THE NUTRITION PYRAMID
TEACHER BACKGROUND INFORMATION

The nutrition pyramid was developed in 1992 by the U.S. Department of Agriculture (U.S.D.A.) when the "Basic Four" was declared history. Nutritionists developed an easy-to-understand visual presentation of the ideal diet which came in the form of a pyramid.

The new pyramid was needed to help people follow the seven (7) dietary guidelines suggested by the U.S.D.A. The Dietary Guidelines suggest that we eat more foods containing fiber (whole grains, fruits, and vegetables) and less foods with fat, sugar, and salt in them. The nutrition pyramid is an outline of what to eat each day and how much.

There is a focus on fat because most Americans eat too much of it. Today's diet-related illnesses (diabetes, cancer, and heart disease) are related to people eating too much food and exercising too little. Another nonfood group that should or could be on the pyramid is exercise.

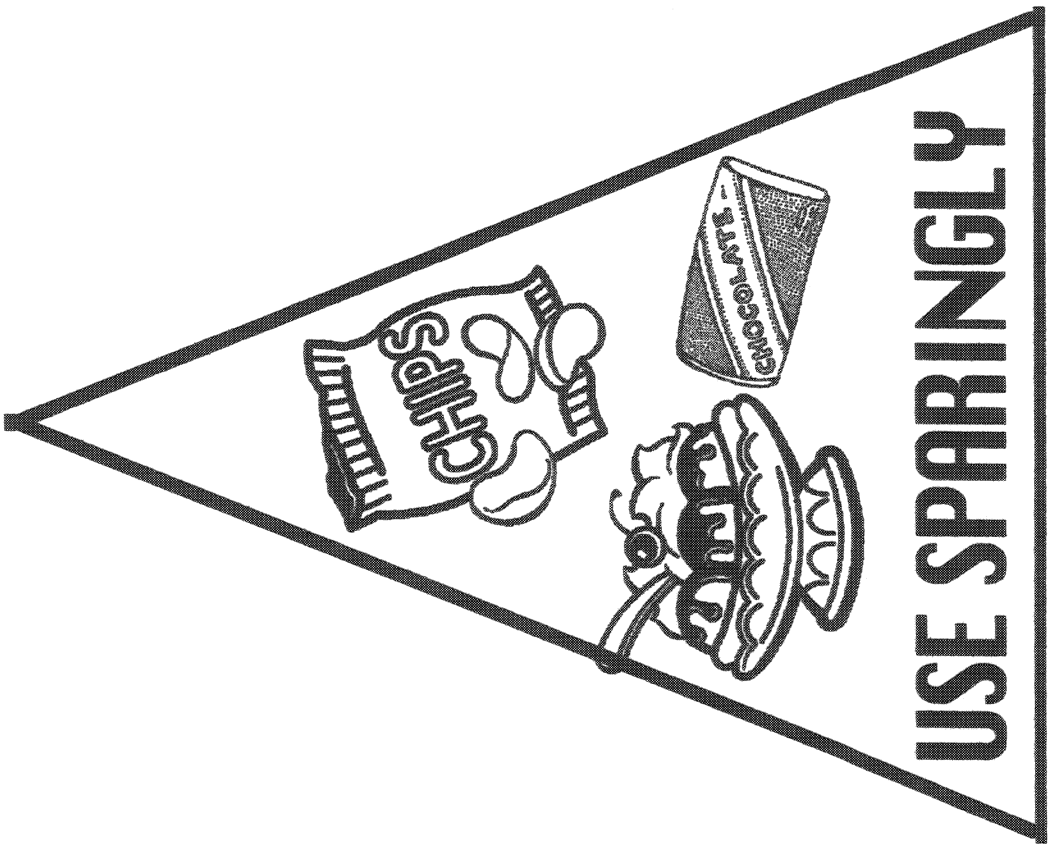
One reason Americans should eat more fruits and vegetables and fewer high-fat foods is to increase the fiber in their diets. A good slogan to remember in helping people to eat enough vegetables and fruits is, "Strive for Five," or eat five servings per day. The two groups that come mostly from animals are the dairy and meat groups. Fats and sugars are to be used sparingly because they mainly provide calories without much nutritional value.

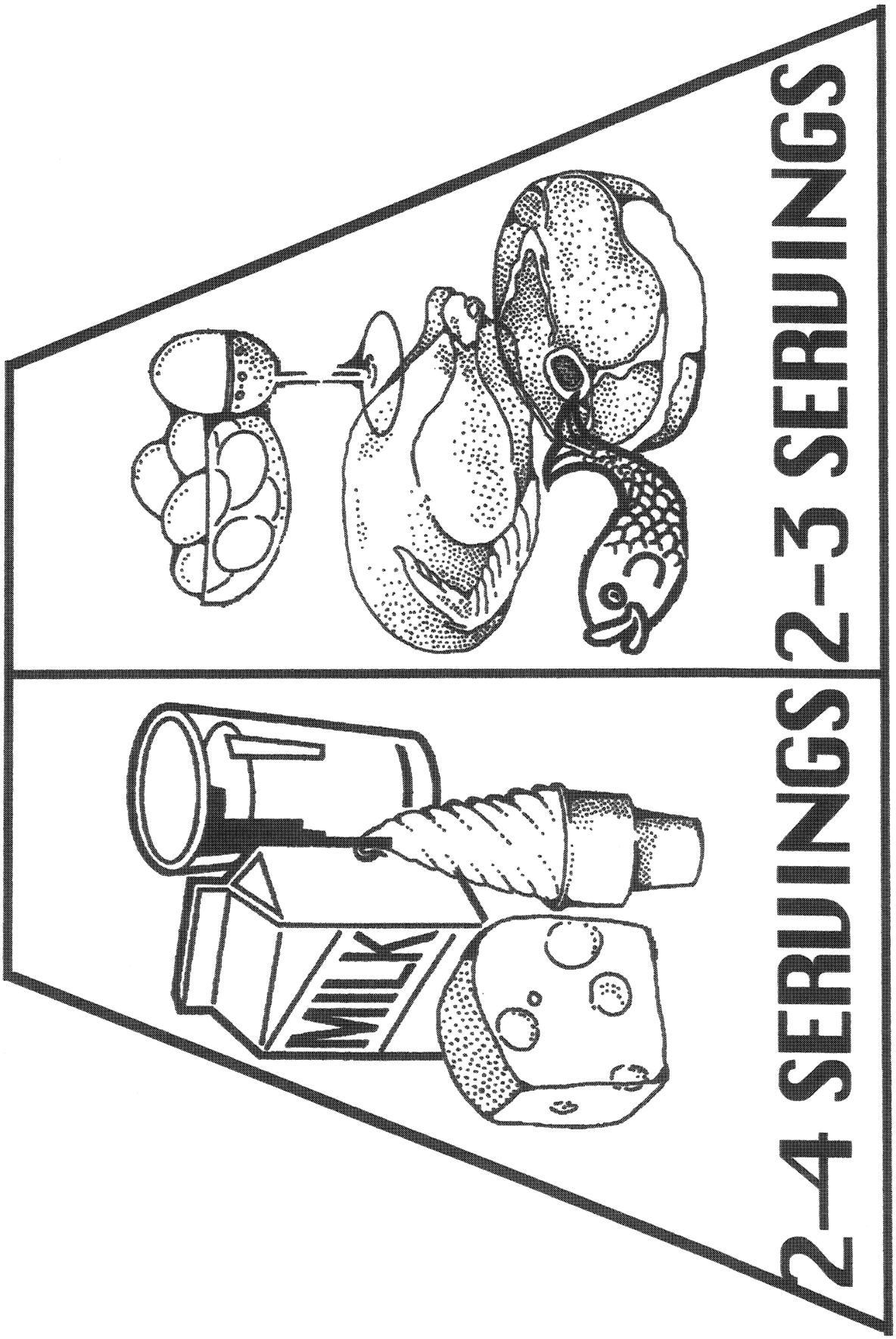
We should eat small amounts of the foods at the top and let the foods at the base form the bulk of our diet. Carbohydrates are the most efficient body fuel on the planet! We should have 6 to 11 servings of grain per day. We should eat fats and sweets sparingly.

