIX STEPS IN COOKING PASTA CORRECTLY.

15. USE TWO QUARTS OF WATER FOR EACH EIGHT OUNCES OF PASTA.
16. BRING THE WATER TO A BOIL.
17. ADD ONE TEASPOON SALT.
18. ADD ONE TABLESPOON OIL TO PREVENT STICKING.
19. KEEP WATER BOILING AND STIR OCCASIONALLY.
20. COOK ONLY UNTIL TENDER.

BREAD, CEREAL, RICE &amp; PASTA -----INDIVIDUALIZED ACTIVITY

NAME \_\_\_\_\_ CLASS \_\_\_\_\_

## LEARNING ABOUT LEAVENING PYRAMID

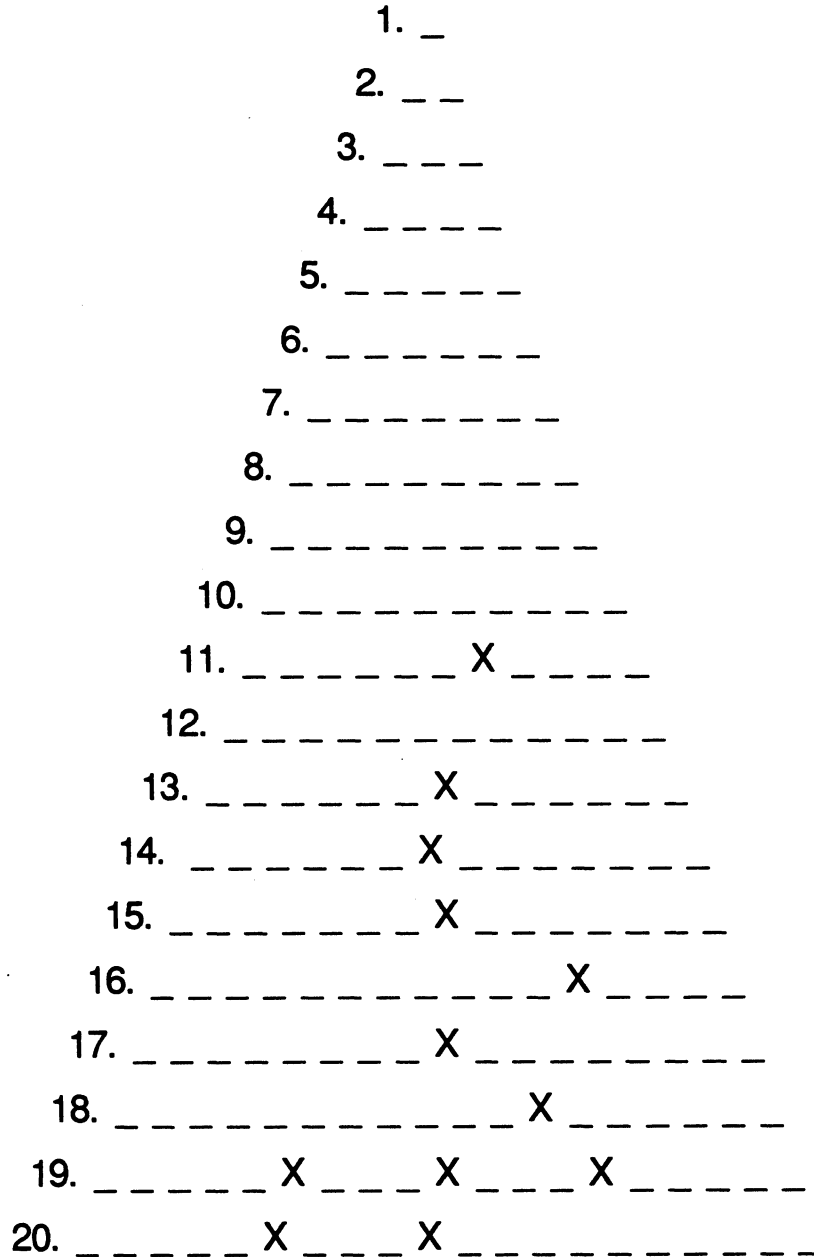
**DIRECTIONS:** Read the enclosed student guide--Learning About Leavening. Each space in the pyramid stands for a letter. Use the clues to help you build the pyramid of answers. Count a space between words as a letter.

