AN EVALUATION OF A NUTRITION EDUCATION PROJECT FOR HOMEMAKERS AND PRESCHOOL CHILDREN

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DIANNE ALAIMO RADIGAN
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ABSTRACT

AN EVALUATION OF A NUTRITION EDUCATION PROJECT
FOR HOMEMAKERS AND PRESCHOOL CHILDREN

By

Dianne Alaimo Radigan

The development and use of innovative techniques to improve food habits are the basic objectives of the North Central Regional Project. Michigan State University is a part of this cross-state project. Previous researchers at M.S.U. developed a series of educational leaflets to be used with low income preschool children and their families. The intent of the M.S.U. project was to reach low income children early, before poor food habits had been established and to increase the food acceptance of the children. An enhancement of parent-child interaction in the food area was also desired in this study. This thesis is an evaluation of the influence of the educational leaflets.

The innovative techniques to change food habits were a series of fourteen educational leaflets developed for use by paraprofessional aides in the Expanded Nutrition and Family Programs (ENFP). The ENFP in two Michigan counties, Genesee and Calhoun, were the source of families for the project. Families already in the ENFP in these counties were randomly selected to participate in the project. Seventy-five families were originally randomly selected to participate

from the aides' lists of families with children between the ages of three and six. Twelve families either moved away or dropped out of the ENFP by the time the study was completed. The final sample was composed of sixty-three families, forty-three experimental and twenty control. Each aide had at least one control and one experimental family. The experimental families were given the series of educational leaflets, approximately two each month; the control families continued to work with their aide but did not receive the leaflets.

The families were interviewed by students at the start of the study to obtain baseline data, and again six to nine months later to assess any changes in attitude, food practices or consumption patterns.

The average family had approximately five members. The head of the household was approximately thirty years old and had approximately 11 years of education. There were essentially no differences between the experimental and control families for these values.

Mean income and grocery expenditures for the control group were higher than for the experimental group both pre and post. The control families were earning approximately $550.00 a month and the experimental families were earning approximately $400.00 a month. Both groups were spending approximately one-third of their income for groceries when the food stamp bonus was included in the analysis. This meant that the control group was getting more groceries per family member than the experimental group.

Analysis of covariance was used to assess changes pre to post between the experimental and control families. Parent-child interaction in the food area and the children's food practices remained essentially the same for both groups throughout the study.

The experimental homemakers were found to be preparing new foods more frequently and the control homemakers less frequently post. The difference was significant ($p < .0256$).

On the basis of the 20 project foods, it seemed that the children were eating and had been eating fairly well balanced diets. There was no change in attitude for any food except asparagus which was rated higher by the control children post. Consumption patterns also remained relatively constant throughout the study; however, the experimental children were eating more carrots post. When the 20 foods were divided into five food groups: breads and cereals, milk products, meat products, fruits and vegetables, no significant change in attitude or consumption was found between the experimental and control children pre to post. The attitude and consumption patterns for all five food groups except fruits remained relatively constant. Both groups of children were eating fewer fruits post; possibly because most of the fruits selected for the study were winter type fruits and the second interviews were conducted in summer and early fall.

Thirty-five out of the forty-three experimental homemakers used at least one of the leaflet sections and twenty-eight out of that thirty-five used at least one recipe. While use of the leaflets was not high, the homemakers who used the leaflets rated them fairly

high in usefulness. Most homemakers found the leaflets very readable and easy to understand.

The aides' opinions of the leaflet usefulness was similar to the homemakers', all aides said they would use the leaflets again if they were available to them.

The aides assistance with the leaflets was influential in the quantity of leaflets and the number of sections used by the homemakers, but not in the homemakers' opinions of the leaflets usefulness. The children's use of the leaflets was positively related to the quantity of leaflets used by the homemakers and to the homemakers' opinions of the leaflets' usefulness.

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CHAPTER I

INTRODUCTION

Realizing the need for an identification of the incidence, magnitude, and location of malnutrition and related health problems in the United States, Congress, in 1967, directed the Department of Health, Education and Welfare to conduct a survey of households to isolate and clarify the problem. The results of the Ten State Nutrition Survey were disheartening. A significant portion of the population was malnourished. It was reported that as the educational level of the main food preparer increased, the nutrition of those in the family under seventeen years of age improved. But, nutritional insufficiencies were not limited to a specific population group. No one group could be segregated out and many in our society seemed to have problems selecting nutritious foods. Education may provide a solution, even if only a partial solution, to the problem.

The desire to improve food habits and, consequently, nutritional status is unquestioned. The methods to effectively achieve this goal, however, have eluded researchers for many decades. Recently, the Agricultural Experiment Stations of the Land Grant Universities in the North Central Region have supported research on changing food habits. There are three major objectives of the regional project:

A. To develop instruments and methodologies to determine personal and social factors related to food choices and eating behavior of selected populations.

B. Based on personal and social factors, devise innovative approaches to change food habits.

C. To determine the effectiveness of various intervention techniques and make recommendations for nutrition programs.

Each participating state has selected a sample population that could be influenced by a series of innovative techniques to change food habits. The techniques were developed by the individual states to suit their sample population. The usefulness of the technique was to be evaluated and those that were effective would be shared and utilized by others.

Previous work in Michigan by Beyer (1972) reports that the preschool years are most important in the establishment of food habits. Sims (1971) found that vegetables were the most unpopular food for the child. She also found that those who had a low score on a nutrition knowledge test and who were of the low income group, had a poorer nutritional status than others. The mothers in these families also did not interact with their youngsters as much as other mothers.

From previous research, then, Michigan decided to develop an innovative technique to improve food habits, having low income families with preschool children as the target population. Changing food acceptance and improving the parent-child relationship in the food area were the major goals of the Michigan study.

The Expanded Nutrition and Family Programs (ENFP), which uses paraprofessional aides under the direction of a home economist

to reach low income homemakers, was the source proposed for the sample. Since initiated in 1969, the Expanded Nutrition and Family Programs has received positive feedback from Prichard and Hall (1971), LiWang and Ephross (1971), and Feaster (1972). It provides a realistic sample population for the evaluation of a technique to improve food habits.

Basen (1974) developed a series of leaflets on fourteen foods, mainly vegetables and fruits. The leaflets contain three types of activities: 1) Educational materials that can be read by the homemaker are provided on the first page. 2) Recipes using the food discussed are included in most of the leaflets. The directions for the recipes include tasks for the mother and child to do together. 3) Games, which relate to foods, are available for the child on the last page. The leaflets are printed on colorful paper and contain many pictures.

The leaflets were pilot tested by being distributed to a group of homemakers in the Expanded Nutrition and Family Programs in Shiawassee County, Michigan with a positive response. Further critical evaluation was needed to assess the usefulness of the leaflets for these families.

The main objectives of this thesis are to evaluate the usefulness of the fourteen educational leaflets to broaden the food acceptance of the preschool child and to improve the parent-child relationship in the food area.

CHAPTER II

REVIEW OF LITERATURE

Nutritional Status in the United States and Trends in Family Food Consumption

During the past twenty years much effort has been directed at identifying the nutritional status of various groups in the United States. The recent Ten State Nutrition Survey (1972) found that "a significant portion of the population surveyed was malnourished or was at risk of developing nutrition problems." The need for specific nutrients varied in severity. Social, cultural, and economic characteristics of the individuals contributed to the situation.

Kelsay (1969) and Adelson (1968) discussed research about the nutritional status of the U.S. population for the past twenty years. They concluded that the U.S. diet was not improving. Comparing data obtained in 1955 and 1968 by the seven day dietary recall and having a "good" diet signify meeting the Recommended Dietary Allowance (RDA) and a "poor" diet signify less than two-thirds the RDA, they reported that in 1955, 60 percent of the sample had "good" diets and 15 percent had "poor" diets, but, in 1968 only 50 percent had "good" diets and 20 percent had "poor" diets.

The U.S. diet is deteriorating and the low income population is suffering most from the situation. The incidence of poor nutrition in the low income population is greater than in higher

income groups. Kelsay (1969) reported that while protein malnutrition is not extensive in the U.S., it is observed in the poorer population. And, Adelson, (1968) stated that 40 percent of those with incomes less than $3,000/year have "poor" diets, or, that there are four times more "poor" diets in the low income group than in the middle or high income groups.

Nutritional status of the poor and of children has been studied throughout the country. Brown et al. (1970) compared low and middle income preschool children in Honolulu. They found that children from low income families had lower vitamin A and significantly lower calcium and vitamin C intakes than children from middle income families. Both groups were low in iron.

Brooks (1972) studied 275 preschool children in western Michigan day care centers. She found iron to be the most limiting nutrient in the children's diets, followed by calcium and then thiamin.

Metheny et al. (1962b) studied the nutritional status of 92 preschool children in Columbus, Ohio. Again, they found iron was the poorest supplied nutrient, and, calcium, energy value and thiamin were low. In this group of children, only one out of five had a diet that met the RDA for all nutrients.

Kerrey et al. (1968) reported on the nutritional status of 40 perschool children from Lincoln, Nebraska. The children were from two economic populations, 20 from middle income families and 20 from low income families. The three day dietary record and urine and blood samples were taken to assess nutritional status of the two

groups. They reported that iron, calcium, and vitamin C were most often lacking in the diets of the children. Mean iron and thiamin intake from food was significantly higher in the low income group, but, urinary nitrogen, creatinine, thiamin, riboflavin, pantothenic acid, and niacin equivalent were higher in the middle income group. This led the authors to conclude that the higher income group of children were better nourished.

Crispin et al. (1968), using the same group of children from Nebraska, compared anthropometric measurements between the two groups of children. They reported that weight, height, circumference of chest, waist, arm and leg, and muscle thickness were all greater in the high income group of children; but, skinfold thickness was greater in the low income group.

Recently a series of studies was undertaken in the North Central Region of the United States. A multi-state, heterogeneous group of children from 2,000 households was studied. The children ranged in age from birth to six years. Using the three day food record, Fox et al. (1968) found that the calcium and phosphorus consumption compared favorably with the RDA, but iron intakes were low. Again using the dietary record method, Fryer et al. (1971) reported that two-thirds of the children received the recommended allowance of calories and almost all of the children received the recommended allowance of protein. The intakes of fat, carbohydrate, and protein did not correlate with income in this sample.

Fryer et al. (1972) discussed the growth patterns of this group of children from the North Central Region. They reported a

positive correlation between weight, height, weight/height, and age to dietary intake of calories, protein, fat, carbohydrate, calcium, phosphorus, iron, and niacin equivalent. They also reported that there is a rapid increase in weight and height in both sexes in the first twelve months of life and then a slower, but linear, increase up to six years.

Beal (1961) reported similar results studying upper middle class children in Denver. She found that in late infancy and early preschool years there is a decreased intake of calcium, phosphorus, iron, vitamin A and riboflavin. But, she reported, in early infancy, and from four to eight years of age, there is a smooth curve with nutrient intake increasing linearly. She concluded that each child tends to maintain a relatively characteristic level of intake.

Food habits across the United States, by all age groups and in all sectors of the country, are not optimum. Poor nutrition may be related to changes in life style.

Lantis (1962) suggested changing patterns of food consumption in the United States were related to the wide acceptance and utilization of the vending machine. She credited it with encouraging piecemeal eating and creating a preference for convenient, inexpensive, less interesting foods. The trend toward fast foods was discussed by Parrish (1971). He stated that increased urbanization, greater mobility and altered style and manner of living change food habits in the U.S. population. Some of these changes which occur and which may cause the decline in nutritional status are: decreased home food production, decreased variety of home prepared foods,

increased snacking and use of convenience foods, meal skipping, price changes, increased dieting and the advent of health foods.

Eppright (1950) found that the frequency of consumption of fruits and vegetables correlated positively with income and that all age groups needed improvement in acceptance and consumption of milk, green and yellow vegetables, citrus fruits, mellons, raw cabbage and tomatoes. But, at that time, the outlook for nutritional improvement of the American diet was very favorable. Stiebeling (1950) felt that the American diet should have improved since food supplies were abundant; transportation, processing and storage were improving; and new developments and technology were constantly providing us with more knowledge about requirements and how to meet them.

Bivens (1969), more recently, discussed trends in food consumption. He reported that in 1965 30 percent of the food dollar was spent on convenience foods compared with 27 percent in 1955. There has been an increase in the consumption of processed potatoes, soups, and ready to eat cereals according to Bivens.

Coltrin and Bradfield (1970) found that the low income population was trying to stretch their food budget by using more canned and dried milk, and more breads, potatoes, rice, and cereal substitutes.