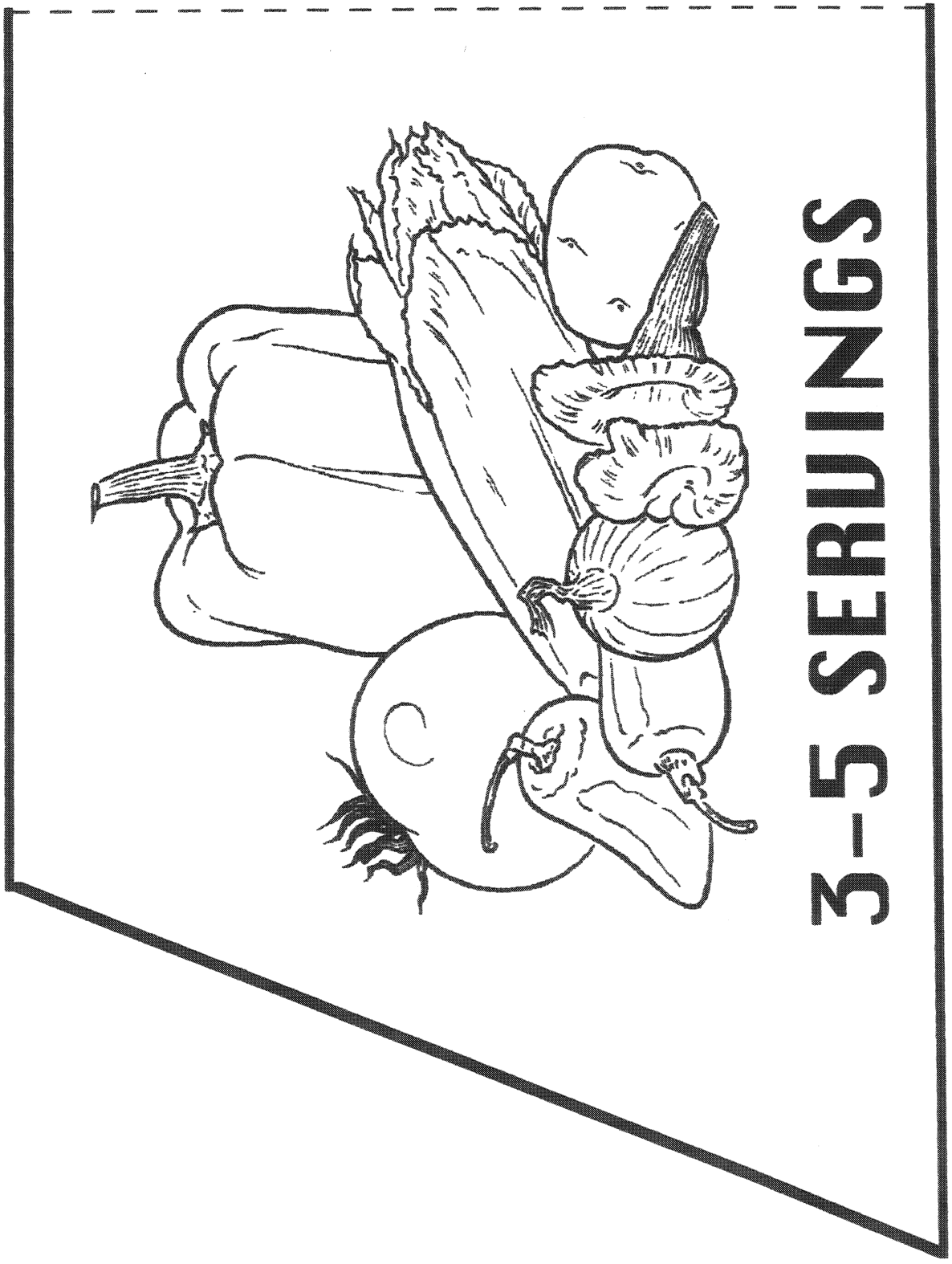
We should have 3 to 5 servings of vegetables and 2 to 4 servings of fruit per day. Since cooking with water allows for some nutrient loss, make sure that you eat some raw vegetables daily. Fruits can be called "Nature's Convenience Food." They can be eaten with washing being the only preparation necessary. Most fruits contain no fat; the exceptions are olives and avocados.

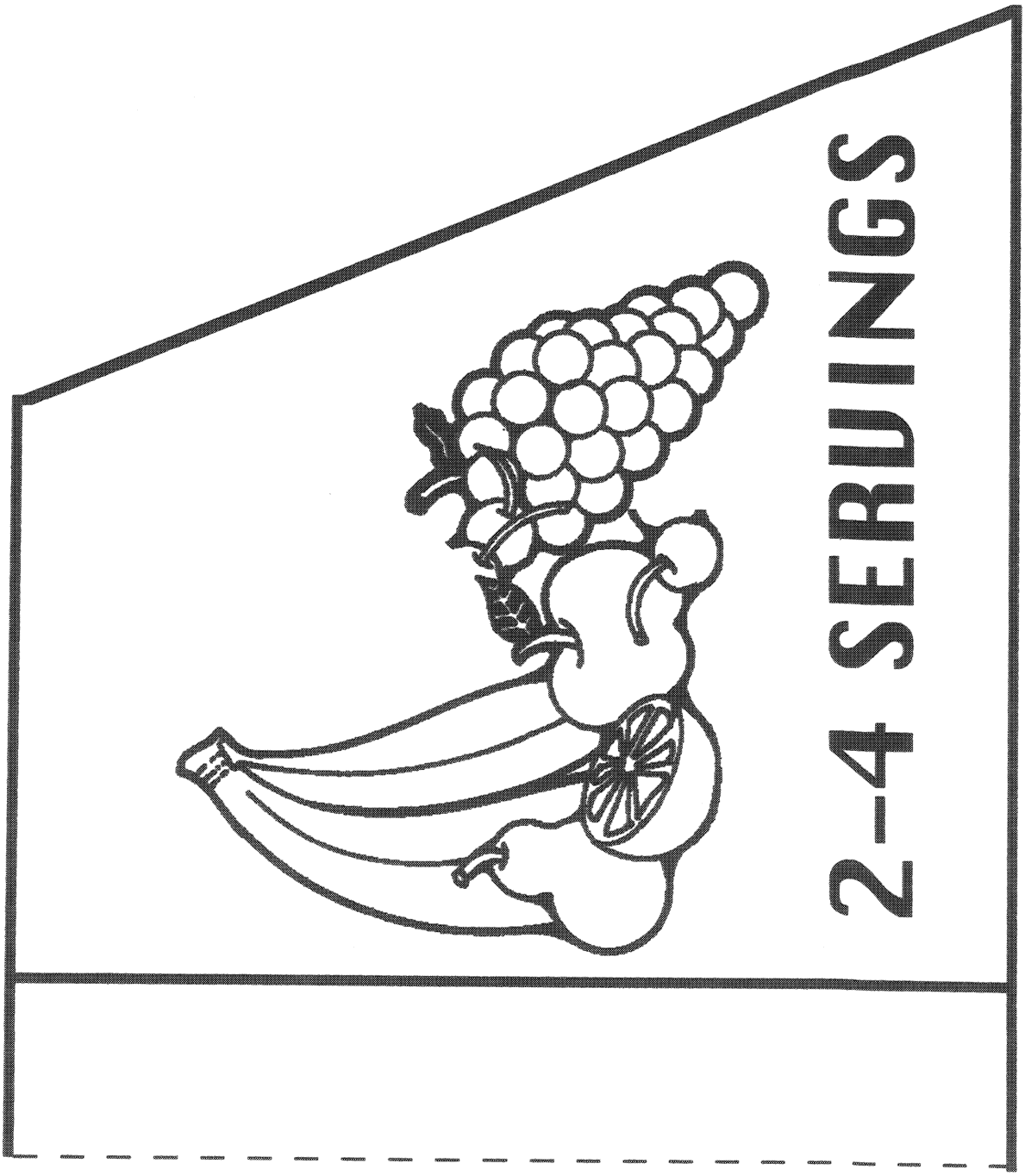
We should have 2 to 4 servings of milk or dairy products per day. The four (4) choices of drinking milk are whole, 2%, 1%, and skim. Skim milk has only a trace of fat in it. You can add a teaspoon of butter to a glass of skim milk and you will have 2% milk.

We should have 2 to 3 servings of meat, eggs, nuts, or dry beans per day. All of the foods from nuts to eggs and red meat to dry beans are important sources of protein. A serving of meat is three (3) lean ounces or about the size of a deck of playing cards. Chicken is high in protein.