1. The middle initial in the most common kind of baking powder.
2. The abbreviation for the leavening agent already mixed with an acid.
3. This expands when heated.
4. Leavening agents make products \_\_\_\_\_ .
5. A food for yeast.
6. This kind of flour incorporates air into batters and doughs.
7. This word in a chemical formula means a compound contains two molecules of oxygen.
8. Example of a product leavened mostly with steam.
9. B vitamins and protein are examples of these found in yeast.
10. An acid food such as this is often used when making pancakes.
11. This product doesn't leaven as well as baking powder.
12. Scientific term for yeast changing sugars into carbon dioxide.
13. The double acting leavening agent.
14. The gas which makes breads rise.
15. Liquid expands to this much steam when heated.
16. The first of its kind was baking powder.
17. A scientific term which results in mixing baking soda with an acid.
18. What yeast cells produce when put in a test tube.
19. Do this to incorporate air into the batter when making cookies.
20. After cultivation, yeast is either compressed or \_\_\_\_\_ .



NAME \_\_\_\_\_ CLASS \_\_\_\_\_

### LEARNING ABOUT LEAVENING PYRAMID



## LEARNING ABOUT LEAVENING PYRAMID--KEY

1. The middle initial in the most common kind of baking powder.  
A
2. The abbreviation for the leavening agent already mixed with an acid.  
B. P.
3. This expands when heated.  
AIR
4. Leavening agents make products \_\_\_\_\_.  
RISE
5. A food for yeast.  
SUGAR
6. This kind of flour incorporates air into batters and doughs.  
SIFTED
7. This word in a chemical formula means a compound contains two molecules of oxygen.  
DIOXIDE
8. Example of a product leavened mostly with steam.  
POPOVERS
9. B vitamins and protein are examples of these found in yeast.  
NUTRIENTS
10. An acid food such as this is often used when making pancakes.  
BUTTERMILK
11. This product doesn't leaven as well as baking powder.  
BAKING SODA
12. Scientific term for yeast changing sugars into carbon dioxide.  
FERMENTATION
13. The double acting leavening agent.  
BAKING POWDER
14. The gas which makes breads rise.  
CARBON DIOXIDE
15. Liquid expands to this much steam when heated.  
SIXTEEN HUNDRED
16. The first of its kind was baking powder.  
CONVENIENCE FOOD
17. A scientific term which results in mixing baking soda with an acid.  
CHEMICAL REACTION
18. What yeast cells produce when put in a test tube.  
CULTIVATING MEDIUM
19. Do this to incorporate air into the batter when making cookies.  
CREAM FAT AND SUGAR
20. After cultivation, yeast is either compressed or \_\_\_\_\_.  
DRIED AND GRANULATED

REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW

## PLAY BALL WITH GRAINS

**DIRECTIONS: HAVE STUDENTS RECORD ANSWERS AS THEY ARE GIVEN ON THE GRAINS REVIEW.**

Draw a baseball diamond on a posterboard or the chalkboard. Glue a velcro strip onto each base. Use 8 foam baseballs (2 different colors) or use construction paper and glue velcro strips onto the back. Copy the names at the bottom of this page onto heavy paper.

Divide the class into two teams. Appoint a captain for each team. The team captain decides on the batting order. Appoint a score keeper to keep track of the number of outs, move the balls to bases and keep the score on the board.

The team captain turns over a card. Ask the person up to bat a question. If the team member answers correctly, his team will move ahead as the card instructs him. If he answers incorrectly, his team has one out. After three outs, the other team comes up to bat.