Hendel et al. (1965) stated that the major factors influencing diets were income, urbanization, education of the mother and number of children in the family. With these variables constantly and rapidly changing, food habits must change.

Food Habits and Attitudes of Preschool Children

Rapid physical development and the formation of lifelong food habits during the preschool years were cited by Bradfield and Coltrin (1970) as reasons for special emphasis on good nutrition for the child at that time.

Food preferences are developed for many reasons. Bryan and Lowenberg (1958) discussed several factors that effect food acceptance in children and adults. They were odor, texture, appearance, method of preparation, ease in eating, time required to eat, frequency with which the food is offered, and digestability.

Korslund and Eppright (1967) found that taste sensitivity, a physiological factor, influenced food likes and dislikes of the preschool child. Those children with a low sensitivity to the tastes of sweet, sour, bitter, and salt accepted a greater percentage of foods than children with a high sensitivity to the tastes.

Children's dislike of vegetables has been reported by many researchers. Beyer (1972), Bryan and Lowenberg (1958), Breckenbridge (1959), Dierks and Morse (1965), Zunich and Fults (1969), and Sims (1971) all reported that vegetables were frequently disliked by children. From a U.S.D.A. household survey in which 6,200 persons were questioned, Eagles and Steele (1972) reported that there was a need for greater consumption of fruits and vegetables and for better food sources of iron.

More specifically, Dierks and Morse (1965) in a study of 121 healthy children between two and six years of age, found that meats, fruits, and sweets were the most liked foods; that potatoes,

casseroles, and eggs were disliked but eaten foods; and that spinach, squash, and asparagus were refused foods.

Zunich and Fults (1969) studied 679 low income sixth graders and found that all the children preferred fried foods to baked foods.

Eppright et al. (1969), Metheny et al. (1962a), and Sanjur and Scoma (1971) reported similar results about family patterns of food acceptance. They agreed that foods that were unfamiliar or disliked by the parents were unfamiliar to the child, and, that the child has little choice about the foods he eats until the time he enters school.

Changing Food Habits

"The study of food habits may be defined as the study of the way in which individuals or groups of individuals, in response to social and cultural pressures, select, consume, and utilize portions of the available food supply." NAS:NRC (1945). By improving the nutrition of young children, the mental and physical quality of the entire society will be improved according to Eppright (1970).

Before the food preferences of any group can be altered, the cultural beliefs and habits of that group must be understood and accepted. Niehoff (1969), Lockhard (1954), and Lee (1957) all stressed the need to deal with the cultural factors of dietary choice before habits can be changed.

Physiological needs of the group must also be considered before changes can occur. Blackburn (1970), in discussing the low

income family's problems, argued that it is first necessary to relieve the sense of deprivation and then to try to change poor habits. The White House Conference of Food, Nutrition, and Health (1970) felt that the allocation of food was a top priority item to many in our country, and they recommended that the president declare a national emergency for hunger to make adequate food supplies available for the poor. The conference also stressed the need for programs which supply information to the families, so that they can be made aware of the choices and can act wisely.

Eppright (1947) and Schuh et al. (1967) agreed on several factors which determine food acceptance. Physiological, psychological, biochemical, social, educational, and sensory interactions of the individual were factors which determined food acceptance. These factors should be considered if food habits were to be modified successfully.

Before a food can be accepted by an individual the value of that food must be presented to the individual, whether directly or indirectly. Pilgrim (1957) suggested several criteria for the assessment of the value of a food. They were the nutritional adequacy, cost, ease of preparation, quality, and pleasure the food represents for the individual. Dean (1968) concurred with the criteria proposed by Pilgrim and added the health factor to the evaluation.

Yudkin and McKenzie (1964) expressed concern over the belief that education is the panacea for all ills. They felt that before behavior can be successfully modified, the individual must be aware that there is a problem, he must feel that it has serious

consequences for him, and he must feel that there is some possible solution to the problem. Clark (1944) disagreed with Yudkin's approach and felt that the discussion of food habits should be dissociated from the idea of health and sickness and be simply a means of satisfying the palate. He felt that the health or serious consequences approach should be used sparingly.

Chassy et al. (1967) advocated the use of simplified methods to change food habits. They found highly trained personnel were frequently ineffective since they were often unable to communicate with the general public. Clark (1944) agreed with this philosophy.

Pangborn and Burhn (1971) and Ritchie (1950) agreed that personal contact and the ability to establish confidence were important in the change process.

Norman (1958) found that learning in a group situation was preferable to individual work or lectures. He felt that individual work with the family or in the lecture setting may foster a resentment of authority; but, that the group discussion method is very effective since participation is encouraged. Beavers (1965) disagreed and emphasized the need for personal awareness and understanding. Douglah and Raycraft (1967) agreed that to arouse interest and awareness, especially in low income families, personal contact with the change agent would be needed.

> Studies show that low socio-economic groups are predominately nonparticipants in education programs offered through group methods and mass media. Furthermore, it is fairly well recognized that low socio-economic groups as a whole, and subsistence farmers in particular, place a relatively high

> degree of emphasis on human relationships, i.e. friendliness, helpfulness, neighborliness, and generosity. These relationships can be developed only through face to face personalized interaction.

Some suggestions for fostering good eating habits for the preschool child in the home setting were offered by the National Dairy Council (Nutrition Source Book, 1970). They advocated serving small portions of food and using small manageable utensils, having food at a medium temperature, serving finger foods often, keeping foods lightly seasoned, serving a disliked food in a new way, understanding the "food jags" that the child will undoubtedly have, and finally, setting a good example.

Changing food habits has been the concern of nutrition educators for many years. According to a report by Marsh to the Senate Select Committee on Nutrition and Health in 1973, the need for improving nutritional practices, especially of preschool and schoolage children, was recognized by observing habits such as: limited acceptance of a variety of foods, skipped meals, choices made on the basis of mass media advertising, and substitution of snack foods for a balanced diet.

Byland (1963) and Fox et al. (1970) found that families rely heavily on mass media and lay sources for nutrition education. Byland reported that those homemakers who frequently tried new food products were better educated, had higher incomes, were younger, had more children in the seven to twelve year old range, and were participants in organizations.

Juhas (1970) stressed the need for food education in the day care center. She felt that it was not enough to plan meals that

were scientifically complete; they must also be esthetically and educationally pleasing. Callahan (1971) agreed with the need for education along with the provision of a nutritious meal in the school lunch program. She felt education should be used to help the child learn to select food wisely.

In her statement before the Senate Select Committee on Nutrition and Human Needs in 1972, Leverton disagreed somewhat with the belief that nutrition education will solve poor eating problems. She stressed the need for work with food habits and attitudes, since homemakers already have much more information available to them than they actually use and apply.

Cornely et al. (1963) found that having a school age child in the home did not improve the parent's knowledge about food fallacies.

Glaser (1967) reported more nutritious home snacks in a group of children who received nutritious snacks at a nursery school. She related poor food acceptance in the early years to a lack of familiarity with foods.

Trying to change food habits as well as increase food knowledge in school age children, Whitehead (1952) initiated a nutrition program in Ascension Parish, Louisiana. This program was interrelated with other school activities and continued as a part of the regular classroom schedule for several years. Some examples of activities interwoven into the daily schedule that related to nutrition in this school were: spelling games using words related to nutrition, calculation of percentages and preparation of bar graphs for the food

groups position in the diet, planting and harvesting of school gardens, and preparation of foods. Using the seven day dietary record as a basis, Whitehead found a significant improvement ($p < 0.001$) in the diets of the children each year.

Gray (1972) conducted a nutrition education program with low income mothers. An attitude questionnaire, nutrition and food inventory data, and a 24 hour dietary recall were used to assess the usefulness of an eight week educational program. Gray's program was set mainly in a lecture type of setting with some practical experiences provided. This program was not as successful as Whitehead's in improving food habits and nutrition knowledge. Gray suggested that the short time interval and the need for more repetition and reinforcement were reasons for the lack of success.

Expanded Nutrition and Family Programs

Feaster (1972) described the Expanded Nutrition and Family Programs. It was initiated in 1969 by the United States Department of Agriculture. The main objective of the program is to reach low income families and improve their food consumption practices. Paraprofessional aides work primarily on a one to one basis with the families so that there is much personal contact. The aides are often from the same socio-economic community as the family with which they are working. They are trained by a home economist mainly in the area of foods and nutrition. Subject matter often covered includes: the essentials of nutrients, meal planning, food buying, storage, preparation, serving, and sanitary practices.

Several studies have been undertaken to evaluate the success of this nutrition program. Feaster (1972) found there to be an improvement in the diets of 10,500 families after participating in the program for six months. Those families with the poorest food habits initially, benefited most from the program. Also, those who were in frequent, close contact with their aide benefited more from the program.

Prichard and Hall (1971) studied 76 homemakers and 14 aides in Douglas County, Nebraska for ten months. They found that 66 percent of the homemakers felt they had learned from the aide and 75 percent of the homemakers felt better because of the aide's help. The authors felt that "the indigenous aides were reachable models to the clients."

LiWang and Ephross (1971) reported that the aides increased the level of hope for the families. They also found that the aides felt well trained in the area of foods and nutrition; but, they requested more simplified materials to work with and more training in areas peripheral to nutrition. Knowledge in family planning, money and resource management, and housekeeping should be provided.

Duff (1974) compared homemakers entering the Expanded Nutrition Programs with controls not entering the program and found similar demographic characteristics, nutritional status and nutrition knowledge between the groups. She then reevaluated both groups of families after six to nine months so that an observation of the effectiveness of the Expanded Nutrition Program could be made. As previous workers have found, the group participating in the program showed an improved

nutritional status. Duff also found, however, that the control group improved in the same manner. She suggested that other variables may have entered into the study that were unexpected.

CHAPTER III

EXPERIMENTAL PROCEDURES

Development of Educational Leaflets

Previous studies in Michigan provided information about food habits and characteristics of low income families that was utilized in the development of the leaflets. Sims (1971) reported that there was a pattern of characteristics associated with mothers who were providing their children with less nutritionally sound diets. Compared with mothers who were giving their children more nutritious foods, the mothers of the children with poorer diets were often of the low income population, were authoritarian in their child rearing practices and did not spend much time with their children, had a poor score on a nutrition knowledge test, and had children who consumed very few fruits and vegetables. Beyer (1972), in a longitudinal study, evaluated the diets of elementary school children. She compared diets from their preschool years with diets from their school years. She found few differences and concluded that food habits are established early. Educational materials that would encourage wider acceptance and consumption of foods by low income preschool children seemed desirable.

Communication with the paraprofessional aides, who work with low income families in the Expanded Nutrition and Family Programs

revealed that they desired some simplified materials to be used with their families; materials that would actively involve the families in the learning process. Basen (1974) prepared educational materials to be used by the aides with low income homemakers. This thesis is an evaluation of the usefulness of these educational materials for the homemakers and aides. It is also an evaluation of the effect of the leaflets in changing food acceptance of preschool children, and in improving parent-child interaction in the food area. The educational materials consisted of a series of fourteen leaflets. Each one related to a single food. The leaflets were to be used by the main food prepared in the home and by the preschool child. There were several types of activities included in the leaflets to directly involve the families. Reading materials about the nutritional significance of the food, activities (often recipes) utilizing the food for the mother and child to participate in, and games relating to the food for the child to play provided the basic structure of each leaflet.

The foods selected to be included in the leaflets were mainly fruits and vegetables, since these foods are very often disliked and unfamiliar foods to the child. Important foods from the three other food groups were also included.

The titles of the leaflets and the recipes included in some are: (Appendix C)

Title	Recipe
Make Room for Apples	Applesauce
Breads--'The Staff of Life'	Peanut Butter Bread
A Forest of Broccoli	Braised Broccoli
The Pleasures of Cantaloupe	
Tips about Cheese	Cheese Boats
A Cupful of Corn	Tomatoed Corn
Colorful Cranberries	Cranberry-Apple Crunch
Eggs, Good at any Meal	Scrambled Eggs Butterfly
Don't Forget Fish	Fish and Egg Sauce
The Goodness of Milk	Instant Pudding
Let Some Sunshine in your Life with Oranges	
An Event for Poultry	Giblet Stuffing
It's Time for Winter Squash	Squash-Apple Bake
Tasty Tomatoes	Family Goulash

Selection of Sample

The Expanded Nutrition and Family Program families with preschool children were selected as the sample population since they are mainly low income families who are often in need of nutrition education and food habit improvement.