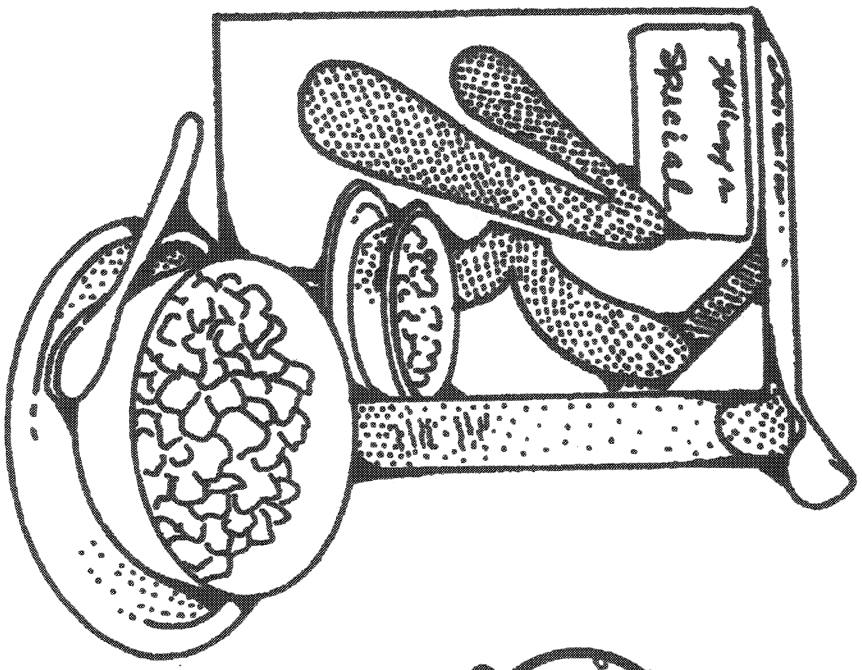

Chips
CHOCOLATE
USE SPARINGLY

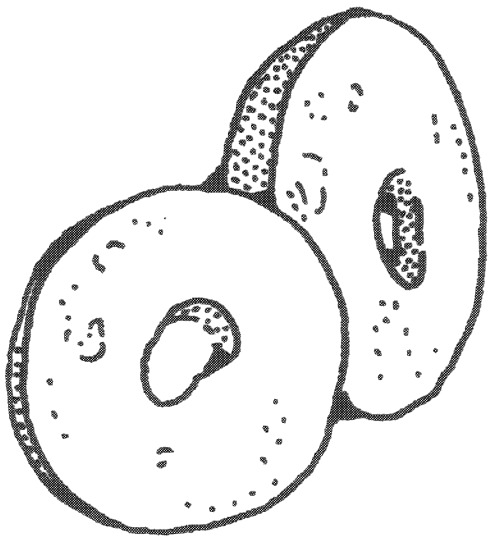

2-3 SERVINGS
2-4 SERVINGS
MILK

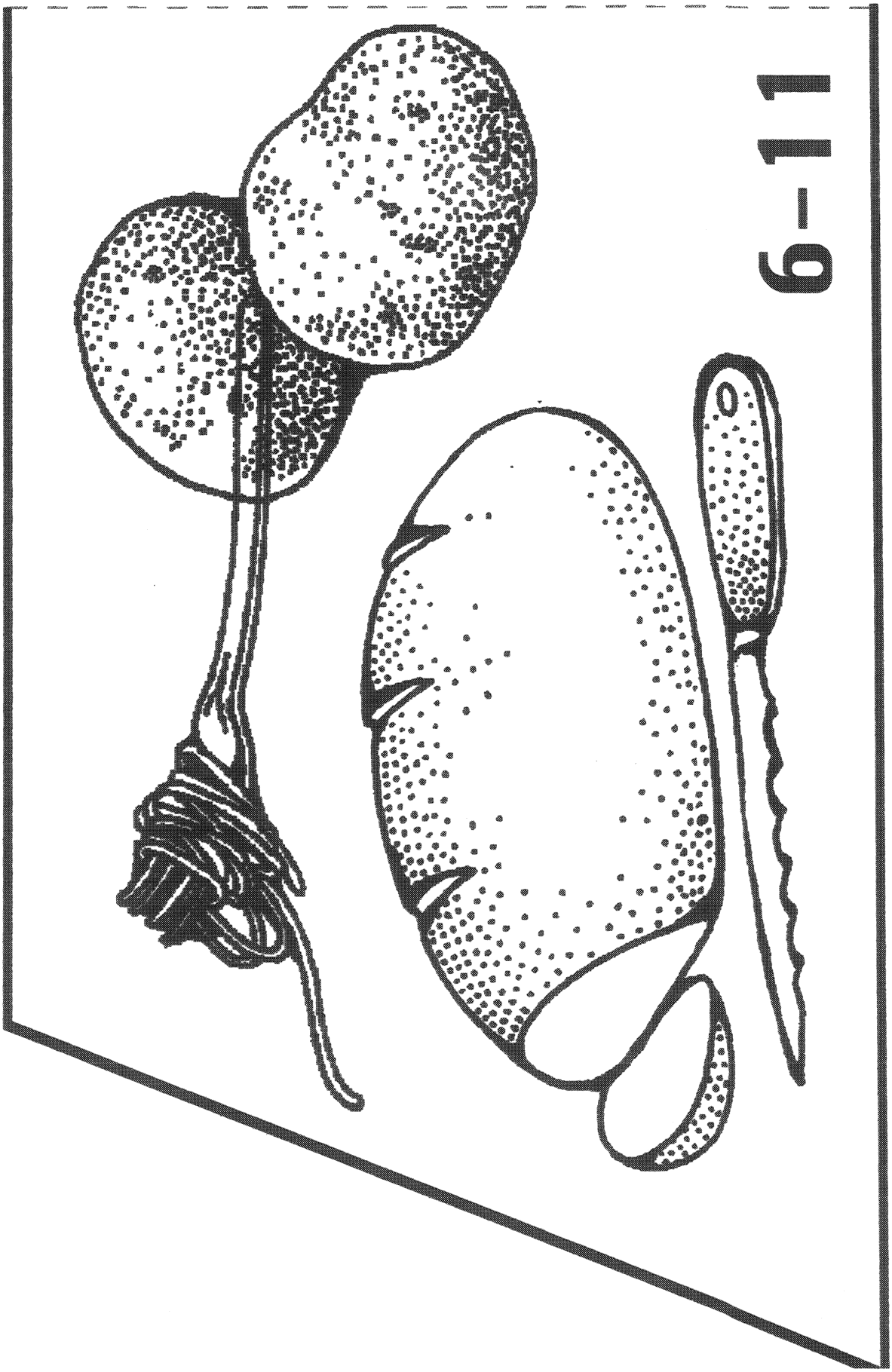

3-5 SERVINGS

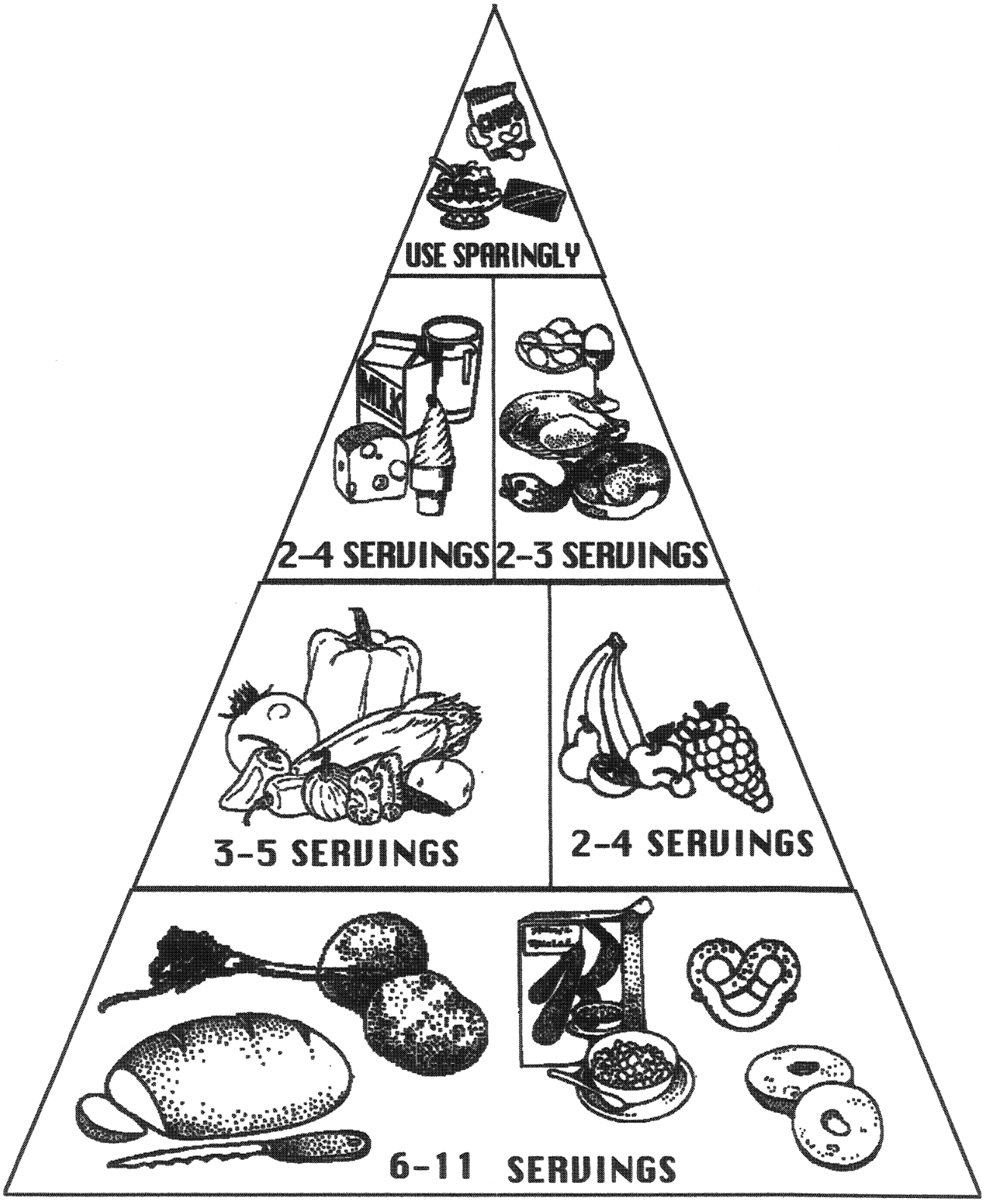

2-4 SERVINGS

SERVINGS






6-11


USE SPARINGLY
MILK
2-4 SERVINGS
2-3 SERVINGS
3-5 SERVINGS
2-4 SERVINGS
6-11 SERVINGS

DISCUSSION GUIDE FOR DIETARY GUIDELINES (TEACHER BACKGROUND INFORMATION)

1. Eat a variety of foods.

VARIETY: A WIDE SELECTION

a. When was the last time you tried a new food?

b. How many of these foods can you identify?

(1) HOMINY: A vegetable similar to corn that is a favorite dish in the southern states; ground hominy is used to make a dish called "Grits."

(2) JICAMA: (he'-ka-muh) A white, crisp, fresh-tasting vegetable grown in warm climates; is frequently eaten with a little lemon or lime juice on it.

(3) ARTICHOKE: A round, green vegetable with tight leaves. The stem is like a thistle and nonedible.

(4) EGGPLANT: A large, purple vegetable that is excellent when sliced and fried in an egg batter.

(5) SHARITAKE MUSHROOM: A very large mushroom that has a delightful flavor and texture; is high in vitamin A.

(6) PLANTAIN: (plan-tane) A fruit that looks like a dwarf banana; is raised in tropic countries; has a texture more like a sweet potato. Needs to be cooked before eating.

(7) MANGO: (mang'-oh) A reddish, yellow tropical fruit that looks like a peach when peeled; is very pleasant to taste.

(8) TOFU: (toe'-foo) A food product that is the highest source of protein of all foods; it is made from soy bean curd and can be used many ways in cooking.

(9) TURNIP: A root vegetable that can be eaten raw or cooked. The flavor is much stronger after cooking; makes a good snack food; is white.

(10) STAR FRUIT: A fruit that is yellowish orange in color and looks like a star when sliced.

DISCUSSION GUIDE FOR DIETARY GUIDELINES - PAGE 2

Although some students may not think these foods sound appetizing, the idea is merely to introduce them to a variety of foods and let them know that there is a whole world of foods available to them. The fruits and vegetables mentioned above are generally available at most supermarkets in the metropolitan areas.

c. It is important to eat a variety of foods because of the different vitamins and minerals they contain. It is impossible to get all the nutrients we need from one or two foods.

d. If we include all of the food groups from the pyramid in our eating habits, we will have a variety of foods in our diets.

e. What are some foods that are available to you that you have not eaten, or foods you haven't eaten for a long time?

OPTION: The teacher might give an extra credit assignment whereby students could earn some points for trying new foods. The students could be required to bring a note from a parent stating the foods tried.

2. Maintain healthy weight.

HEALTHY WEIGHT: A MODERATE WEIGHT FOR A PERSON'S HEIGHT AND BONE STRUCTURE

a. Why is it important to maintain a healthy weight?

b. Discuss the importance of regular exercise, the problems of being overweight, and the dangers of anorexia and other eating disorders that are pertinent to your class.

c. People should maintain a healthy weight in order to have optimum health and avoid high or low blood pressure, fats and cholesterol, diabetes, heart attacks, strokes, etc.

d. What are some things you should be doing now to maintain a healthy weight?