**MOVE AHEAD  
ONE BASE**

**MOVE AHEAD  
ONE BASE**

**MOVE AHEAD  
ONE BASE**

**MOVE AHEAD  
TWO BASES**

**MOVE AHEAD  
TWO BASES**

**MOVE AHEAD  
THREE BASES**

**MOVE AHEAD  
THREE BASES**

**MOVE AHEAD  
ONE BASE**

**HOME RUN!!**

**MOVE AHEAD  
ONE BASE**

**MOVE AHEAD  
ONE BASE**

**MOVE AHEAD  
ONE BASE**

**MOVE AHEAD  
TWO BASES**

**MOVE AHEAD  
TWO BASES**

**MOVE AHEAD  
THREE BASES**

**MOVE AHEAD  
THREE BASES**

**MOVE AHEAD  
ONE BASE**

**HOME RUN!!**

REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW

NAME \_\_\_\_\_ CLASS \_\_\_\_\_

### PLAY BALL WITH GRAINS

1. Name the seven major cereal grains.
2. Which grain is used most in the United States and the world?
3. What is the outside covering of a grain kernel called?
4. What is the name of the living part of the grain that is rich in proteins, vitamins, minerals, carbohydrates and fats?
5. What is the term given to grains when nutrients are added beyond the original whole grain level?
6. What kind of batter has about the same amount of flour as liquid?
7. What is the method of mixing where dry ingredients are sifted together and then shortening is cut in?
8. What is the method of mixing where a well is made of the dry ingredients and then liquids are added?
9. What kind of nutrient is classified as complete or incomplete?
10. Which nutrient is the building block of cells?
11. Are grain cereals complete or incomplete sources of protein?
12. What deficiency disease is caused by lack of thiamine?
13. What are the two classifications of carbohydrates?
14. Name three kinds of simple carbohydrates,
15. Name three kinds of complex carbohydrates.
16. What temperature should the water be before cooking pasta or rice?
17. What kind of wheat is pasta usually made from?
18. Noodles usually have what kind of protein food added to them?
19. Name two kinds of flat pasta.

REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW

PLAY BALL WITH GRAINS, continued

20. What does a leavening agent do to baked goods?
21. Name the three leavening gases.
22. What is the most common leavening agent used in quick breads?
23. What is the term for using the entire grain of wheat in a product?
24. What is the leavening agent that is a live plant?
25. How are carbohydrates used by the body?
26. Name two ways thiamine is used in the body.
27. What part of the kernel is used mainly for making white bread?
28. What kind of rice is actually a brown, nutty grass?
29. What has the manufacturer already done to instant cereals?
30. Name the four processes in the gelatinization of cereal grains.
31. What is the goal of cooking cereal grains?
- 32-34. Name three kinds of pour batters.
- 35-37. Name three kinds of drop batters.
- 38-40. Name three kinds of doughs.

REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW

\*\*\*KEY\*\*\*

**PLAY BALL WITH GRAINS--KEY**

ONE POINT FOR EACH CORRECT ANSWER. 40 POINTS TOTAL POSSIBLE.

1. Name the seven major cereal grains.  
WHEAT, CORN, RICE, OATS, BARLEY, BUCKWHEAT, RYE
2. Which grain is used most in the United States and the world? WHEAT
3. What is the outside covering of a grain kernel called? BRAN
4. What is the name of the living part of the grain that is rich in proteins, vitamins, minerals, carbohydrates and fat? GERM
5. What is the term given to grains when nutrients are added beyond the original whole grain level? ENRICHED
6. What kind of batter has about the same amount of flour as liquid? POUR BATTER
7. What is the method of mixing where dry ingredients are sifted together and then shortening is cut in? BISCUIT METHOD
8. What is the method of mixing where a well is made of the dry ingredients and then liquids are added? MUFFIN METHOD
9. What kind of nutrient is classified as complete or incomplete? PROTEIN
10. Which nutrient is the building block of cells? PROTEIN
11. Are grain cereals complete or incomplete sources of protein?  
INCOMPLETE
12. What deficiency disease is caused by lack of thiamine? BERI BERI
13. What are the two classifications of carbohydrates? SIMPLE, COMPLEX
14. Name three kinds of simple carbohydrates.  
(ANY THREE) SUGAR, BROWN SUGAR, HONEY, JAMS, JELLIES, CANDY, SODA POP, ICING
15. Name three kinds of complex carbohydrates.  
(ANY THREE) VEGETABLES, BREADS, CEREALS, FRUITS
16. What temperature should the water be before cooking pasta or rice?  
BOILING

REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW \*\*\*PLAY BALL WITH GRAINS--KEY, continued\*\*\*

17. What kind of wheat is pasta usually made from? DURUM
18. Noodles usually have what kind of protein food added to them? EGGS
19. Name two kinds of flat pasta.  
(ANY TWO) LASAGNA, NOODLES, LINGUINI
20. What does a leavening agent do to baked goods?  
MAKES THEM RISE, MAKES THEM LIGHT
21. Name the three leavening gases.  
CARBON DIOXIDE, AIR, STEAM
22. What is the most common leavening agent used in quick breads?  
BAKING POWDER
23. What is the term for using the entire grain of wheat in a product?  
WHOLE WHEAT
24. What is the leavening agent that is a live plant?  
YEAST
25. How are carbohydrates used by the body?  
FOR ENERGY
26. Name two ways thiamine is used in the body.  
(ANY TWO) GROWTH, GOOD APPETITE, HEALTHY NERVES, BODY  
COORDINATION, HELPS BODY RELEASE ENERGY FROM FOOD
27. What part of the kernel is used mainly for making white bread?  
ENDOSPERM
28. What kind of rice is actually a brown, nutty grass? WILD RICE
29. What has the manufacturer already done to instant cereals?  
PRECOOKED THEM
30. Name the four processes in the gelatinization of cereal grains?
  - a. STARCH ABSORBS WATER.
  - b. WITH ADDITION OF HEAT AND WATER IT SWELLS
  - c. THE STARCH BECOMES TRANSLUCENT
  - d. DISH BECOMES THICK
31. What is the goal of cooking cereal grains?  
TO PREVENT LUMPS

REVIEW--REVIEW--REVIEW--REVIEW--REVIEW--REVIEW \*\*\*PLAY BALL WITH GRAINS--KEY, continued\*\*\*

- 32-34. Name three kinds of pour batters.  
(ANY THREE) POPOVERS, PANCAKES, WAFFLES, CAKES
- 35-37. Name three kinds of drop batters.  
(ANY THREE) DROP BISCUITS, MUFFINS, LOAF BREAD, COFFEE CAKE
- 38-40. Name three kinds of doughs.  
(ANY THREE) ROLL BISCUITS, COBBLERS, PASTRY, COFFEE  
CAKE, YEAST BREAD, ROLLED COOKIES



TEST - TEST - TEST - TEST - TEST - TEST - TEST - TEST - TEST - TEST - TEST - TEST - TEST - TEST - TEST - TEST

NAME \_\_\_\_\_ CLASS \_\_\_\_\_

**GRAINS TEST****MULTIPLE CHOICE**

1. The outside covering of a grain kernel is:
  - A. Bran
  - B. Germ
  - C. Endosperm
2. The most nutritious part of the grain kernel is the:
  - A. Bran
  - B. Germ
  - C. Endosperm
3. White bread uses mostly which part of the grain kernel:
  - A. Bran
  - B. Germ
  - C. Endosperm
4. Protein is needed by the body to:
  - A. Give you energy
  - B. Be a building block for every cell
  - C. Keep your skin smooth
5. Which of the following processes does not occur when cooking cereals?
  - A. The starch absorbs water
  - B. With the addition of heat and water the starch swells enormously
  - C. With the addition of heat and water the starch becomes opaque
6. Examples of simple carbohydrates are:
  - A. Sugar, jam, honey
  - B. Jelly, apples, brown sugar
  - C. Candy, honey, bread
7. A leavening agent is used to:
  - A. Make foods sweet
  - B. Keep foods from sticking to the pan
  - C. Make foods rise
8. Some examples of leavening agents are:
  - A. Baking soda, baking powder, yeast
  - B. Yeast, brown sugar, wheat germ
  - C. Baking powder, bran, endosperm
9. Carbohydrates are needed by the body for:
  - A. Cell formation
  - B. Energy
  - C. Blood clotting
10. Pasta is made from what special kind of wheat:
  - A. Durum
  - B. Complex
  - C. Gluten