The ENFP in two Michigan counties, Genesee and Calhoun, were chosen to participate in the program. They were chosen for several reasons: 1) They had not participated in a project of this nature recently; 2) They are located within commuting distance of Michigan State University; and 3) The aides and home economists expressed interest in participating in such a project.

A preliminary orientation meeting was held with the aides and home economists in the two counties. Then, each aide prepared a list of families that she was working with that had preschool children between the ages of three and six years. From each aide's list, families were randomly selected to participate in the program.

Of the families selected, 67 percent were randomly selected to receive the leaflets (the experimental group) and the remaining 33 percent were not to receive the leaflets (the control group). To try and account for aide differences, each aide had at least one family not receiving the leaflets.

The original sample population included 75 families, 50 experimental and 25 control, with 20 from Calhoun County (11 experimental and 9 control), and 55 from Genesee County (39 experimental and 16 control).

Data from one preschool child per family were chosen for the study. If a family had more than one preschool child, data on the two youngest children were collected. The initial data collected were analyzed for differences between the sample including all of the children and the sample including only one randomly selected child per family since it was thought that the data from more than one child per family might skew the results. No significant difference for any variable tested was found. Therefore, only one child per family (75 children) was included in the results. Several families dropped out of the ENFP for various reasons from the time the initial interviews were taken to the time the second interviews were taken, so that 63 children and their families were included in the final analysis.

Interview Schedules and Data Collection

All families participating in the program were interviewed twice. The initial interviews in Calhoun County were begun in

January 1974 and the second interviews were begun in August 1974; the initial interviews in Genesee County were begun in March 1974 and the second interviews were begun in September 1974. All information was collected by an interviewer from Michigan State University; but, an aide accompanied the interviewer into the homes of the families. An explanation of the study was given to the experimental and control homemakers at the initial interviews (Appendix A1). The initial interview schedule contained questions used by all states participating in the North Central Regional Project for changing food habits (NC 108), plus questions pertaining to the Michigan study only (Appendix B1 and B2). The information collected from the NC 108 questions identified certain demographic characteristics and personal factors such as self-perception, life goals, scientific vs traditional attitudes, mood levels, self-indulgence, optimism, health perception, and attitudes and opinions about foods and nutrition. Only the demographic data are reported in this study. For this study the homemaker was asked questions about food acceptance and consumption patterns of the preschool child, parent-child interaction in the food area, and food practices of the homemaker and of the child.

Questions about the fourteen foods discussed in the leaflets (Appendix B2) plus several other foods not included in the leaflets were used to ascertain the child's acceptance and consumption patterns. Total food consumption of the preschool child for the foods selected were established through the use of styrofoam food models to estimate size of serving. Questions previously developed by Beyer (1972)

were used to assess parent-child interaction in the food area, and food practices of the homemaker and of the child. Several additional questions to assess parent-child interaction in the food area and food practices of the homemaker and child were developed by Basen (1974) when no suitable ones could be found from prior research.

All information received from the homemakers was coded and keypunched. Numbers were assigned to each family and to each aide to assure anonymity. Data from the initial interviews with the 75 families were reported by Basen (1974).

After the initial interviews were completed, a time period of six to nine months was allowed before the second interviews were begun. During this time the aides were to work with their families as usual, with the exception of the experimental families. In these families, the aides were to distribute the educational leaflets (two to four each month). If the aide felt it would be beneficial or was needed, she helped the homemaker and the child work through the various sections of the leaflets.

After ten to fourteen of the leaflets had been distributed, the second set of interviews were begun. The interview schedules used at these interviews again included all of the Michigan questions that were asked initially. Questions relating to income, food stamps, and grocery expenditures were collected again to assess any change. For the control families no further questions were asked and they were thanked for participating in the nutrition study. For the experimental families several more questions were asked (Appendix B3). These questions related specifically to the homemakers'

opinions of the leaflets and their recommendations for improvement of the leaflets. The experimental group of homemakers was also thanked for their cooperation in the study.

An interview schedule developed to assess the aides' opinions of the leaflets was given to the aides upon completion of the majority of the second interviews in each county. Again, all data from the second interviews and from the aides were coded and keypunched. Numbers that were assigned to the homemakers and aides initially were retained for the second interviews again to assure anonymity.

Hypotheses and Analysis of Variables

The basic objective of this thesis was to evaluate the usefulness of a series of fourteen educational leaflets for the aides and homemakers in the Expanded Nutrition and Family Program. The usefulness of the leaflets, if found, would be manifest: 1) in improved attitude and consumption of a variety of foods by the preschool child, especially of those foods discussed in the leaflets; 2) in enhanced parent-child interaction in the food area; and, 3) in positive opinions about the leaflets by the aides and homemakers.

Questions asked of each homemaker at the two interviews and of each aide at the final staff meeting were the variables used to measure the effect of the leaflets. Computer programs were developed to test for correlations between variables and for the significance of the correlations. The programs were written by a programmer employed for the study.

To quantify the desired alterations in behavior by the families receiving the leaflets, the variables were analyzed singly and in groups. Frequency counts were obtained for most of the variables. Questions were grouped to provide a broader base of information for the subject in question. The composition of the various groups are shown in Table 3.1.

Basen (1974) reported the frequencies and correlations between variables collected at the initial interview for the entire sample. Analysis of covariance was used to assess differences between experimental and control families at the second interview.

It is hypothesized that if the leaflets were useful to the homemakers and the aides, then all variables described (except demographic data) would improve from the first to the second interview in the families that received the leaflets. The changes that would occur in the control families would be slight and significantly less than the changes for the experimental families.

Table 3.1. Composition of variables.

	Appendix	Item
Demographic data:	(B1 - 5)	Family size
	(B1 - 5)	Sex of head of household
	(B1 - 5)	Age of head of household
	(B1 - 6)	Years of education
	(B1 - 10)	Previous foods or nutrition class
	(B1 - 25), (B2 - 24)	Income
	(B1 - 26), (B2 - 25)	Amt. spent for groceries
	(B1 - 20), (B2 - 26)	Amt. spent for food stamps
	(B1 - 21), (B2 - 27)	Value of food stamps
Food practices of the homemaker:	(B2 - 1,7)	Frequency of preparing new foods and recipes
Parent-child interaction in the food area:	(B2 - 8,10,11,12)	In food preparation
	(B2 - 18,19,22)	In the grocery store
Food practices of the child:	(B2 - 15)	Number of meals eaten away from home
	(B2 - 16)	Number of meals eaten at home
	(B2 - 17)	Type of snacking
	(B2 - 20)	Type of grocery store selections
Food attitudes and consumption of the child:	(B2 - 2,3,4,5,6,9)	General food attitude
	(B2 - a - t)	Specific food attitude & consumption
	(B2 - h,o)	milk group
	(B2 - c,l,m,n,r)	meat group
	(B2 - d,i)	bread & cereal
	(B2 - a,f,k,p)	fruit group
	(B2 - b,e,g,j,q,s,t)	vegetable group
Homemaker's opinion of the usefulness of leaflets:	(B3 - 1)	Leaflet usefulness
	(B3 - 2)	Section usefulness
	(B3 - 3,4,5,6)	Readability of the sections
	(B3 - 1)	Number of leaflets used
	(B3 - 2)	Number of sections used
	(B3 - 3,4,5,6)	Number of sections rated easy to read
	(B3 - 7,8)	Child's use of the leaflets
	(B3 - 11)	Recipes appeal
	(B3 - 11)	No. of recipes used at least once
	(B3 - 11)	No. of times tried the recipes totally
	(B3 - 9)	Aide's assistance with the leaflets
Aide's opinion of the usefulness of leaflets:	(B4 - 1)	Leaflet usefulness
	(B4 - 2)	Section usefulness
	(B4 - 1)	Number of leaflets used
	(B4 - 2)	Number of sections used

CHAPTER IV

RESULTS

Demographic Characteristics

Sixty-three families participated in the nutrition education project to improve food habits; twenty families in the control group, who did not receive the leaflets, and forty-three families in the experimental group, who did receive the leaflets. Initially seventy-five families were to participate in the research; but, from the time of the first interview to the time of the second interview twelve families either moved away or dropped out of the Expanded Nutrition and Family Programs. Demographic information on three control families was unavailable and so they were not included in this part of the analysis.

The average family size for the experimental group was 5.17 ± 2.27 and for the control group was 5.35 ± 1.58 members. The smallest family had two members and the largest had twelve. There was no difference between the experimental and control groups for family size ($p < .42$).

For both the experimental and control groups women acted as heads of the household in the majority of families. The experimental group had 13 men and 30 women as heads of household and the control group had 6 men and 11 women as heads of household.

The age of the head of the household ranged from twenty to sixty-two years with the mean for the experimental being 30.84 with S.D. of 8.41 and for the control being 29.59 with a S.D. of 6.69.

There was no difference between the experimental and control groups for educational level ($p < .12$). Thirteen years of schooling was the most that any of the heads of the household had attained and three years of schooling was the least. The mean educational level for the experimental group was 10.46 ± 2.06 years, and for the control group was 11.59 ± .79 years.

Most of the homemakers had participated in some type of foods and/or nutrition program previously. Thirty-nine homemakers had previous training in foods and/or nutrition and twenty-one did not.

Family Income Variables

The control families had significantly larger incomes than the experimental families at the first interview ($p < .0062$). At the second interview their incomes were still larger than the experimental families' but analysis of covariance showed that the control families' income had decreased and that the experimental families' income had increased, significantly ($p < .0154$). As with income per month, income per family member was significantly larger for the control families initially ($p < .0431$). When the analysis of covariance was used to assess changes in income per family member between the two groups post no significant changes were found (see Table 4.1 for specific values).

Table 4.1. Income money per month and per family member.

	Income/month	Income/family member*
Pre		
Experimental	$400 ± 122	85 ± 30
Control	568 ± 340	113 ± 73
Post		
Experimental	420 ± 150	89 ± 33
Control	529 ± 161	104 ± 36

*Mean ± S.D.

Three values were formed from the raw data to compare the grocery expenditures between the two groups. Values were formed for grocery purchasing power (GPP) or the actual cost for groceries in an average month; and food grocery money (FGM) or the investment of family money for groceries in an average month which includes the bonus value of food stamps. If a family was not on food stamps, the values for GPP and FGM would be the same. Finally, the bonus value of the food stamps was attained by subtracting the value of the food stamps from the money spent for them.

Three variables were formed from these values to measure the differences in grocery expenditures between the two groups. Variable I was the value of FGM per month and of the bonus value of food stamps per month. It was essentially the same for the two groups initially. At the second interview, there was a significant change ($p < .0078$). The control group was spending significantly more than the experimental group for groceries per month and was getting significantly less for food stamps per month (Table 4.2).

Table 4.2. Food grocery money and bonus value of food stamps per month. Variable I.

	FGM/mo.	Bonus/mo.*
Pre		
Experimental	$136 ± 63	48 ± 22
Control	155 ± 56	52 ± 41
Post		
Experimental	124 ± 55	51 ± 24
Control	163 ± 43	39 ± 36

*Mean ± S.D.

Variable II was the percentage of income spent as FGM and as GPP. It was found to be essentially the same for the two groups initially. At the time of the second interview there was a significant difference between the two groups ($p < .0478$). The experimental families were still spending slightly more of their income for groceries but, both were spending a smaller percentage of their income as GPP. The experimental group was spending about the same percentage of their income as FGM as the control but for the experimental group this was a change over their initial values (Table 4.3).

When FGM and the bonus of the food stamps were related to family size for the third variable, no significant differences were found initially between the two groups. At the second interview, though, the control families were sepnding significantly more and receiving less bonus stamps per family member than the experimental families. The probability level was .0005 for the entire variable (Table 4.4).

Table 4.3. Grocery purchasing power and food grocery money per income. Variable II.

	GPP/Income	FGM/Income*
Pre		
Experimental	49% ± 21%	36% ± 20%
Control	46% ± 28%	33% ± 19%
Post		
Experimental	45% ± 18%	32% ± 16%
Control	40% ± 12%	32% ± 09%

*Mean ± S.D.

Table 4.4. Food grocery money and bonus value of food stamps per family member. Variable III.

	FGM/Family Member	Bonus/Family Member*
Pre		
Experimental	$26 ± 7	10 ± 4
Control	30 ± 9	9 ± 6
Post		
Experimental	25 ± 7	11 ± 5
Control	31 ± 6	7 ± 7

*Mean ± S.D.