DISCUSSION GUIDE FOR DIETARY GUIDELINES - PAGE 3

3. Choose a diet low in fat, saturated fat, and cholesterol.

SATURATED FAT: **FATS WHICH ARE SOLID AT ROOM TEMPERATURE; USUALLY OF ANIMAL ORIGIN**

POLYUNSATURATED FAT: **FATS WHICH ARE IN A LIQUID STATE AT ROOM TEMPERATURE; USUALLY OF VEGETABLE ORIGIN**

CHOLESTEROL: **FAT-LIKE SUBSTANCE FOUND IN LARGE AMOUNTS IN SOME FATS IN THE DIET**

a. Display a variety of fats—shortening, oils, margarine, butter, etc.

Identify the "saturated" fats and explain that these are the types of fats that should be avoided as much as possible. Saturated fats are generally solid at room temperature. They include fats of animal origin plus palm oil, coconut oil, and cocoa butter found in chocolate. These fats can cause our bodies to form a fat-like substance in the arteries called cholesterol. It can cause health problems such as high blood pressure, heart attacks, clogged arteries, etc.

Identify the "polyunsaturated fats" and include one that has been hydrogenated. Polyunsaturated fats are liquid at room temperature and are usually fats of plant origin. These are the healthiest fats for us to consume. Examples of polyunsaturated fats are corn oil, vegetable oil, peanut oil, safflower oil, and olive oil. The specific oils which have the lowest cholesterol forming properties include safflower oil, sunflower oil, corn oil, vegetable oil, and peanut oil.

However, in some products, polyunsaturated fats have stearic acid added to partially or completely solidify fat for use in margarine or vegetable shortenings. This chemical treatment of adding stearic acid can work in the body like saturated fat and can cause our bodies to form cholesterol.

b. Fat is fat—one gram of any kind of fat equals nine (9) calories. Fats are the most difficult type of food for our bodies to eliminate.

c. Have students identify foods high in fat, then identify a healthier version of the same food, or a good substitute.
For example: Food high in fat = French fried potatoes;
Healthier version = baked potato.

DISCUSSION GUIDE FOR DIETARY GUIDELINES - PAGE 4

d. Let students brainstorm ways of avoiding fats in their diets. Some suggestions are:

(1) Eat lean meat, such as fish and poultry.
(2) Eat dry beans and peas (legumes).
(3) Eat eggs and organ meats (such as liver) in moderation.
(4) Limit intake of butter, cream, and saturated fats; use lowfat dairy products.
(5) Trim excess fat from meats.
(6) Broil, bake, or boil rather than fry foods.
(7) Read labels to avoid excess fats.

4. Choose a diet with plenty of vegetables, fruits, and grain products.

STARCH:	**ONE FORM OF CARBOHYDRATES; A GRAIN OR GRAIN PRODUCT**
FIBER:	**A FOOD COMPONENT WHICH CONTRIBUTES NO NUTRIENTS OR CALORIES BUT IS A NECESSARY AID TO DIGESTION**
CARBOHYDRATES:	**SIMPLE = SUGAR** **COMPLEX = STARCH**

a. What do you think of when you hear the words "fiber" or "starch"? "carbohydrates"?

b. Identify foods that are high in fiber and/or in starch and/or carbohydrates. (Fiber denotes nondigestible parts of plant foods; starch denotes foods from grain products; carbohydrates denotes foods high in starch and sugar.) These foods supply you with energy and provide bulk in your diet.

c. Fiber is important to the body because it helps the digestion process.

d. Give examples of ways to increase starch and fiber in the diet:

(1) Eat fresh fruits and vegetables. (fiber)
(2) Add fibrous ingredients to other foods. Try whole wheat pasta or oatmeal rather than refined white flour. (starch)
(3) Eat more green salads. (fiber)
(4) Add dry beans or peas to diet. (starch)

DISCUSSION GUIDE FOR DIETARY GUIDELINES - PAGE 5

e. Have students list two things they could do personally to increase starch and fiber in their diets.

f. A simple way to illustrate the difference between simple and complex carbohydrates is to put one teaspoon of flour on the tongue of one student, and one teaspoon of sugar on the tongue of another student and have them hold them in their mouth for the class period. The sugar will readily dissolve and go into the blood stream whereas the flour will still be visible on the student's tongue at the end of the class period. This helps students to remember that simple carbohydrates act fast and complex carbohydrates act much slower.

5. Use sugars only in moderation.

SIMPLE CARBOHYDRATE: ANY FORM OF SUGAR

a. Have students identify foods they think are high in sugar.

b. Display the following foods and have students identify which of them contain sugar: bread, catsup, Vienna sausages, tomato soup, wheat snack crackers, Cheerios, candy bar. Then explain that all of these foods contain sugar.

c. Many foods have hidden sugar in them. This means that you don't expect them to contain sugar. Any word on a label that ends in "ose" means sugar—lactose, glucose, fructose, etc. Also, words like corn syrup, honey, etc.. refer to sugar.

d. Using food labels, have students identify foods that have sugar listed as one of the top three ingredients. Explain to students that sugar is found in many unexpected places, and it is their responsibility to be aware of what they are eating. Most canned or packaged food items purchased at the grocery store have had some form of sugar added to them.

e. What are some good substitutes for highly sugared foods?
(Healthier alternatives are fresh fruits and vegetables.)

f. Why should we avoid too much sugar in our diet?
(Dental caries, possible weight problems, etc.)

DISCUSSION GUIDE FOR DIETARY GUIDELINES - PAGE 6

6. Use salt and sodium only in moderation.

SODIUM: (SODIUM CHLORIDE) THE SCIENTIFIC TERM FOR TABLE SALT

a. What is the most salty food you can think of?

b. Sodium (sodium chloride) is the technical term for table salt. It is found in many foods.

c. Using the food labels, have students identify foods which contain sodium.

d. Some common foods which have high amounts of sodium are beverages, processed foods, soy sauce, monosodium glutamate (MSG), condiments, sauces, pickled foods, sandwich meats, baking soda and baking powder, and medications.

e. Suggestions for limiting salt intake include:
   (1) Cook with small amounts of salt.
   (2) Don't put salt shaker on the table.
   (3) Avoid obviously salty foods.
   (4) Read labels.

f. Why is it important to limit our sodium (salt) intake? (Excess salt in the diet can cause you to gain weight and/or increase your blood pressure.)

7. (If you drink alcoholic beverages, do so in moderation.)
Teenagers should avoid alcoholic beverages.

MODERATION: AVOIDING EXCESS OR EXTREMES

a. Teenagers should avoid using alcoholic beverages for many reasons. Not only is it illegal for teenagers to use them, it can also be physically and emotionally damaging to young people. Their bodies are not mature enough to handle the affects of alcohol.

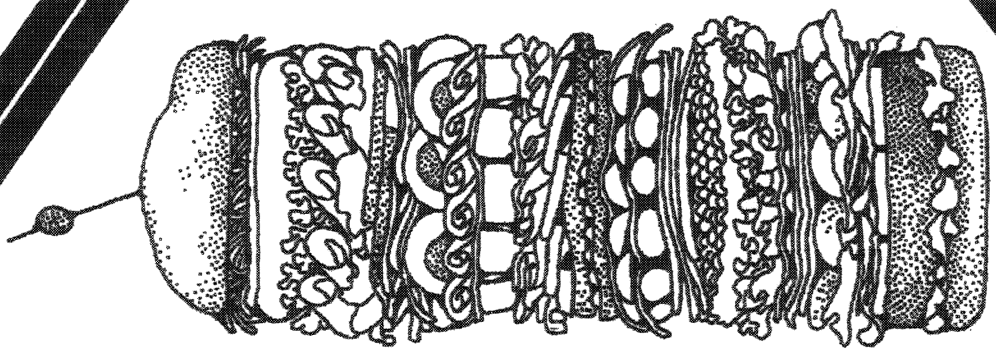
b. Peer pressure for drinking alcoholic beverages can be tough as a teenager.

c. As an adult, if you choose to drink alcoholic beverages, it is important to always do so in moderation and that you not drive after you have had a drink.

DISCUSSION GUIDE FOR DIETARY GUIDELINES - PAGE 7

d. Alcoholic beverages are high in calories and low in nutrients; therefore, heavy drinkers frequently develop nutritional deficiencies.

e. Consumption of alcoholic beverages by pregnant women may cause birth defects or other problems during pregnancy.