TEST - TEST - TEST - TEST - TEST - TEST - TEST

GRAINS TEST, continued

11. The correct water temperature for cooking pasta should be:
  - A. Simmering
  - B. Boiling
  - C. Scalding
12. Pasta should be stirred periodically during cooking to:
  - A. Improve the flavor
  - B. Prevent it from sticking together
  - C. Prevent it from getting soggy
13. The term for adding nutrients beyond the original level is:
  - A. Restored
  - B. Enhanced
  - C. Enriched
14. Examples of complete protein foods are:
  - A. Pork, milk, fish
  - B. Peanut butter, shrimp, eggs
  - C. Oats, wheat, corn

**MATCHING:**

- |         |                    |  |
|---------|--------------------|--|
| 15. ___ | Flat pasta         | A. Make a well of dry ingredients and add the liquids      |
| 16. ___ | Pour batters       | B. Lasagna, noodles, linguini                              |
| 17. ___ | Drop batters       | C. Sift the dry ingredients and then cut in the shortening |
| 18. ___ | Doughs             | D. Pancakes, waffles, popovers                             |
| 19. ___ | Biscuit method     | E. Muffins, loaf breads                                    |
| 20. ___ | Muffin method      | F. Wild rice   |
| 21. ___ | Precooked rice     | G. Pie pastry  |
| 22. ___ | Nutty, brown grass | H. Instant   |

**TRUE OR FALSE--**Circle the answer of your choice.

23. The seven major cereal grains are barley, wheat, rye, alfalfa, corn, rice and buckwheat. T F
24. Severe lack of thiamine can cause the disease scurvy. T F
25. The most common leavening agent in quick breads is yeast. T F
26. Pour batters have about the same amount of flour as liquid. T F
27. Some examples of quick breads are biscuits, muffins and banana bread. T F
28. The goal of cooking cereal grains is to prevent lumping. T F
29. The leavening agent that is a living plant is baking powder. T F
30. The protein in grains is classified as complete. T F
31. Noodles often have the high protein food added to them. T F
32. Complex carbohydrates include fiber and starch. T F
33. Use only enough water to cover the macaroni when cooking it. T F
34. Corn is the most widely consumed grain in the world. T F
35. Thiamine helps the body grow properly. T F

**\*\*BONUS QUESTION: WHO WAS THE ROMAN GODDESS OF GRAINS?**

TEST - TEST - TEST - TEST - TEST - TEST - TEST

\*\*\*KEY\*\*\*

## GRAINS TEST--KEY

MULTIPLE CHOICE

1. The outside covering of a grain kernel is:  
A. Bran  
B. Germ  
C. Endosperm
2. The most nutritious part of the grain kernel is the:  
B. Germ  
A. Bran  
C. Endosperm
3. White bread uses mostly which part of the grain kernel:  
A. Bran  
B. Germ  
C. Endosperm
4. Protein is needed by the body to:  
A. Give you energy  
B. Be a building block for every cell  
C. Keep your skin smooth
5. Which of the following processes does not occur when cooking cereals?  
A. The starch absorbs water  
B. With the addition of heat and water the starch swells enormously  
C. With the addition of heat and water the starch becomes opaque
6. Examples of simple carbohydrates are:  
A. Sugar, jam, honey  
B. Jelly, apples, brown sugar  
C. Candy, honey, bread
7. A leavening agent is used to:  
A. Make foods sweet  
B. Keep foods from sticking to the pan  
C. Make foods rise
8. Some examples of leavening agents are:  
A. Baking soda, baking powder, yeast  
B. Yeast, brown sugar, wheat germ  
C. Baking powder, bran, endosperm
9. Carbohydrates are needed by the body for:  
A. Cell formation  
B. Energy  
C. Blood clotting
10. Pasta is made from what special kind of wheat:  
A. Durum  
B. Complex  
C. Gluten