From the data it can be seen that the control families have had more money per month than the experimental families but that their income has not increased during the interval of this study to the same degree that the experimental families' income has increased. In fact, it has decreased. The bonus value for food stamps was not as high for the control families at the second interview and this decrease in bonus value for the control together with the increase in bonus value for the experimental, equalized the FGM per income.

Food Practices of Homemakers and Children

The variable for the Homemaker's Food Preparation Practices (Table 3.1) was composed of two items on the M.S.U. questionnaire (Appendix B2). Values obtained from question 1, (how often she prepares new foods for her family), and question 7, (when the last time she prepared a new food for her family was) were compiled and tested for differences between the experimental and control groups using analysis of covariance to account for their initial values.

The number of times a homemaker prepared new foods for her family was between weekly and monthly for both experimental and control homemakers pre and post. No significant differences were found between experimental and control homemakers for this individual item. In the initial interview most homemakers reported preparing a new food for her family within the previous month. At the second interview the control homemakers were preparing new foods less often and the experimental homemakers were preparing new foods slightly more often. The difference for item 7 was significant ($p < .0369$) (Table 4.5).

Both items were combined to form the variable, Homemaker's Food Preparation Practices and it was found that the experimental group had improved and was preparing new foods more often than the control group. The difference was significant ($p < .0256$).

The Child's Food Practices variable was composed of items 15, 16, 17, and 20 on the M.S.U. questionnaire (Appendix B2) and pertained to choice of foods at the grocery store and for snacks and to the number of meals eaten at home and away from per week.

Table 4.5. Homemakers food preparation variable, mean scores ± S.D.*

	Item 1	Item 7
Pre		
Experimental	2.51 ± .93	1.67 ± .81
Control	2.55 ± .83	1.80 ± .77
Post		
Experimental	2.77 ± .95	1.51 ± .80
Control	2.55 ± 1.00	2.00 ± .97

*Item 1: 1 = daily; 2 = weekly; 3 = monthly; 4 = six months; 5 = yearly
Item 7: 0 = never; 1 = past week; 2 = past month; 3 = past six months; 4 = past year.

Most of the homemakers reported that their children included snack type foods in their snacks. No difference was found between the experimental and control children pre to post ($p < .68$) for number of food groups from which snack choices were made.

Originally the children were choosing items at the grocery store from about two food groups but at the second interview they were chosing items from only one food group on the average. The cereal group was most often mentioned in the food selections. No significant difference was found between experimental and control children pre to post for grocery store choices ($p < .82$) since both groups decreased their food choices in the same manner.

At the initial interview the children were eating an average of one to two meals away from home per week. At the second interview both experimental and control children were eating about three to four meals away from home per week. The number of meals

eaten at home seemed to stay relatively constant throughout the study because of the nature of the question. It was essentially the same for both groups. Most of the children were eating between 17 and 20 meals at home during the time of both interviews. No significant differences were found for the number of meals eaten at home or away for the experimental and control children pre to post.

The grouping of the individual items just described to form the variable Child's Food Practices, showed no differences between experimental and control children pre to post in their food practices ($p < .73$).

Parent-child interaction in the food area was assessed in questions 8, 10, 11, and 12 (in food preparation) and in questions 18, 19, and 22 (at the grocery store) of the M.S.U. questionnaire (Appendix B2).

The majority of children in both groups helped sometimes but not always in food preparation and in setting up for and cleaning up after a meal. They also helped with the grocery shopping sometimes but not always. The scores for these two groups of questions were consistent and not much different pre to post. No significant differences were found for the preparation score ($p < .16$) or for the grocery store participation score ($p < .87$). When the two scores were grouped to form the variable Parent-Child Interaction, again no difference between the experimental and control groups was found pre to post ($p < .36$).

Children's Attitudes Toward Foods

The child's attitude toward foods in general was assessed in questions 2-6 and 9 on the M.S.U. questionnaire; the child's attitude toward the twenty project foods was assessed in questions a-t on the M.S.U. questionnaire (Appendix B2).

General food attitude was rated on a scale of 1 to 2. One being a negative and two being a positive response. The majority of children averaged between the two both pre and post. After adjusting for the initial variation no significant change was noted between the experimental and control groups of children for their general attitude toward foods ($p < .36$).

Possible scores for attitude toward the twenty project foods ranged from 1 to 4. The higher scores signified positive attitudes toward the foods and the lower scores signified negative attitudes toward the foods. For the individual food items the children in this population were reported to have a favorable attitude (approximately 3.0 or better) toward apples, oranges, cantaloupe, carrots, corn, potatoes, tomatoes, breads, cooked cereal, cheese, milk, eggs, fish, beans, and poultry. Liver and cranberries were liked less well by the majority of children and scored approximately 2.5. Three foods, asparagus, broccoli, and squash, were scored low (2.0 or less) by the majority of children. All scores but one remained essentially the same for the experimental and control groups of children for the entire study. The asparagus score improved significantly for the control group at the second interview ($p < .05$). The twenty foods were

divided into five food groups: breads and cereals, milk products, meat products, fruits, and vegetables (Table 4.6). No differences in attitudes pre to post were found for any of the groups singly or totally. The probability level for differences between experimental and control children pre to post for the twenty food items was .36. Mean attitude scores for the twenty foods can be found in Table 4.7.

Table 4.6. Children's attitude and consumption of 20 project foods, grouped into five food groups; pre and post of experimental and control children.

Food Group	Pre Experimental	Pre Control	Post Experimental	Post Control
Attitude*				
Fruits	3.74 ± .33	3.59 ± .36	3.76 ± .54	3.60 ± .53
Vegetables	3.55 ± .45	3.26 ± .89	3.38 ± .54	3.19 ± .58
Meats	3.53 ± .44	3.62 ± .38	3.61 ± .35	3.40 ± .42
Milk	3.95 ± .21	3.90 ± .31	3.96 ± .17	3.92 ± .33
Bread & Cereal	3.84 ± .36	3.77 ± .34	3.88 ± .36	3.67 ± .44
Frequency per Week				
Fruits	13.86 ± 12.50	12.05± 8.07	8.00± 5.76	9.90± 7.72
Vegetables	9.93 ± 5.43	9.65± 5.26	10.84± 7.65	10.55± 4.62
Meats	7.23 ± 3.12	10.35± 7.85	6.53± 2.86	6.75± 2.86
Milk	24.65 ± 10.14	26.45±12.41	24.44±10.89	27.40±10.07
Bread & Cereal	22.60 ± 8.75	20.30±10.54	19.67± 8.58	18.90± 7.15
Ounces per Week				
Fruits	83.53±101.02	61.85±41.06	44.86±38.37	51.85±51.97
Vegetables	49.46± 41.64	46.10±33.65	51.72±39.85	47.60±28.53
Meats	26.34± 16.32	24.65±20.25	27.30±16.89	23.70±14.05
Milk	159.93± 72.06	164.70±92.82	171.60±80.66	193.35±93.50
Bread & Cereal	60.37± 32.70	44.70±27.38	48.88±33.61	42.35±25.25

*Attitude scores are based on a scale of 4 - 1: 4 = likes very much, 3 = neither likes nor dislikes but will eat, 2 = dislikes, and 1 = refuses to eat.

Table 4.7. Children's attitude and consumption of 20 project foods; mean ± S.D.

Food	Attitude*	No. Servings	Ounces/Week
Breads and Cereals			
Breads			
Pre:			
Experimental	3.91 ± .29	18.67 ± 7.82	26.16 ± 13.74
Control	3.90 ± .31	17.30 ± 9.23	22.15 ± 11.36
Post:			
Experimental	3.95 ± .30	16.72 ± 7.39	24.65 ± 13.47
Control	3.95 ± .22	16.10 ± 5.61	23.80 ± 9.74
Cooked Cereal			
Pre:			
Experimental	3.77 ± .68	3.93 ± 2.94	34.21 ± 30.89
Control	3.65 ± .59	3.00 ± 2.57	22.60 ± 22.33
Post:			
Experimental	3.72 ± .88	2.95 ± 2.46	24.26 ± 26.71
Control	3.20 ± 1.15	2.85 ± 2.45	18.65 ± 20.66
Meat Group			
Beans			
Pre:			
Experimental	3.30 ± 1.86	1.07 ± 1.16	6.42 ± 9.63
Control	3.50 ± 1.10	1.25 ± 3.04	5.95 ± 12.19
Post:			
Experimental	3.44 ± 1.14	.81 ± .66	4.02 ± 5.10
Control	3.05 ± 1.43	.80 ± .89	2.95 ± 3.20
Eggs:			
Pre:			
Experimental	3.72 ± .70	3.12 ± 2.23	8.63 ± 8.31
Control	3.75 ± .44	4.30 ± 2.56	10.70 ± 7.54
Post:			
Experimental	3.74 ± .82	2.86 ± 2.05	8.81 ± 7.75
Control	3.95 ± .22	3.40 ± 2.14	10.30 ± 7.40
Fish			
Pre:			
Experimental	3.63 ± .93	.93 ± .74	4.26 ± 4.74
Control	3.85 ± .49	.30 ± 1.49	5.85 ± 5.85
Post			
Experimental	3.53 ± 1.12	.95 ± .78	5.00 ± 5.35
Control	3.40 ± 1.14	1.00 ± .79	2.80 ± 3.16

Table 4.7.--Continued.

Food	Attitude*	No. Servings	Ounces/Week
Liver			
Pre:			
Experimental	2.65 ± 1.39	.49 ± .51	1.53 ± 2.49
Control	2.60 ± 1.27	1.75 ± 4.22	5.95 ± 7.32
Post:			
Experimental	2.28 ± 1.59	.42 ± .59	1.39 ± 2.66
Control	2.30 ± 1.38	.35 ± .59	.95 ± 1.88
Poultry			
Pre:			
Experimental	3.95 ± .21	1.70 ± 1.14	5.65 ± 4.56
Control	3.50 ± 1.28	1.95 ± 3.22	7.30 ± 12.87
Post:			
Experimental	4.00 ± 0.00	1.58 ± 1.43	8.02 ± 7.67
Control	4.00 ± 0.00	1.35 ± .81	6.90 ± 5.61
Milk Group			
Milk			
Pre:			
Experimental	3.91 ± .43	20.28 ± 8.59	153.53 ± 77.40
Control	3.60 ± 1.23	22.05 ± 11.19	159.60 ± 91.90
Post:			
Experimental	3.93 ± .34	20.23 ± 8.14	165.77 ± 78.80
Control	4.00 ± 0.00	23.10 ± 8.22	186.90 ± 92.11
Cheese			
Pre:			
Experimental	4.00 ± 0.00	4.37 ± 5.16	6.42 ± 6.91
Control	3.80 ± .61	4.45 ± 4.08	5.20 ± 4.26
Post:			
Experimental	4.00 ± 0.00	4.23 ± 4.66	5.81 ± 6.06
Control	3.65 ± 1.09	4.35 ± 4.72	6.45 ± 5.99
Fruits			
Apples			
Pre:			
Experimental	4.00 ± 0.00	5.09 ± 6.80	30.12 ± 41.92
Control	3.95 ± .22	6.50 ± 5.53	36.15 ± 31.37
Post:			
Experimental	4.00 ± 0.00	3.23 ± 3.24	18.30 ± 19.08
Control	4.00 ± 0.00	4.55 ± 5.82	26.00 ± 35.00

Table 4.7.--Continued.