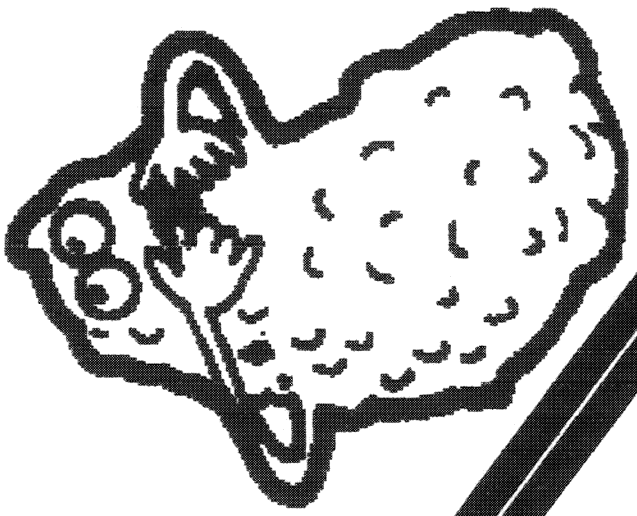


EAT A VARIETY OF FOODS


MAINTAIN
HEALTHY
WEIGHT

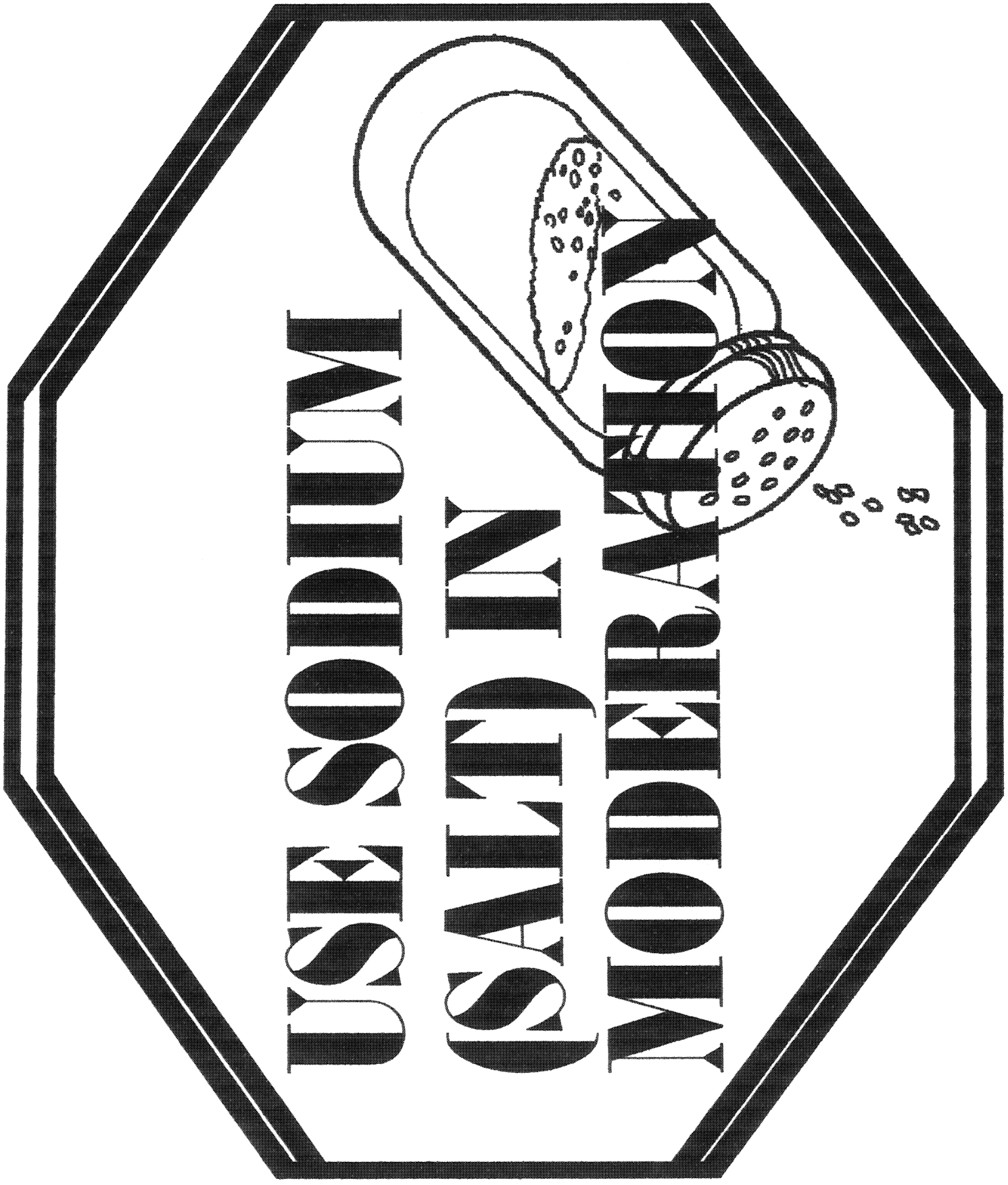
CHOOSE A DIET LOW IN FAT

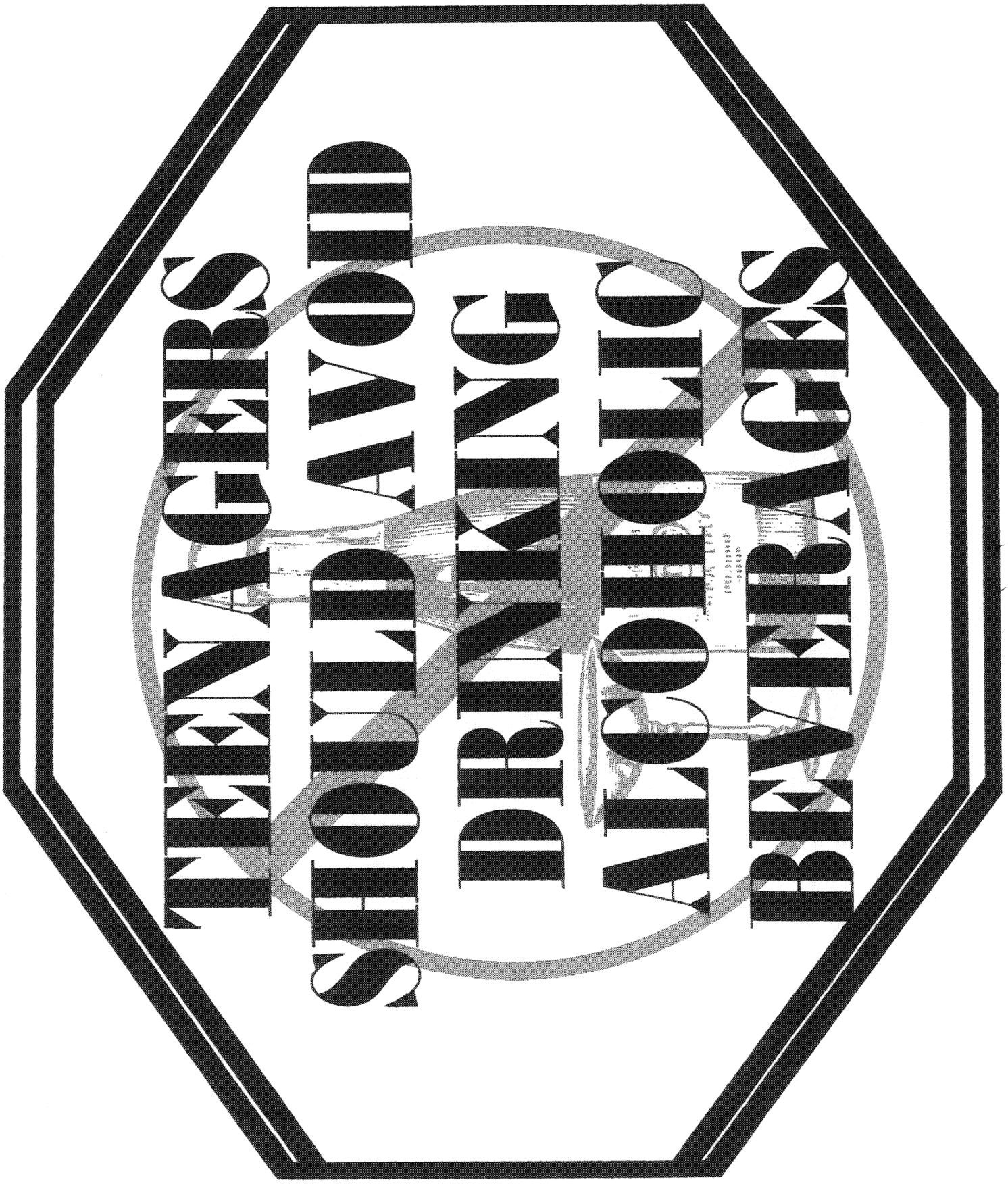
SATURATED, UNSATURATED, AND/OR CHOLESTEROL