TEST - TEST - TEST - TEST - TEST - TEST - TEST

GRAINS TEST, continued

11. The correct water temperature for cooking pasta should be:
  - A. Simmering
  - B. Boiling
  - C. Scalding
12. Pasta should be stirred periodically during cooking to:
  - A. Improve the flavor
  - B. Prevent it from sticking together
  - C. Prevent it from getting soggy
13. The term for adding nutrients beyond the original level is:
  - A. Restored
  - B. Enhanced
  - C. Enriched
14. Examples of complete protein foods are:
  - A. Pork, milk, fish
  - B. Peanut butter, shrimp, eggs
  - C. Oats, wheat, corn

**MATCHING:**

- |                                 |  |
|---------------------------------|--|
| 15. <u>B</u> Flat pasta         | A. Make a well of dry ingredients and add the liquids      |
| 16. <u>D</u> Pour batters       | B. Lasagna, noodles, linguini                              |
| 17. <u>E</u> Drop batters       | C. Sift the dry ingredients and then cut in the shortening |
| 18. <u>G</u> Doughs             | D. Pancakes, waffles, popovers                             |
| 19. <u>C</u> Biscuit method     | E. Muffins, loaf breads                                    |
| 20. <u>A</u> Muffin method      | F. Wild rice   |
| 21. <u>H</u> Precooked rice     | G. Pie pastry  |
| 22. <u>F</u> Nutty, brown grass | H. Instant   |

**TRUE OR FALSE--Circle the answer of your choice.**

23. The seven major cereal grains are barley, wheat, rye, alfalfa, corn, rice and buckwheat. FALSE
24. Severe lack of thiamine can cause the disease scurvy. FALSE
25. The most common leavening agent in quick breads is yeast. FALSE
26. Pour batters have about the same amount of flour as liquid. FALSE
27. Some examples of quick breads are biscuits, muffins and banana bread. TRUE
28. The goal of cooking cereal grains is to prevent lumping. TRUE
29. The leavening agent that is a living plant is baking powder. FALSE
30. The protein in grains is classified as complete. FALSE
31. Noodles often have the high protein food added to them. TRUE
32. Complex carbohydrates include fiber and starch. TRUE
33. Use only enough water to cover the macaroni when cooking it. FALSE
34. Corn is the most widely consumed grain in the world. FALSE
35. Thiamine helps the body grow properly. TRUE

**\*\*BONUS QUESTION: Who was the Roman goddess of grains?  
CERES**













Name \_\_\_\_\_

Class \_\_\_\_\_

**PREPARING A FOREIGN RECIPE**

**DIRECTIONS:** Look through cook books or a recipe file until you find a typically foreign recipe that calls for a cereal grain as a main ingredient.

With your parent's permission, prepare that recipe at home. Use an encyclopedia to gather the needed information.

Share the recipe with the class and give a one-page short report on the following:

1. WHAT IS THE RECIPE'S COUNTRY OF ORIGIN?
2. WHAT IS THE MAJOR CEREAL GRAIN CONSUMED IN THAT COUNTRY?
3. WHAT DOES THE COUNTRY'S CLIMATE HAVE TO DO WITH THE PRODUCTION OF THE CEREAL GRAIN?
4. NAME THREE PRODUCTS MADE WITH THE CEREAL GRAIN COMMONLY EATEN IN THAT COUNTRY.
5. SHARE THE RECIPE WITH THE CLASS AND EXPLAIN HOW YOU MADE IT.

(You may bring samples if you wish.)

Have your parent sign this form verifying that you prepared the recipe yourself and cleaned up afterwards. Attach your report to this paper and turn in with your unit.

Parent's Signature: \_\_\_\_\_

Student's Signature: \_\_\_\_\_

Name \_\_\_\_\_

Class \_\_\_\_\_

**SHOPPING FOR GRAIN PRODUCTS**

**DIRECTIONS:** Visit a grocery store see how many varieties of grain products you can find.

**PRODUCT:****PRICE:****SIZE OF PACKAGE:**