Food	Attitude*	No. Servings	Ounces/Week
Cantaloupe			
Pre:			
Experimental	3.16 ± 1.48	1.53 ± 2.47	2.46 ± 3.47
Control	3.10 ± 1.33	1.50 ± 2.46	3.10 ± 6.38
Post:			
Experimental	3.16 ± 1.56	.51 ± .73	1.51 ± 2.67
Control	2.90 ± 1.48	.35 ± .59	.60 ± 1.05
Cranberries			
Pre:			
Experimental	2.67 ± 1.47	.19 ± .39	.58 ± 1.10
Control	2.60 ± 1.57	.15 ± .37	.45 ± 1.00
Post:			
Experimental	2.44 ± 1.75	.25 ± .85	1.21 ± 3.89
Control	2.65 ± 1.72	.10 ± .31	.45 ± 1.00
Oranges			
Pre:			
Experimental	4.00 ± 0.00	7.12 ± 8.56	50.39 ± 84.48
Control	3.80 ± .89	3.95 ± 3.50	22.15 ± 21.01
Post:			
Experimental	3.91 ± .61	3.93 ± 4.00	23.95 ± 28.73
Control	4.00 ± 0.00	5.00 ± 3.89	24.85 ± 24.76
Vegetables			
Asparagus			
Pre:			
Experimental	1.93 ± 1.62	.28 ± .50	1.02 ± 1.61
Control	1.65 ± 1.63	.35 ± .59	1.05 ± 2.09
Post:			
Experimental	1.74 ± 1.62	.42 ± 2.14	.77 ± 2.44
Control	2.20 ± 1.61	.30 ± .47	.80 ± 1.88
Broccoli			
Pre:			
Experimental	1.72 ± 1.61	.19 ± .39	.67 ± 1.54
Control	1.90 ± 1.77	.35 ± .67	1.30 ± 3.55
Post:			
Experimental	1.58 ± 1.72	.19 ± .59	.91 ± 3.01
Control	1.75 ± 1.55	.20 ± .41	.35 ± .81
Carrots			
Pre:			
Experimental	3.67 ± .89	1.79 ± 1.71	6.77 ± 8.00
Control	3.70 ± .66	2.20 ± 3.04	7.75 ± 12.71
Post:			
Experimental	3.49 ± 1.16	2.37 ± 5.14	8.72 ± 18.70
Control	3.55 ± 1.10	1.30 ± 1.56	5.05 ± 5.08

Table 4

Table 4.7.--Continued.

Food	Attitude*	No. Servings	Ounces/Week
Corn			
Pre:			
Experimental	3.81 ± .76	1.77 ± 1.23	8.42 ± 6.11
Control	3.85 ± .49	1.80 ± 1.00	9.95 ± 8.76
Post:			
Experimental	3.81 ± .76	1.60 ± 1.00	7.35 ± 5.96
Control	4.00 ± 0.00	2.00 ± 1.56	10.35 ± 13.92
Potatoes			
Pre:			
Experimental	3.74 ± .54	3.86 ± 3.47	21.23 ± 27.87
Control	3.55 ± 1.23	3.60 ± 2.44	18.50 ± 16.30
Post:			
Experimental	3.79 ± .71	3.58 ± 2.86	18.77 ± 16.28
Control	3.95 ± .22	3.70 ± 2.05	14.00 ± 13.05
Squash			
Pre:			
Experimental	2.07 ± 1.55	.30 ± .60	1.21 ± 2.97
Control	2.10 ± 1.52	.75 ± 2.15	1.40 ± 4.41
Post:			
Experimental	1.77 ± 1.59	.30 ± .86	2.30 ± 7.94
Control	1.95 ± 1.47	.20 ± .41	.65 ± 1.27
Tomatoes			
Pre:			
Experimental	3.67 ± .78	1.95 ± 2.08	10.32 ± 12.43
Control	3.65 ± .87	2.05 ± 3.03	7.05 ± 8.17
Post:			
Experimental	3.72 ± .80	2.41 ± 3.37	13.00 ± 21.92
Control	3.75 ± .72	3.00 ± 3.39	16.50 ± 25.77

*Attitude scores are based on a scale of 4 - 1: 4 = likes very much, 3 = neither likes nor dislikes but will eat, 2 = dislikes, and 1 = refuses to eat.

Children's Consumption of Foods

The frequency with which food was eaten per week and the number of ounces consumed per week of the twenty foods were assessed in items a-t on the M.S.U. questionnaire (Appendix B2). The foods were evaluated singly and according to the five food groups previously described.

No significant differences were found between experimental and control groups for any variables tested except carrots which were eaten more frequently by the experimental group of children at the time of the second interview (Table 4.6). There were no differences for frequency or amount of any of the five food groups between the experimental and control children because neither group changed much from the time of the first interview to the time of the second interview for breads and cereals, milk products, meat products and vegetables. Both groups were consuming fewer of the fruit items at the second interview.

The bread and milk groups showed similar consumption patterns. Of the foods in the milk group, milk was consumed approximately three times a day with an average serving being about eight ounces; breads were also consumed three times a day with an average serving being one slice. Cheese and cooked cereals were eaten about four times a week with the average serving being about one ounce for cheese and six ounces for cooked cereals.

Of the meat products included in this study three ounce portions of beans and fish were eaten about once a week. Poultry was eaten slightly more often, about 1-1/2 times a week and the average

serving was about the same as for beans and fish (three ounces). Eggs were eaten most often of any of the foods in the meat group at three times a week, one egg was the average portion. Liver, which was the most disliked meat product, was eaten on a monthly or bi-monthly basis, and the servings for this food were very small on the average, about 1-1/2 ounces. There was considerable variation in the amount of liver consumed.

The fruits which were very well liked, apples and oranges, were consumed about three times a week. A whole piece of fruit was most often eaten by the children at one time. Cantaloupe and cranberries were consumed less frequently. They were eaten on a monthly basis with an average serving size being only about one ounce.

Potatoes, carrots, corn and tomatoes were the vegetables that were liked by most children. They were also the vegetables that were consumed the most. Potatoes were eaten between three and four times a week and corn, carrots, and tomatoes were eaten about two times a week. Three to five ounce servings for all of these vegetables was most often reported. Asparagus, broccoli, and squash had often not been tried by the children. They were consumed less frequently than the other vegetables, about once or twice a month, and the servings were often very small, about 1-2 ounces (Table 4.7).

Homemakers' Opinions of Leaflets

Forty-three homemakers received the educational leaflets. Of the 43, eight homemakers did not use the leaflets at all and seven more used several sections of the leaflets but none of the

recipes. Only the opinions of those homemakers who actually used the leaflets are included in this discussion.

In general, those homemakers who used the leaflets rated them high in usefulness. The homemakers' ratings for each leaflet are given in Table 4.8. When questioned about the usefulness of the various leaflet sections, 62.7 percent rated the food information positively (either a 3 or 4), 67.3 percent rated the recipes positively, 34.1 percent rated the parent-child activities positively, and 43.4 percent rated the children's games positively. Just as some leaflets were used more than others, so were some sections used more than others. Of the homemakers, 76.7 percent used the food information, 65.2 percent used the recipes and 60.5 percent used the parent-child activities or games.

Table 4.8. Homemakers opinion of leaflet usefulness. (n = 35)

	Mean Score* ± S.D.	Did Not Use	Cannot Remember
Apples	3.80 ± 1.28	2	3
Breads	3.44 ± 1.43	3	4
Broccoli	3.23 ± 1.78	4	0
Cantaloupe	3.50 ± 1.80	6	3
Cheese	3.63 ± 1.63	5	3
Corn	3.74 ± 1.11	0	1
Cranberries	3.32 ± 1.95	8	3
Eggs	3.58 ± 1.64	5	2
Fish	3.72 ± 1.43	2	4
Milk	3.63 ± 1.57	4	1
Oranges	3.69 ± 1.61	3	4
Poultry	3.61 ± 1.50	3	4
Squash	3.50 ± 1.36	6	1
Tomatoes	3.58 ± 1.36	3	2

*Scored on a basis of 4 = very useful; 3 = somewhat useful; 2 = not very useful; and 1 = not useful at all.

Readability did not seem to be a problem with the leaflets. None of the homemakers rated the food information difficult to read; two rated the recipes and children's games difficult to read; and one homemaker rated the parent-child activities difficult to read.

Approximately half of the children helped with the recipes (41.9 percent) and played the games in the leaflets (55.8 percent). All of the children were said to enjoy helping with the recipes and all but two enjoyed playing the games in the leaflets.

Whether or not the homemakers received help from the aide with the leaflets was left to the aide's discretion. Approximately half of the families had help with the leaflets by the aides (53.5 percent) and all but one family found this desirable.

Fifteen homemakers did not try any of the recipes. The distribution of the homemakers' opinions of each recipe's acceptability and use is presented in Table 4.9. Use of the recipes was not high, in general (except for the corn recipe, less than 50 percent of the homemakers even tried the recipes). Of the families who tried the recipes, most seemed to like them. However, broccoli was disliked by six out of twelve of the families who tried the recipe.

For the most part a recipe was tried once and then not again, although the pudding recipe was used more often and the corn, applesauce, and goulash recipes were tried by at least 20 percent of the families more than once.

Correlation statistics were used to compare variables relating the homemakers' opinions of the leaflets usefulness. Scores were obtained for: 1) general leaflet usefulness, 2) section

usefulness, 3) the number of leaflets used, 4) the number of sections used, 5) the general readability of the leaflets, 6) the number of sections rated as easy to read, and 7) the children's use of the leaflets. These scores became the variables tested for correlations.

Table 4.9. Attitude toward recipes by homemakers, frequencies. (n = 43)

	Did Not Use	Very Good	Somewhat Good	Not Very Good	Not Good At All
Tomatoed Corn	21	13	6	0	3
Braised Broccoli	31	4	2	1	5
Pudding	26	12	4	1	0
Applesauce	28	12	2	0	1
Squash-Apple Bake	36	4	1	1	1
Peanut Butter Bread	25	14	3	0	1
Cranberry Apple Cr.	36	4	3	0	0
Giblet Stuffing	29	7	6	1	0
Family Goulash	22	15	2	3	0
Cheese Boats	33	9	1	0	0
Fish & Egg Sauce	37	2	1	2	1
Scrambled Eggs	30	9	4	0	0

It was found that the leaflet usefulness variable related to the section usefulness (.40), to the number of sections used (.36), to the readability variable (.41), to the number of sections rated easy to read (.40), and to the children's use of the leaflets (.38).

The readability of the leaflets related to the leaflet usefulness variable (.41), to the number of leaflets used (.38), to the section usefulness variable (.38), to the number of sections used (.47), to the number of sections rated easy (.54), and to the children's use of the leaflets (.34).

The children's use of the leaflets related to the leaflet usefulness variable (.38), to the number of leaflets used (.66), to the section usefulness variable (.48), to the number of sections used (.70), to the readability of the leaflets (.34), and to the number of sections rated easy to read (.76).

Aides' Opinions of Leaflets

The aides' opinions of the leaflet usefulness was, on the whole similar to the homemakers'. Of those who could accurately remember, at least 75 percent rated the apple, bread, cantaloupe, cheese, egg, fish, milk, oranges, and tomatoes leaflets as being very or somewhat useful. Table 4.10 contains specific values. All of the aides thought the food information was useful and 80 percent thought the recipes and activities were useful. Each aide said she would use the leaflets again if they were available to her.

Influence of Aides' Help with Leaflets

Of the homemakers who used the leaflets 23 had help from an aide and 12 had no help with the leaflets. To assess whether this help influenced the homemakers, the variables pertaining to the leaflets were analyzed in groups for differences between those who had help and those who had no help.

For the group containing the variables leaflet usefulness, section usefulness, and readability of the leaflet sections, no differences were found totally ($p < .1778$). The majority of homemakers rated the leaflets and sections as somewhat useful and the

Table 4.10. Aides' opinions of leaflet usefulness. (n = 12)

	Mean Score* ± S.D.	Did Not Use	Cannot Remember
Apples	3.60 ± .52	0	0
Breads	3.75 ± .46	0	2
Broccoli	2.50 ± .93	0	2
Cantaloupe	3.57 ± .53	0	3
Cheese	3.00 ± .50	0	1
Corn	3.11 ± 1.05	0	1
Cranberry	2.37 ± 1.30	0	2
Eggs	3.62 ± .52	0	2
Fish	3.14 ± .38	0	3
Milk	3.89 ± .33	0	1
Oranges	3.50 ± .76	0	2
Poultry	2.89 ± .78	0	1
Squash	2.50 ± 1.41	1	2
Tomatoes	3.44 ± .53	0	1

*Scored on a basis of 4 = very useful; 3 = somewhat useful; 2 = not very useful; and 1 = not useful at all.

readability as somewhat easy. Scores were higher in the group that received help from the aide for leaflet usefulness and section usefulness, but not significantly so (Table 4.11). The number of leaflets used, the number of sections used, and the number of sections rated easy to read were significantly higher for those homemakers who had help from an aide ($p < .0451$) (Table 4.11). The child participation variable was also found to be favorably influenced by the aides' help ($p < .0272$).

The total number of times the recipes were tried and the number of recipes that were tried at least once were significantly higher for those homemakers who had help with the leaflets ($p < .0206$) Table 4.12). The aides' help with the leaflets did not influence

Table 4.11. Influences of aides' help on leaflet evaluation by homemakers.