EAT FOODS
WITH
ADEQUATE
STARCH
AND FIBER


USE SUGAR
IN MODERATION
COOKIES
CHOCOLATE


USE SODIUM
SALTED IN
MODERATION


TEENAGERS
SHOULD AVOID
DRINKING
ALCOHOLIC
BEVERAGES

VARIETY

A WIDE SELECTION

HEALTHY WEIGHT

A REASONABLE WEIGHT FOR A PERSON'S HEIGHT & BONE STRUCTURE

SATURATED FAT

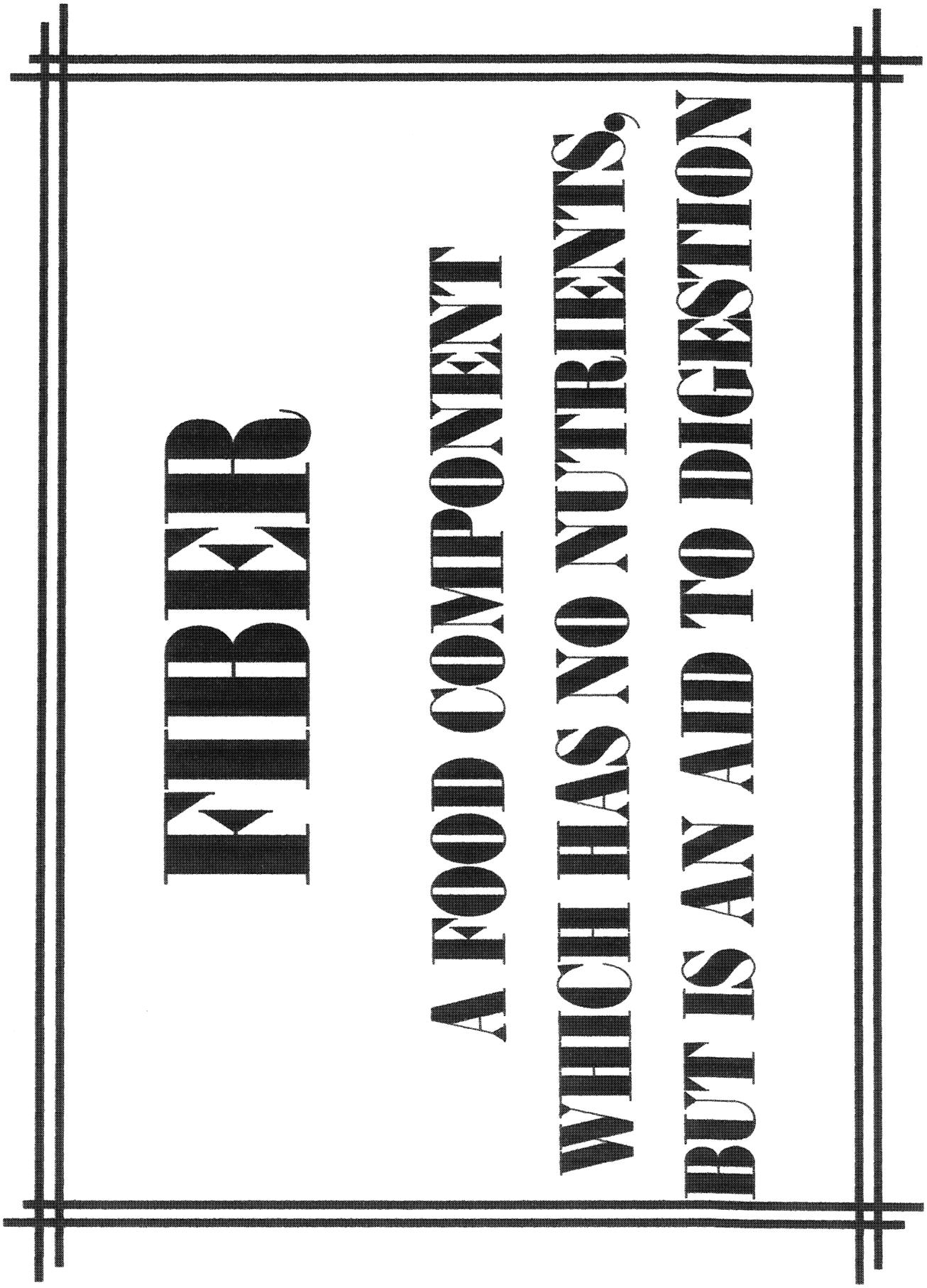
FATS WHICH ARE SOLID AT ROOM TEMPERATURE; USUALLY OF ANIMAL ORIGIN

POLY-UNSATURATED FAT

FATS WHICH ARE IN A LIQUID STATE AT ROOM TEMPERATURE; USUALLY OF VEGETABLE ORIGIN

CHOLESTEROL

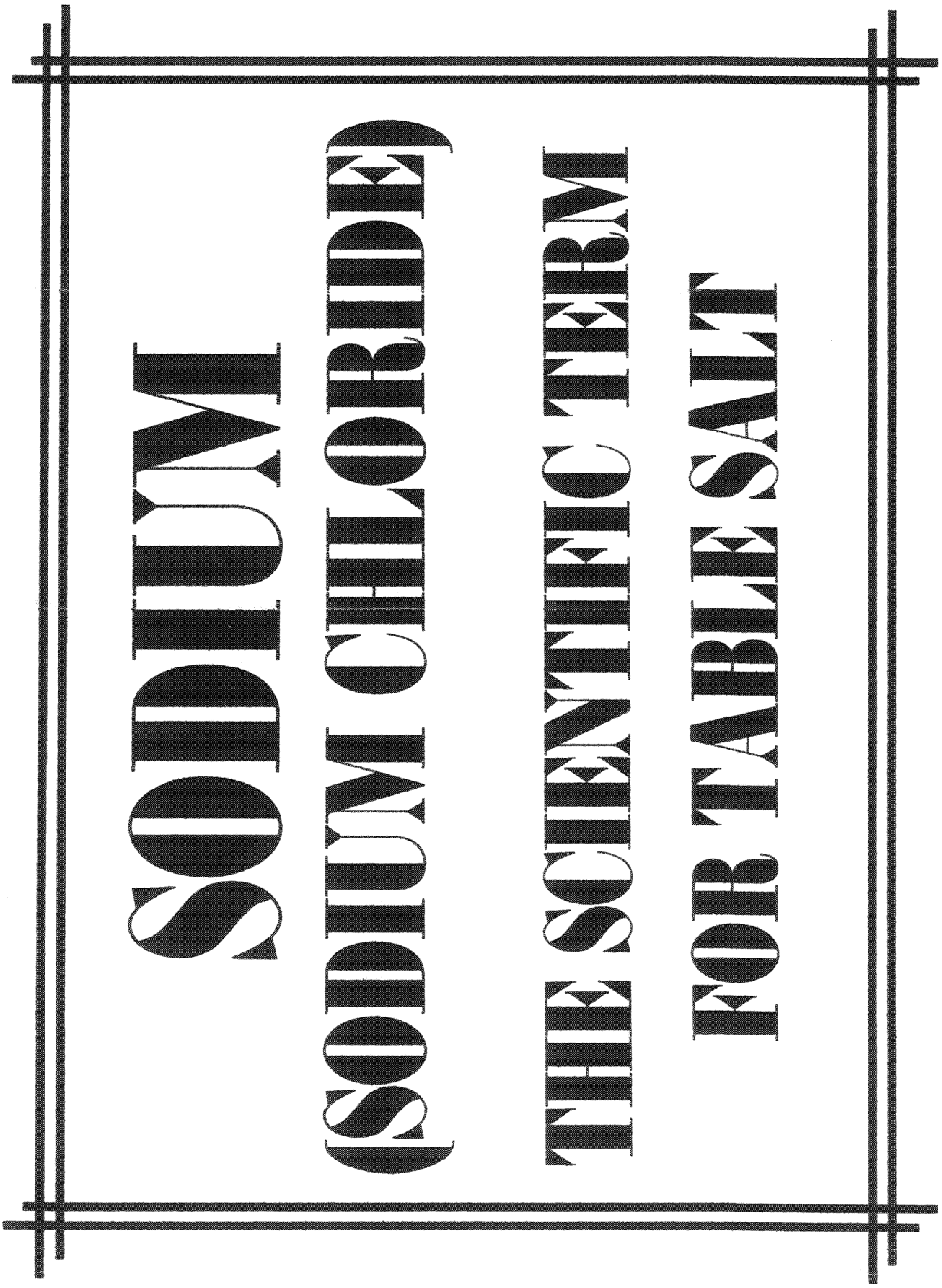
A FAT-LIKE SUBSTANCE FOUND IN LARGE AMOUNTS IN SOME FATS


FIBER
A FOOD COMPONENT
WHICH HAS NO NUTRIENTS,
BUT IS AN AID TO DIGESTION

STARCH

ONE FORM OF CARBOHYDRATES:

A GRAIN OR GRAIN PRODUCT


SODIUM
(SODIUM CHLORIDE)
THE SCIENTIFIC TERM
FOR TABLE SALT

MODERATION

AVOIDING EXCESS

OR EXTREMES

SIX BASIC NUTRIENTS
TEACHER BACKGROUND INFORMATION

The six nutrients needed by our bodies are:

1. CARBOHYDRATES
2. PROTEINS
3. VITAMINS
4. FATS
5. MINERALS
6. WATER

Carbohydrates mainly supply energy. Some examples of carbohydrate sources are potatoes, bread, and spaghetti. There are three different kinds of carbohydrates: sugar, starch, and fiber. Carbohydrates are also categorized into simple or complex groups.

Fats supply two times more energy per gram than carbohydrates. Energy is fuel for our bodies. Fats carry important vitamins to our body. Some foods that have high amounts of fat in them are cheese, French fries, and whole milk.

Protein is in almost everything in our body. Protein is used to build cells and repair cells.
We need more protein when we are growing. Some examples of foods high in protein are meats, nuts, and milk products.

Vitamins help make things happen in the body. Vitamins are only needed in small amounts. There are only 13 different vitamins.

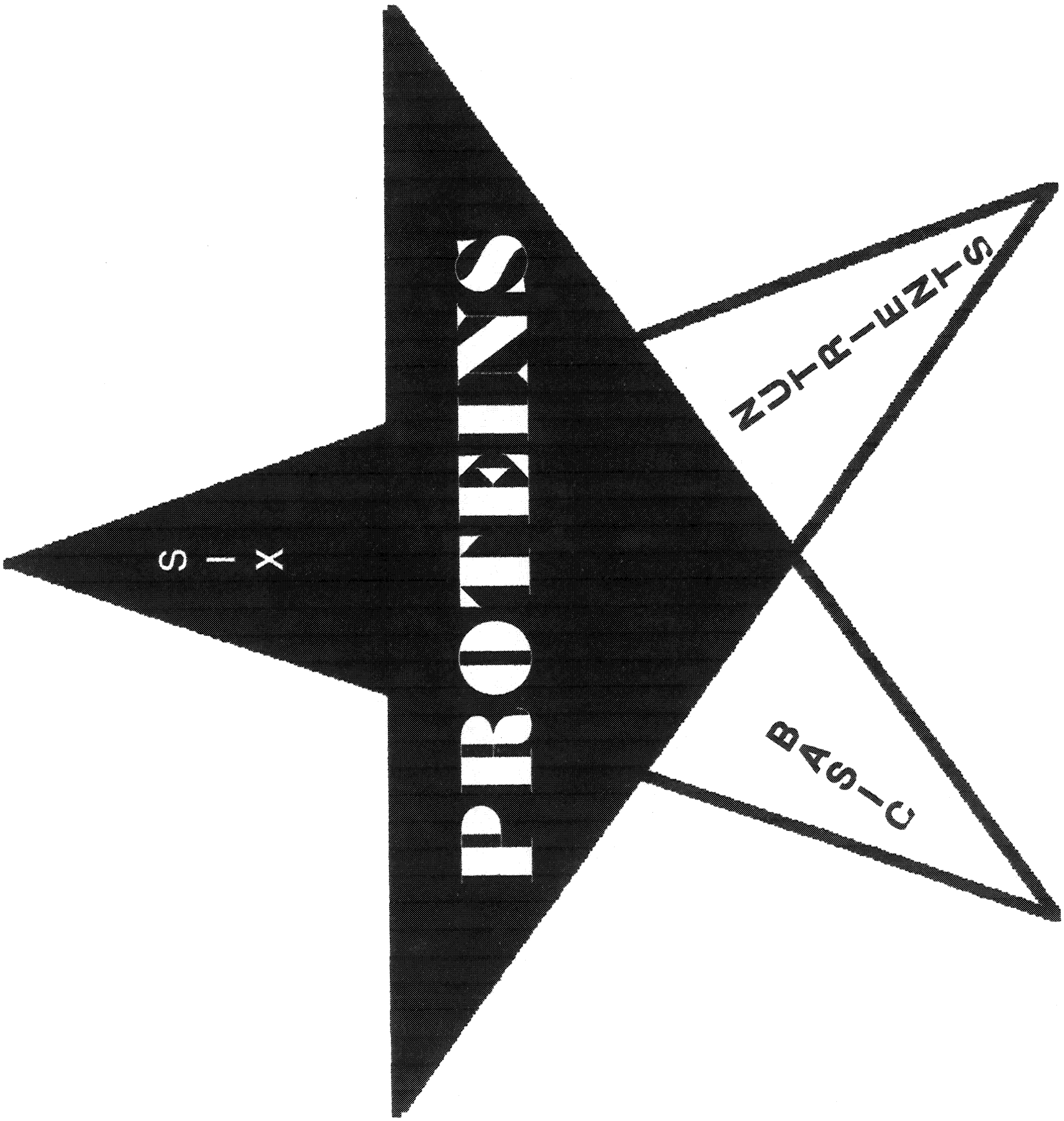
The fat soluble vitamins are A, D, E, and K. Fat soluble vitamins are stored in our body. Vitamin A is found in carrots and dark green vegetables. Vitamin D is primarily from the sun, and large amounts of vitamin K are found in dark green, leafy vegetables, such as artichokes, and gelatin. Vitamin E is found mainly in plant materials. The richest sources are vegetable oils (such as wheat germ oil and cottonseed oil), leafy-green plants and vegetables, and whole-grain cereals.