Variables	Aide Helps (Mean Score ± S.D.)	Aide Does Not Help (Mean Score ± S.D.)
Leaflet Usefulness Score*	3.22 ± .48	2.84 ± .54
No. Leaflets Used	9.43 ± 3.23	5.92 ± 4.36
Section Usefulness Score*	3.26 ± .63	2.86 ± .70
No. Sections Used	3.65 ± .71	2.75 ± 1.29
Easiness Score*	3.71 ± .41	3.27 ± 1.53
No. Sections Rated Easy	3.65 ± .71	2.50 ± 1.68
Child's Use of Leaflet**	1.39 ± .58	.83 ± .83

*4 = very easy or useful; 3 = somewhat easy or useful; 2 = not very easy or useful; 1 = not easy or useful at all.

**2 = participated in all activities; 1 = participated in one activity only; 0 = did not participate at all

Table 4.12. Influence of aides' help on recipe evaluation and use by homemakers.

Variables	Aide Helps**	Aide Does Not Help**
Attitude Toward Recipes*	3.47 ± .47	3.48 ± .48
Total No. Recipes Used	12.43 ± 9.85	6.71 ± 6.32
No. Recipes Tried Once	6.33 ± 3.05	4.00 ± 2.71

*4 = very good; 3 = somewhat good; 2 = not very good; 1 = not good at all.

**Mean Score ± S.D.

the homemakers' opinions of the recipes. In general, both groups rated the recipes about 3.5 or slightly better than "somewhat liked."

Comparison Between Homemakers' and Aides' Opinions of Leaflets

Since the aides began the program with an unequal number of homemakers participating in the study; and since several aides had a higher attrition rate than others, direct comparison between each aide's opinion of the leaflets with her homemakers' opinions of the leaflets was not meaningful. (It was originally thought that differences might be meaningful since several of the aides had a large number of homemakers who did not even try the leaflets.) When the total group was compared for correlations between the aides' opinions and homemakers' opinions several interesting relationships were found.

Positive correlations were found for the aides' and homemakers' opinions of the leaflets (.32), for the number of leaflets used by the aides and homemakers (.32), and for the number of sections used by the aides and homemakers (.32). But, the more leaflets the aides used the lower the homemakers rated the leaflet usefulness (.50), suggesting the possibility that the homemakers liked the leaflets better when they weren't deluged with them.

Correlation Between Leaflet Scores and Homemaker and Child Food Scores

Correlation statistics were used to compare the homemakers' food preparation score, and the homemakers' and children's food practice scores with the leaflet scores.

A negative relationship was found between the total number of recipes tried and item 1 on the M.S.U. questionnaire, (which asks about the food preparation by the mother) (-.38) and between the number of recipes tried once and item 1 (-.38). This relationship is logical since a high score on item 1 of the M.S.U. questionnaire would mean the homemaker was preparing new foods for her family less often.

Total number of times a recipe was tried was also related to the frequency of consumption of vegetables pre (.41) and post (.53), and of meats pre (.56) and post (.36). The number of recipes tried at least once was also related to the frequency of consumption of vegetables pre (.39) and post (.47), and of meats pre (.46) and post (.38).

CHAPTER V

DISCUSSION AND CONCLUSIONS

The majority of families in this project had incomes between $4,800 and $6,500/year and spent 40 - 50 percent of this amount for groceries. When the value of the food stamp bonus was taken into consideration they were spending considerably less of their income for groceries, between 32 - 36 percent. These values are still much higher than the national average of 17 percent reported by Bunting (1970). The control families had larger incomes and spent less of that income for groceries than the experimental families. The assistance of food stamps equalized the amount spent for groceries as a percentage of income for the two groups. The control families were spending more per family member for groceries than the experimental families and might have been eating better because of this. Fox et al. (1971) stated that the amount of money spent on food seemed to be more important than total income or educational level of the mother in exerting a positive influence on intake. The experimental families had less money available to spend in the first place, and they may have had to purchase additional foods to make use of the leaflets, foods that may have been unfamiliar or disliked by them. This discrepancy in the amount of money available to experimental and control groups may have had a negative influence on the effectiveness of the leaflets.

The children's food practices did not change much from the time of the first interview to the time of the second interview. They were still eating more snack type foods for snacks and still choosing mainly cereal items at the grocery store. Both groups were choosing fewer items at the grocery store at the time of the second interview compared to the number of choices at the initial interview. The mothers may have been consciously trying to cut back in some way due to the high rate of inflation during this period. Basen (1974) suggested that the type of choices made at the grocery store and for snacks may be the product of television advertising since there is much emphasis on cereals and snack foods in advertising during children's programs.

The majority of children were eating more meals away from home at the time of the second interview. The fact that they were all six to nine months older and that many of the second interviews were conducted in September, may have meant that many were beginning school for the first time and were eating their lunch at school.

Parent-child interaction remained essentially unchanged during the study. Even though the leaflets were designed to increase the children's involvement with food preparation, there was no improvement in this activity in the kitchen or at the grocery store. Both groups of children were still helping sometimes but not always in the kitchen and at the grocery store.

Of the factors that the study was trying to promote, only the frequency that the homemakers prepared new foods for their families improved for the experimental group. The difference between

the two groups was increased since the homemakers in the experimental group prepared new foods slightly more often and the control group prepared new foods slightly less often. Even though the experimental homemakers were preparing new foods more often for their families, their children's consumption patterns did not change much. Their attitude toward foods in general and toward the twenty project foods also remained relatively constant and was the same for both groups. From the information given by the mothers, the children seemed to have a positive attitude toward foods in general. This did not change much throughout the study. For the specific twenty foods in the study, attitude toward a food was often related to consumption, especially in the case of those foods that were disliked by the majority. Vegetables have been reported as disliked by children by many researchers. Beyer (1972), Bryan and Lowenberg (1958), Breckenridge (1959), Dierks and Morse (1965), Zunich and Fults (1969), and Sims (1971) all reported that vegetables were frequently disliked by children. In this study, asparagus, broccoli and squash were not liked by many children at all. This agrees with findings of Dierks and Morse (1965) that squash and asparagus were foods which were refused most often. Liver and cranberries were not liked as well as some of the other foods and consumption of these foods as well as of asparagus, broccoli and squash was less than of the liked foods.

If the consumption patterns of the twenty foods in question is predictive of total patterns of consumption, the children were eating fairly well balanced diets. Others have reported poor intake of certain nutrients in low income children. Brooke (1972), Metheny

et al. (1962b), Kerrey et al. (1968), and Brown et al. (1970) found intakes of iron, calcium, and thiamin to be lacking in their samples of low income children. Low intakes of vitamins A and C in children were also found in the Ten State Nutrition Survey (1972).

The majority of children in the current M.S.U. study were consuming three, eight ounce glasses of milk each day and they were eating about four slices of cheese a week. Their consumption of breads and cooked cereals was good: three slices of bread a day and four bowls of cooked cereal a week were being consumed by most. The meat group seemed to be amply supplied. The children were getting their source of protein from a variety of foods and were making use of low cost types of protein such as beans, poultry, liver and fish. Coltrin and Bradfield (1970) reported that the low income population was trying to stretch their budget. The acceptance and consumption of the low cost protein foods included in the present M.S.U. study would substantiate their findings. This type of food selection may be one of the positive influences of the aide on the families since the aides try to encourage the families to use nutritious low cost foods. While fruits and vegetables were consumed and liked somewhat less well than the other foods, the children were getting about three sources of this food group daily.

It should be remembered that this project only asked about twenty specific foods. There are obviously many excellent sources of nutrients that were not included that could provide a substantial contribution to the children's diets.

Reports of the effectiveness of the Expanded Nutrition and Family Programs have been favorable. Feaster (1972), Prichard and Hall (1971), and LiWang and Ephross (1971) found the aides' teachings were beneficial to the families. The aides may have already been influential in improving the children's diets in the M.S.U. sample since the children seemed to be eating well balanced diets. Further improvement may have been unfeasible. However, it was the intent of this project to improve the children's food acceptance and this was not accomplished since foods disliked at the initial interview were still disliked six to nine months later. Many of the homemakers did not even use the leaflets that contained foods that they or their families did not enjoy. Metheny et al. (1962b) and Sanjur and Scoma (1971) reported that foods that were unfamiliar to or disliked by the parents were also unfamiliar to or disliked by the child. The selective use of the leaflets seems to concur with their reports.

The economic factor also needs to be considered here. If a family has a very limited budget for food, they are not likely to spend part of that budget for foods that they have never tried or that they have tried and disliked. Ritchie (1950) stated that poverty, disinterest and ill health may be obstacles in the way of change. These factors were very much present in the population involved in the M.S.U. study.

In general, the homemakers' opinions of the leaflets' usefulness was high. Those that used the leaflets seemed to enjoy the activities. Many did not use any of the leaflets at all, though, and many more did not try any of the recipes. Pangborn and

Burhn (1971) emphasized the need to include regional and international foods in a project to change or improve food habits. The leaflets did not include any ethnic foods and this may have negatively influenced some of the homemakers toward the leaflets and recipes.

The homemakers reported that the leaflets were very readable, so that this should not have been a reason for not using them.

Disinterest, as Ritchie (1950) states is a definite drawback when working with low income families and may be why so many completely ignored the leaflets.

The children's use of the leaflets was less than the homemakers'. Only about 50 percent of the children did the activities or helped with the recipes in the leaflets. As Sims (1971) reported, low income mothers often did not spend much time with their children. For the child to participate in the various activities, the mothers had to take an interest and interact in a teaching role with their youngsters. This type of interaction may have been completely foreign to the mothers and may have seemed unnecessary and time consuming to them.

The aides were asked to use their discretion for the amount of time they allocated to the leaflets and the amount of help they gave the homemakers. Of the families who used the leaflets, 23 had help with them and 12 had no help. The aides' help positively influenced the quantity of leaflets and sections used and the number of recipes tried but did not influence the homemakers' opinions of the leaflets' usefulness, sections' usefulness, or recipes' appeal. It may be that the aides who used the leaflets the most were trying

too hard to make the leaflets useful and the homemakers reacted negatively. This may explain why the aides' use of the leaflets was positively correlated with the homemakers' use of the leaflets but negatively correlated with the homemakers' opinions of the leaflets.

Limitations of Present Research

1. Expecting significant changes may have been unrealistic since the aides were working with both groups and have many resources to offer both. While the control families did not have access to the leaflets they were still getting the aides' knowledge and skills which may have been improved from their work with the leaflets.

2. The accuracy and honesty of responses for many items on the interview schedules can be questioned. Such is the nature of human research.

3. The inclusion of familiar, ethnic type foods may have been desirable.

4. Expecting the family on a limited income to purchase foods unfamiliar to or disliked by them may have been unrealistic.

5. The aide's presence at the interview may have influenced the responses of the homemakers.

Summary and Conclusions

A series of fourteen educational leaflets were used by families and aides in the Expanded Nutrition and Family Program in Genesee and Calhoun Counties of Michigan. The leaflets were designed to enhance parent-child interaction in the food area and increase the

preschool child's acceptance of foods. Sixty-three families participated in the program: forty-three received the leaflets and were the experimental group, and twenty did not receive the leaflets and were the control group.

Differences in income levels and grocery expenditures were observed between the two groups such that the control group had significantly higher incomes than the experimental group, spent about the same percentage of their income as FGM, but spent more per family member at the grocery store. There was an income difference of approximately $150.00 per month between the two groups.

Educational level, age of the head of the household, and family size were the same for the two groups. The average number of years of school completed was approximately 11; the average age of the head of the household was about 30 years; and the average family size was about five members.

No changes were found for the variables Parent-Child Interaction or Child's Food Practices so that the children were not interacting more at the time of the second interview with their parents than they were at the time of the first interview. The children were also making about the same number of choices of foods for snacks and were making slightly fewer choices at the grocery store.

The Homemakers' Food Preparation variable showed the experimental homemakers to be preparing new foods for their families more frequently and the control homemakers less frequently at the time of the second interview. This difference was significant ($p < .0256$).

The children's attitude toward foods in general remained unchanged throughout the study and was relatively good. The children's attitude toward the twenty foods was positive for all but asparagus, broccoli and squash. Their attitude toward liver and cranberries was slightly lower than the remaining fifteen foods included in the study. The control children's attitude toward asparagus improved significantly by the time of the second interview.

For the most part, consumption patterns paralleled attitude toward the foods. The frequency and ounces of food consumed per week did not change pre to post but did improve in the experimental children for carrots. Also all children were consuming fewer fruits at the time of the second interview. The selection of mainly winter fruits for the project fruits could account for this change since the second interviews were conducted in the summer and early fall. The mean consumption scores suggested that the children were probably meeting their needs as established by the Basic 4 pattern of food consumption. The influence of the aides who stress this pattern of consumption may be present. Only twenty foods were included in the interview schedules so that a complete picture of the children's eating habits is obviously lacking.