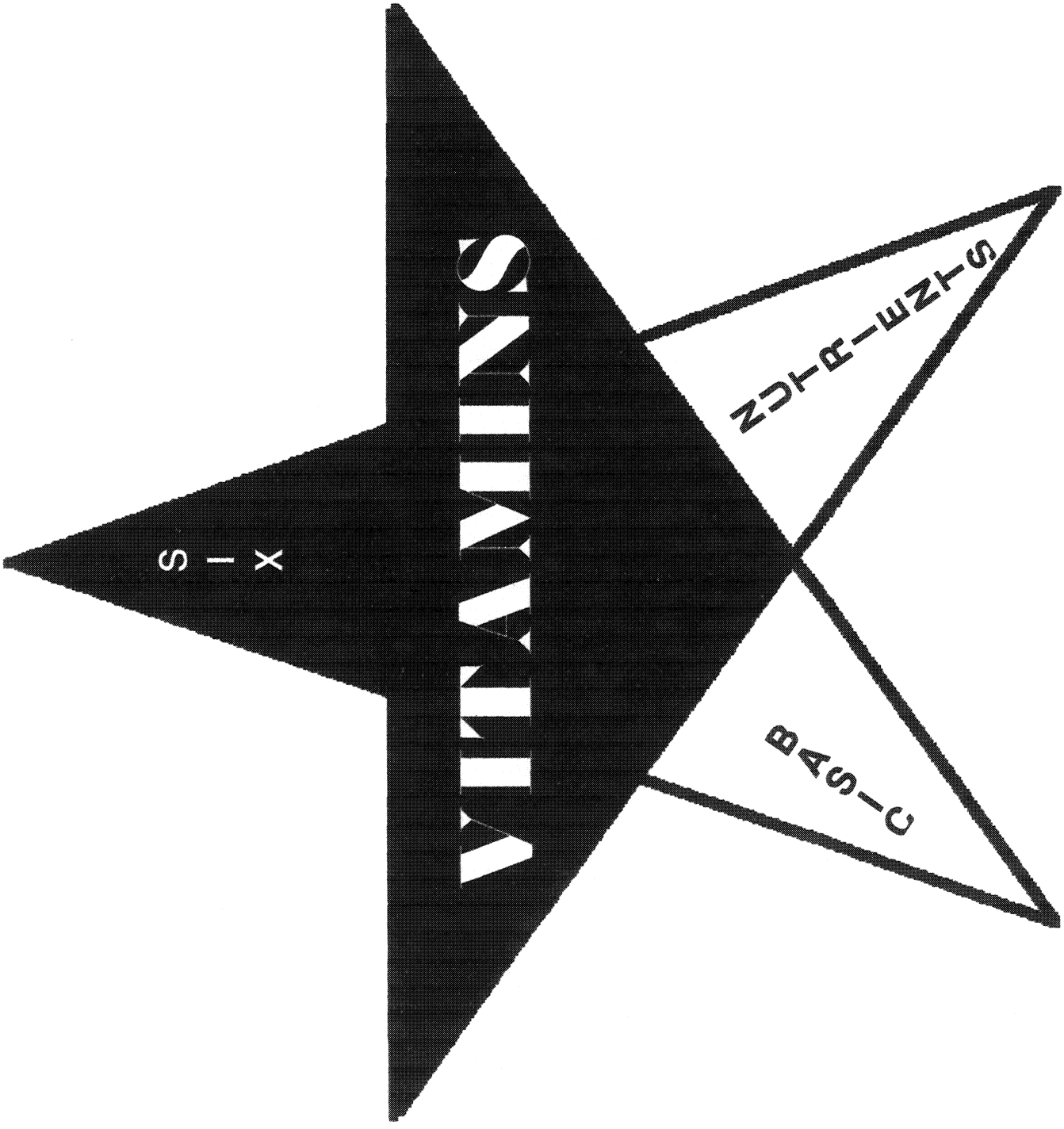
Water soluble vitamins are not stored in our body, so we need to eat them every day. The water soluble vitamins are C, and B Group. Vitamin C is found in citrus fruits and leafy vegetables. The "B" vitamins are found in whole grains and dried beans.

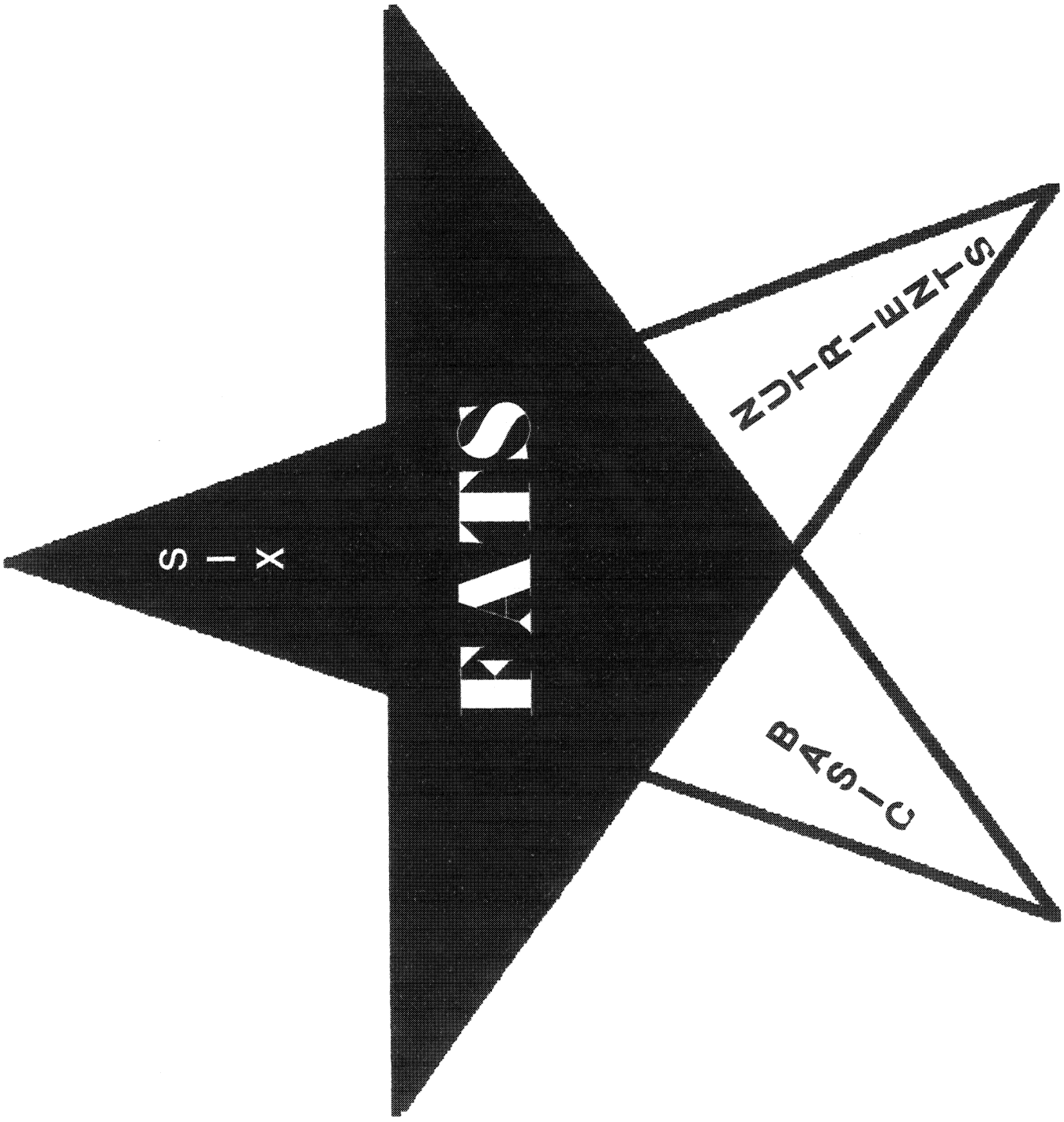
The fifth nutrient mentioned in the video is minerals. Minerals are necessary to regulate the body processes. Some examples of minerals are calcium, iron, and phosphorus.