The use of the leaflets was not high, only thirty-five out of forty-three families used the leaflets and only twenty-eight out of that thirty-five used any of the recipes. Of those who used the leaflets, most rated them positively. Of those who used the recipes, most thought they were good. The food information and recipes were

rated higher than the parent-child activities or than the children's games.

The homemakers felt the leaflets were easy to read; however, all but one said she appreciated the aide's assistance with the leaflets. The aides helped twenty-three out of the thirty-five homemakers with the leaflets. The aides' help influenced the quantity of leaflets used but not the homemakers' opinions of the leaflets' usefulness. More children worked with the leaflets when the aide helped. Only about 50 percent of the children participated in the leaflet activities, possibly because for them to participate, the mothers had to play and spend time with them.

Motivation definitely was a problem with the families, but once motivated to use the leaflets, they seemed to like them and use them more.

Suggestions for Future Research

1. Introduce the children to new foods in the nursery school setting and have them take home a related leaflet to work through with their parents. The child's motivation and interest may generate more enthusiasm for new foods in the home.

2. Develop leaflets that contain more ethnic foods so that the benefit of these foods can also be understood and appreciated by the children and families.

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APPENDIX A

1. INTERVIEW INTRODUCTION
2. INTERVIEW PERMISSION

APPENDIX A1

INTERVIEW INTRODUCTION

The approach the researcher will use to describe the project and to solicit cooperation and participation of the experimental group of homemakers will be as follows:

"Hello, I am _____, a graduate student from Michigan State University. We want to try something new with the Expanded Nutrition and Family Program. It is especially for families with preschool children. This is something you can participate in but you do not have to. We'd like to give you some leaflets that have information and activities for you and your preschool child."

"Here is an example of one of these leaflets. This one is about _____. As you can see it has some information about _____, and activities for you and your child. If you would like to participate I will give you a leaflet and then, (aide's name) will give you other leaflets when she visits you at home."

"Also, I have some questions I would like to ask you about your family's food practices. What I am interested in is really just how you feel about certain things. You can be sure the information you give me will be kept confidential. I do not even intend to put your name on it--just a number. Do you have any questions?"

"After you have been given all the leaflets someone will be interested to find out how you like these leaflets. Would you like to participate in our project?" (If yes, continue)

"I need to prove to my supervisor that I was here and that I have your permission. To do this I'd need to read you these statements (read permission slip). Since you would like to participate would you please sign here? The aide will be signing it, too."

The control group of homemakers:

"Hello, I am _____, a graduate student from Michigan State University. We are interested in getting information about food preferences and attitudes about young children that we will combine with other information from other states. We would like very much for you to contribute to this inforamtion but you don't have to."

"You can be sure the information you give me will be kept confidential. I do not even intend to put your name on it--just a number. Do you have any questions so far?"

"We are not only interested about your current situation but also anticipate coming back in about six months to see if anything has changed. Would you like to participate in our project?" (If yes, continue)

"I need to prove to my supervisor that I was here and that I have your permission. To do this I'd need to read you this statement (read permission slip). Since you would like to participate would you please sign here? The aide will be signing it, too."

APPENDIX A2

INTERVIEW PERMISSION

Permission--Proof of Home Call

The Food Attitude Survey has been explained to me.

I am willing to participate in the project. I understand that there is no obligation to stay in the project. I understand that I will be interviewed now and again after a 6 to 9 month period.

_____
Homemaker

_____
Aide

_____
Date

Permission--Proof of Home Call

The Nutrition Education Project has been explained to me.

I am willing to participate in the project with my preschool children. I understand that there is no obligation to stay in the project. I understand that I will be interviewed now and following the distribution of the leaflets.

_____
Homemaker

_____
Aide

_____
Date

APPENDIX B

1. NC-108 CORE ITEMS
2. M.S.U. ITEMS
3. LEAFLET EVALUATION BY HOMEMAKERS
4. LEAFLET EVALUATION BY AIDES

APPENDIX B1

NC-108 CORE ITEMS

NC-108 Regional Core Items
Department of Sociology & Anthropology
Iowa State University
Ames, Iowa

June, 1973

FACE SHEET

THIS INFORMATION IS TO BE COMPLETED BY INTERVIEWER.

Date of interview: _____, 19__

Location of interview: _____ (City), _____ (State)

Size of City: _____

Sex of Respondent (Circle the correct letter) M F

Name of interviewer: _____

1. Who is the main food preparer in this household? _____

RECORD RESPONSES TO QUESTIONS 4 AND 5 BELOW. STAR (*) THOSE PERTAINING TO THE MAIN FOOD PREPARER.

5. What is the age and sex of each person in this household (including the main food preparer)?

MEMBERS OF HOUSEHOLD

	Relation to Head	Age	Sex		Relation to Head	Age	Sex
1.	Head of Household				6.		
2.					7.		
3.					8.		
4.					9.		
5.					10		

4. What is the relationship of each person to the head of household (including the main food preparer)?

[CIRCLE THE APPROPRIATE NUMBER. NOTE IF THE RESPONDENT OR HEAD OF HOUSEHOLD HAVE COMPLETED OR RECEIVED HIGH SCHOOL DIPLOMAS THROUGH HIGH SCHOOL EQUIVALENCY PROGRAMS, RECORD AS COMPLETION OF HIGH SCHOOL (12).]

6. What is the highest grade that you have completed in school?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20+

7. What certificates or degrees have you earned beyond high school?

_____ _____

0 = Not applicable no high school degree
1 = High school diploma only
2 = Technical school, Specify: _____
3 = Associate Arts Degree
4 = Bachelor's Degree (B.A. or B.S.)
5 = Master's Degree or equivalent
6 = D.V.M. or M.D. or D.O.
7 = Ph.D. or equivalent
8 = Other, Specify: _____

8. What is the highest grade that the head of household has completed in school?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20+

9. What certificates or degrees has head of household earned beyond high school? _____ _____

0 = Not applicable no high school degree
1 = High school diploma only
2 = Technical school, Specify: _____
3 = Associate Arts Degree
4 = Bachelor's Degree (B.A. or B.S.)
5 = Master's Degree or equivalent
6 = D.V.M. or M.D. or D.O.
7 = Ph.D. or equivalent
8 = Other, Specify: _____

10. Have you had any high school and/or college training in food preparation and nutrition? _____

1 = No
2 = Yes

11. What is the occupation of the head of this household? [BE SPECIFIC.]

_____

_____

12. Do any of your children participate in the school lunch program?

1 = No
2 = Yes _____

[IF NO, GO TO QUESTION 14.]

13. How many children participate in the school lunch program?__ __

14. Do any participate in a school breakfast program? _____

1 = No
2 = Yes

[IF NO, GO TO QUESTION 16.]

15. How many children participate in a school breakfast program? _____ _____

16. Do any receive free or reduced cost school breakfast or lunch (excluding mild snacks)? _____

1 = No
2 = Yes

[IF NO, GO TO QUESTION 18.]

17. How many children participate in a free or reduced cost school breakfast or lunch (excluding milk snack)? ____ _____

18. During the past year, have you used food stamps? _____

1 = No
2 = Yes

[IF NO, GO TO QUESTION 22.]

19. How many months during the past year did you use food stamps? _____ _____

[RECORD NUMBER OF MONTHS.]

20. When you are using food stamps, what is approximately the amount you spend on food stamps per month? $___ ___ ___ ___ ___

[RECORD DOLLAR AMOUNT.]

21. What is the money value of your food stamps per month? .

$___ ___ ___ ___ ___

[RECORD DOLLAR AMOUNT.]

22. Approximately, how many meals which you eat are prepared and eaten in your home per week?

0___, 1___, 2___, 3___, 4___, 5___, 6___, 7___, 8___, 9___,

10 or more ___

23. Approximately, how many meals which you eat are prepared at a restaurant, cafeteria, or obtained from a vending machine per week?

0___, 1___, 2___, 3___, 4___, 5___, 6___, 7___, 8___, 9___,

10 or more ___

24. Approximately how much money do you spend for groceries in an average week, including milk and meat but excluding cigarettes and beer?

$___ ___ ___ . ___ ___

[RECORD TO THE NEAREST DOLLAR.]

25. Using the categories on CARD , which of these categories best represents your total family income, before taxes?

1. Under $1,000
2. $1,000 to $1,999
3. $2,000 to $2,999
4. $3,000 to $3,999
5. $4,000 to $4,999
6. $5,000 to $5,999
7. $6,000 to $6,999
8. $7,000 to $7,999
9. $8,000 to $8,999
10. $9,000 to $9,999
11. $10,000 to $11,999
12. $12,000 to $14,999
13. $15,000 to $24,999
14. $25,0-0 to $49,999
15. $50,000 or more

26. Are you satisfied with the kinds of foods you are eating? _____

1 = No [GO TO QUESTION 27.]
2 = Yes [GO TO QUESTION 28.]

27. If no, what kind of changes would you like to make in the foods you eat?

_____

_____

_____

28. If yes, would you make any changes in the kinds of foods you are eating?

_____

_____

_____

We are interested in your feelings or opinion about the following statements. You will probably agree with some of these statements and disagree with some of them.

After each statement, tell me if you agree with the statement or disagree with the statement. After you have done this please indicate how strongly you agree or disagree with the statement. For example, if it really doesn't make much difference to you if you agree or disagree with the statement you would rate the statement one (1). If you very strongly agree or disagree with the statement, you would rate it five (5). For some statements, the numbers 2, 3 or 4 may better describe how strongly you agree or disagree with the statement. If this is the case, you would rate the statement the appropriate number.

[CIRCLE THE CORRECT ANSWER IN EACH COLUMN. CIRCLE (AD) FOR NO OPINION.]

[IF R. ASKS FOR INTERPRETATION OF STATEMENT, SAY:]

"Take the statement as it is."

Time spent by a person in finding out about new ideas and practices is time well spent.	A D	1 2 3 4 5
I think traditional ways are the best ways of doing things.	A D	1 2 3 4 5
The man who stands alone is the man who is admired.	A D	1 2 3 4 5
About the only thing that science has accomplished for the individual is to make life more complicated.	A D	1 2 3 4 5
Education is valuable but it will never be as valuable as experience for success.	A D	1 2 3 4 5
Everything considered, all of the scientific developments in this country have done about as much harm as good.	A D	1 2 3 4 5
Fate seems to decide some people will be successful--others failures.	A D	1 2 3 4 5
It is more important for people to make decisions on the basis of past experience than to try to find new ways of doing things.	A D	1 2 3 4 5
Many people have become so scientific they have forgotten the importance of good practical judgment.	A D	1 2 3 4 5

One of the best indicators of whether a man will be successful is his ability to make his own decisions.	A	D	1	2	3	4	5
If a man wants a thing done right, he must do it himself.	A	D	1	2	3	4	5
Young people today are too willing to take chances because they have never known how tough times can be.	A	D	1	2	3	4	5
Actually you can rely on very few people.	A	D	1	2	3	4	5
The future is in the hands of fate and we might as well accept it.	A	D	1	2	3	4	5
The most important function of education is to teach a person to be independent.	A	D	1	2	3	4	5
In making decisions it is more important to follow one's own judgment rather than to do what other people are doing.	A	D	1	2	3	4	5
I regard myself as the kind of person who is willing to take a few more risks than the average person.	A	D	1	2	3	4	5
Everyone should have some money laid aside for a "rainy day."	A	D	1	2	3	4	5
I'm not concerned about what my neighbors think of the way I live.	A	D	1	2	3	4	5
Probably the best guide in making decisions is what has worked in the past.	A	D	1	2	3	4	5
The best advice to a young family is to be cautious.	A	D	1	2	3	4	5
There is really no reason for man to explore outer space.	A	D	1	2	3	4	5
We should view whatever happens to us as planned by forces beyond our control.	A	D	1	2	3	4	5
In making decisions it is better to think in terms of minimizing losses rather than maximizing profits.	A	D	1	2	3	4	5
The person who gets ahead fastest is the one who sticks to the old proven way of doing things.	A	D	1	2	3	4	5

I would rather invest money in a savings account in a bank than in the stock market.	A	D	1	2	3	4	5
Man's future depends primarily upon the technical advances made by scientific research.	A	D	1	2	3	4	5
Scientific information is a necessity to a person in making decisions.	A	D	1	2	3	4	5
Much of the scientific information people receive is too impractical to be of value.	A	D	1	2	3	4	5
Man is the victim of circumstances beyond his control.	A	D	1	2	3	4	5

GOALS

CERTAINTY METHOD:

People vary greatly in the goals which they consider important. Card _____ contains a list of goals some people feel are important. However, not everyone agrees on just how important these goals are. We would like to know how you feel about these goals. After each goal is read, tell me whether you feel that goal is important or unimportant to you. Then, tell me how strongly you feel about the importance of the goal. For example, if the goal is only slightly unimportant to you, you would say the goal is unimportant; and then give it a one. If you feel very strongly that the goal is unimportant, you would give it a 5. For some goals, the numbers 2, 3 or 4 may better describe how strongly you feel about the importance or unimportance of the goal.