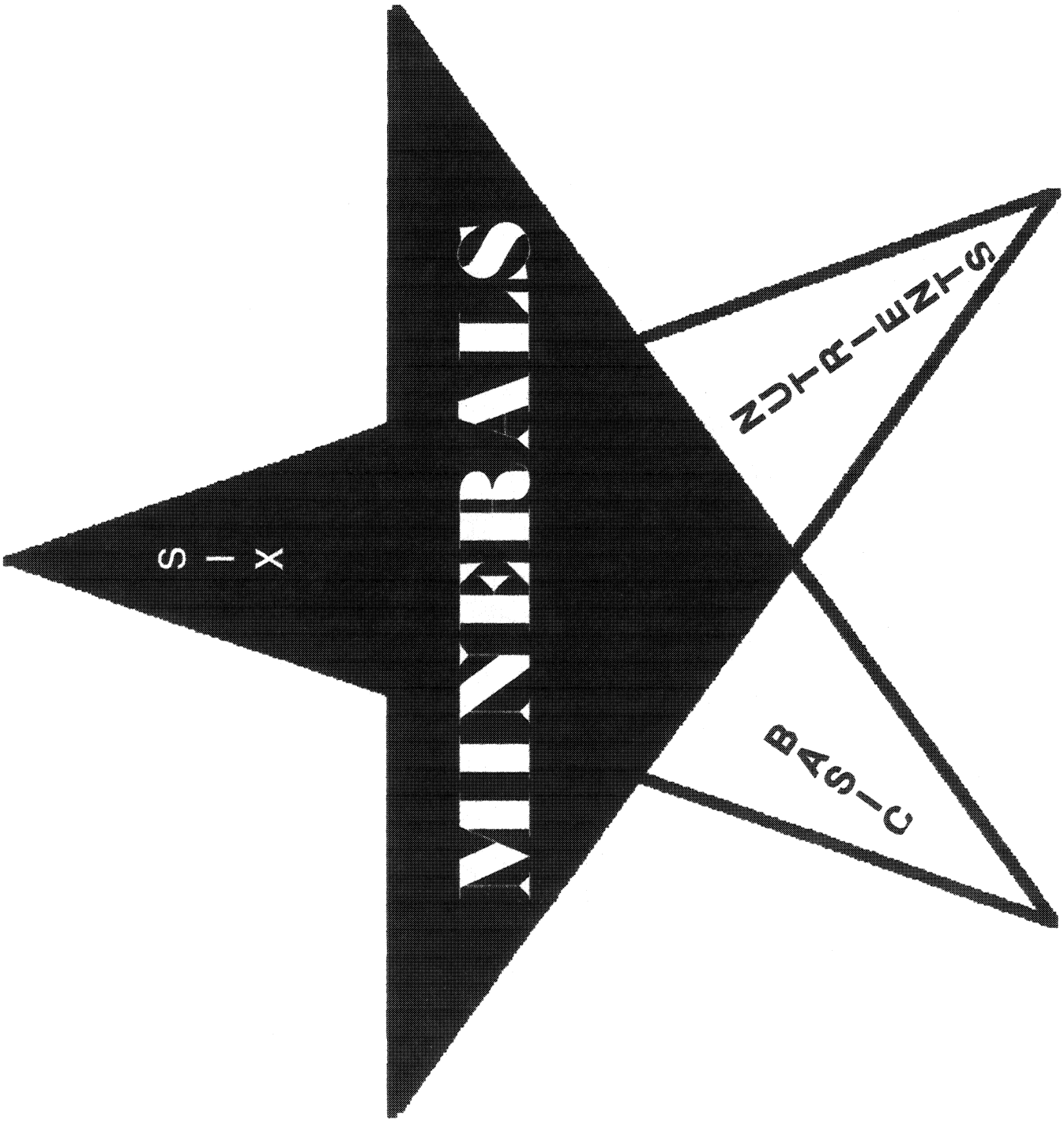
The sixth nutrient mentioned in the video is water. Water is the most important nutrient of all. Without water, and lots of it, our bodies cannot continue to function in a healthy manner.

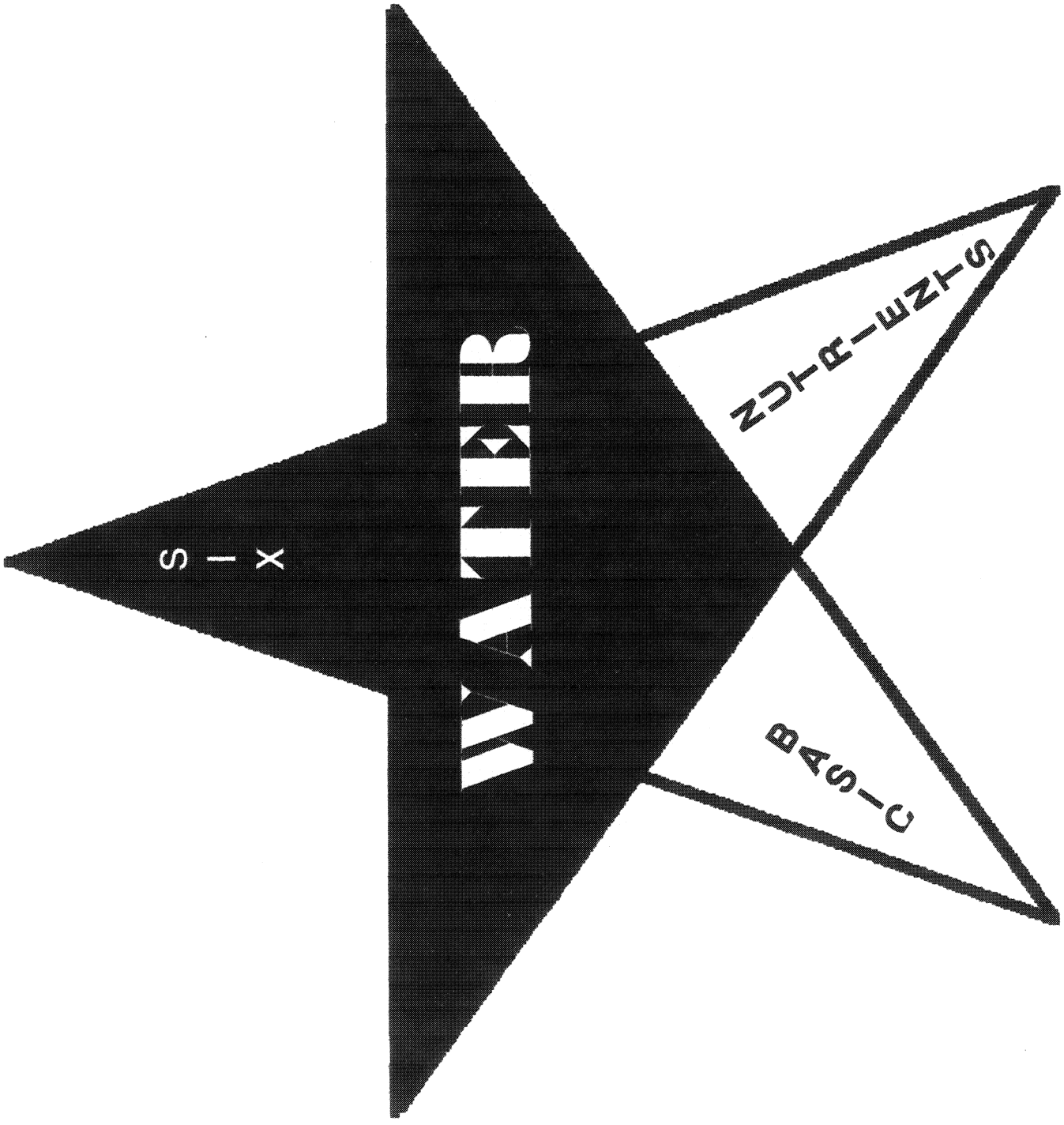

CARBOHYDRATES
S - X
SUGARS
STARCH


SIX
PROTEINS
NUTRIENTS
BASIC


VITAMINS
S - X
SYNTHETIC
BASIC


EATS
S – X


MINERALS
S – X
S-ZM-JF-ZN-S
B-AS-C


WATER
S – X

NUTRITION
STRATEGIES
USE SUGARS ONLY IN MODERATION
CHOOSE A DIET LOW IN FATS
MAINTAIN A HEALTHY WEIGHT
EAT FOODS WITH ADEQUATE STARCH AND FIBER
USE SALT ONLY IN MODERATION
EAT A VARIETY OF FOODS
TEENAGERS SHOULD AVOID ALCOHOLIC
FATS
PROTEINS
WATER
CARBOHY DRATES
VITAMINS
MINERALS
FATS, OILS, SWEETS
SPARINGLY
DAIRY PRODUCTS
2-4
MEATS, NUTS, DRIED BEANS
2-3
GREEN AND LEAFY VEGETABLES
3-5
FRUIT
2-4
BREAD, PASTA, CEREAL (INCLUDES CORN, POTATOES)
6-11

NUTRITIVE VALUES OF POPCORN

TYPE	AMOUNT	CALORIES	PROTEIN	FATS	CARB'S	SODIUM
Plain	1 cup	25	l g	tr.	5 g	tr.
Buttered/ Salted	1 cup	95	1 g	8 g	5 g	153 mg
Buttered/ Unsalted	1 cup	75	1 g	6 g	5 g	68 mg
Caramel	1 cup	270	1 g	8 g	51 g	112 mg
Cheddar Cheese	1 cup	115	4 g	8.5 g	5.5 g	180 mg
Barbecue	1 cup	59	1 g	4 g	5 g	52 mg
Yummy	1 cup	324	4 g	9.5 g	58 g	73 mg

TOPIC #17: Nutrition Strategies *Teacher Resource*

Name _____ Period _____ Date _____

HAVE IT YOUR WAY - TEACHER KEY

Directions: Decide whether the methods of preparing popcorn are helpful (+) or not so helpful (-) in meeting the dietary guidelines we have studied. Place a plus or minus in each of the boxes below.

VARIETY	MAINTAIN HEALTHY WEIGHT	AVOID FATS	STARCH AND FIBER	AVOID SUGAR	AVOID SALT
PLAIN	+	+	+	+	+
SALTED AND BUTTERED	+	-	+	+	-
UNSALTED AND BUTTERED	+	-	+	+	+
CARAMEL	-	-	+	-	-
CHEESY	+	-	+	+	-
BARBECUE	+	-	+	+	+
YUMMY	-	-	+	-	+

1. How would you fix your popcorn if you are concerned about your weight?

   Plain, Barbecue

2. If someone in your family needs to eat less sugar, how might they like a popcorn snack prepared?

   Buttered, Barbecue, Cheesy

3. What does popcorn add to the diet?

   Starch and Fiber