(CIRCLE THE CORRECT ANSWER IN EACH COLUMN. CIRCLE IU FOR NO OPINION.)

(IF R. ASKS FOR INTERPRETATION OF STATEMENT, SAY: "Take the statement as it is.")

1.	Be a good manager of money and time.	I	U	1 2 3 4 5
2.	Gain and maintain the respect of people outside the family.	I	U	1 2 3 4 5
3.	Maintain or improve the quality of my diet.	I	U	1 2 3 4 5
4.	Maintain or improve my physical fitness.	I	U	1 2 3 4 5
5.	Be active in community or church affairs.	I	U	1 2 3 4 5
6.	Increase money income.	I	U	1 2 3 4 5
7.	Learn and practice preventive techniques for heart disease and other diseases.	I	U	1 2 3 4 5
8.	Obtain security - financial, etc.	I	U	1 2 3 4 5
9.	Reduce debts or increase savings.	I	U	1 2 3 4 5
10.	Maintain or achieve desirable weight.	I	U	1 2 3 4 5
11.	Clothe myself and family attractively.	I	U	1 2 3 4 5
12.	Maintain or improve the outside appearance of the house and yard.	I	U	1 2 3 4 5

CARD

IMPORTANT	slightly 1 2 3 4 5	very
UNIMPORTANT	slightly 1 2 3 4 5	very

APPENDIX B2

M.S.U. ITEMS

In this part I am interested in your child's attitude toward some foods. For each food I'd like for you to say how well your child likes or dislikes a food. Your child may like, dislike, neither like nor dislike but will eat, refuse to eat, or never ate this food. (Showing cards with these responses one at a time and reading the response.)

I would also like to find out of the foods he does eat, how often he eats it and how much your child eats of it at one time.

The next page has a list of foods for which I would like your response. Let's start with apples.

Attitude:

0 = Never ate
1 = Refuses to eat
2 = Dislikes
3 = Neither like nor dislikes but will eat
4 = Likes

Frequency:

0 = Never ate	0 = Never ate
1 = Daily	1 = Once
2 = Weekly	2 = Two times
3 = Monthly	3 = Three times
4 = Yearly	4 = Four times
	etc.

Amount: Food model number. Homemaker's description or measurement.

	A		B		C	
	Child 1	Child 2	1. Child 1	2. Child 2	Child 1	Child 2
a. Apples						
b. Asparagus						
c. Beans, red						
d. Breads						
e. Broccoli						
f. Cantaloupe						
g. Carrots						
h. Cheese						
i. Cooked Cereal						
j. Corn						
k. Cranberries						
l. Eggs						
m. Fish						
n. Liver						
o. Milk						
p. Oranges						
q. Potatoes						
r. Poultry						
s. Squash						
t. Tomatoes						

People begin to develop food habits at an early age which involves food preferences and general attitudes toward food. Many things seem to influence them but we still need to learn a lot more. That is why I'd like to ask you a few questions about your family's food habits. (Food habits are different for each family and so there isn't any right or wrong answers.)

Do you have any questions before we begin?

1. How often do you prepare new foods for your family?

   0 = never
   1 = daily
   2 = weekly
   3 = monthly
   4 = six months
   5 = yearly

2. Does your child usually try these new foods willingly?

   1 = yes
   2 = no

3. Does your child refuse to eat any foods?

   1 = yes
   2 = no

4. Does your child ever miss meals?

   1 = yes
   2 = no

5. Does your child like most foods?

   1 = yes
   2 = no

6. Is your child hungry at meals?

   1 = yes
   2 = no
   3 = so so

7. When was the last time you prepared a new dish?

   0 = NA
   1 = past week
   2 = past month
   3 - past six months
   4 - past year

8. Does your child usually help you prepare these new dishes?

   1 = yes
   2 = no
   3 = sometimes

9. Does your child generally try new dishes willingly?

   1 = yes
   2 = no

10. Does your child help set the table at dinnertime?

    1 = always
    2 = sometimes
    3 = never

11. Does your child help clean up after a meal?

    1 = always
    2 = sometimes
    3 = never

12. Does your child ever help you prepare foods?

    1 = yes
    2 = no

13. If yes, how often does your child help you prepare foods?

    0 = NA
    1 = at least once a day
    2 = at least once a week
    3 = at least once a month
    4 = other, specify: _____

    and in what way does your child help you prepare foods?

    1 = mix, pour
    2 = pour
    3 = measure
    4 = getting ingredients and supplies
    5 = other, specify: _____

14. Does your child go to day care or nursery school?

    1 = yes
    2 = no

15. How many meals away from home does your child eat per week?

    0____, 1-2____, 3-4____, 5-6____, 7-8____, 9 or over ____

16. How many meals a week does your child eat at home?

    1-4____, 5-8____, 9-12____, 13-16____, 17-20____, 21-24____,
    25 and over____

17. What kind of snacks does your child generally eat?

    1 = milk group
    2 = meat group
    3 = fruit and vegetable group
    4 = bread and cereal group
    5 = 'snack foods' (potato chips, pop, candy, etc.)
    6 = combination of above, specify: _____
    7 = other, specify: _____

18. Do you take your preschool child to the grocery store?

    1 = yes
    2 = no
    3 = sometimes

(If no, questionnaire is completed)

19. Do you allow your child to pick out some foods he(she) likes in the grocery store?

    1 = yes
    2 = no
    3 = sometimes

(If no, go to question 22)

20. What kind of foods does he(she) usually pick?

    1 = milk group
    2 = meat group
    3 = fruit and vegetable group
    4 = bread and cereal group
    5 = candy, pop, other 'snack foods'
    6 = combination, specify: _____
    7 = other, specify: _____

21. How many of these items do you usually let him(her) pick out?

    1____, 2____, 3____, 4____, 5 or more ____

22. Does your child help you with your grocery shopping?

    1 = yes
    2 = no (If no, questionnaire is completed)
    3 = sometimes

23. How does your child help you with your grocery shopping?

    1 = finding foods
    2 = picking out foods from grocery list
    3 = other, specify: _____

24. Income/monthly $_____.

25. Amount spent for groceries in an average month $_____.

26. Amount spent for food stamps $_____.

27. Value of food stamps $_____.

APPENDIX B3

EVALUATION OF THE LEAFLETS BY THE HOMEMAKERS

1. I would now like to ask you how useful you thought the leaflets were for you. I will read to you the name of the leaflet and ask you if you thought it was useful to you or not. If you did not receive a leaflet or if you cannot remember if you received it or not please tell me. Then, I would like for you to rate the leaflets on a scale of 4 to 1. We will have 4 be a leaflet that was very useful to you; 3 if it was somewhat useful; 2 if it was not very useful and 1 if it was not useful at all. Do you have any questions before we begin?
(Mark -- if homemaker cannot remember if she received a leaflet or not and 0 if she did not receive it.)

A.	Make Room for Apples	-- 0 1 2 3 4
B.	Breads - "The Staff of Life"	-- 0 1 2 3 4
C.	A Forest of Broccoli	-- 0 1 2 3 4
D.	The Pleasures of Cantaloupe	-- 0 1 2 3 4
E.	Tips About Cheese	-- 0 1 2 3 4
F.	A Cupful of Corn	-- 0 1 2 3 4
G.	Colorful Cranberries	-- 0 1 2 3 4
H.	Eggs, Good at any Meal	-- 0 1 2 3 4
I.	Don't Forget Fish	-- 0 1 2 3 4
J.	The Goodness of Milk	-- 0 1 2 3 4
K.	Let Some Sunshine in Your Life with Oranges	-- 0 1 2 3 4
L.	An Event for Poultry	-- 0 1 2 3 4
M.	It's Time for Winter Squash	-- 0 1 2 3 4
N.	Tasty Tomatoes	-- 0 1 2 3 4

2. Now I'd like for you to rate the different parts of the leaflets for their usefulness to you. I will read to you the names of the parts and please tell me if you thought it was useful or not. Again we will have 4 mean that it was very useful; 3 that it was somewhat useful; 2 that it was not very useful and 1 that it was not useful at all. Please also tell me if you cannot remember if you used a certain part or not.
(Mark -- for cannot remember)

A.	Food information	-- 1 2 3 4
B.	Recipes	-- 1 2 3 4
C.	Other mother and child activities	-- 1 2 3 4
D.	Child's game on the last page	-- 1 2 3 4

3. Were the leaflets easy to read?
   1 = not at all easy
   2 = not very easy
   3 = somewhat easy
   4 = very easy
   If not easy, what problems did you have?_____

4. Were the directions easy to understand for the recipes?
   1 = not at all easy
   2 = not very easy
   3 = somewhat easy
   4 = very easy
   If not easy, why?_____

5. Were the directions easy to understand for the mother and child activities?
   1 = not at all easy
   2 = not very easy
   3 = somewhat easy
   4 = very easy
   If not easy, why?_____

6. Were the directions easy to understand for the child's games?
   1 = not at all easy
   2 = not very easy
   3 = somewhat easy
   4 = very easy
   If not easy, why?_____

7. Did your child help you with the recipes?
   1 = no
   2 = yes
   If yes, how much did he (she) enjoy helping you?
   1 = not at all
   2 = not very much
   3 = somewhat
   4 = very much

8. Did your child use any of the games on the last page?
   1 = no
   2 = yes
   If yes, how much did he (she) enjoy playing the games?
   1 = not at all
   2 = not very much
   3 = somewhat
   4 = very much

9. Did the aide work with you on any of the leaflets?
   1 = no
   2 = yes
   If yes, was this helpful to you:
   1 = not helpful at all
   2 = not very helpful
   3 = somewhat helpful
   4 = very helpful

10. Did you share the leaflets with your friends or relatives?
    1 = no
    2 = yes

11. Here is a list of the recipes in the leaflets; after I read the name of the recipe I'd like for you to tell me if you used it or not. If you used the recipe then I'd like for you to tell me how much you liked the recipe. We will have 4 mean that you liked it very much, 3 that you liked it somewhat, 2 that you did not like it very much and 1 that you disliked it. If you cannot remember or if you did not get the leaflet and the recipe please tell me that also.
    Then for the ones that you used, if you could tell me if you used them more than once.
    (Mark -- for cannot remember and 0 for did not receive or did not use)

	Attitude	How many times
A. Tomatoed Corn	-- 0 1 2 3 4	0 1 2 3 4 5 6 7
B. Braised Broccoli	-- 0 1 2 3 4	0 1 2 3 4 5 6 7
C. Instant Pudding	-- 0 1 2 3 4	0 1 2 3 4 5 6 7
D. Applesauce	-- 0 1 2 3 4	0 1 2 3 4 5 6 7
E. Squash and Apple Bake	-- 0 1 2 3 4	0 1 2 3 4 5 6 7
F. Peanut Butter Bread	-- 0 1 2 3 4	0 1 2 3 4 5 6 7
G. Cranberry-Apple Crunch	-- 0 1 2 3 4	0 1 2 3 4 5 6 7
H. Giblet Stuffing	-- 0 1 2 3 4	0 1 2 3 4 5 6 7
I. Family Goulash	-- 0 1 2 3 4	0 1 2 3 4 5 6 7
J. Cheese Boats	-- 0 1 2 3 4	0 1 2 3 4 5 6 7
K. Fish and Egg Sauce	-- 0 1 2 3 4	0 1 2 3 4 5 6 7
L. Scrambled Eggs	-- 0 1 2 3 4	0 1 2 3 4 5 6 7

12. Do you have any suggestions for other leaflets?

_____

_____

13. Do you have any suggestions that you feel would make the leaflets more useful?

_____

_____

APPENDIX B4

EVALUATION OF THE LEAFLETS BY THE AIDES

1. Please read the name of each leaflet and then rate the usefulness of each one. We will have 4 mean that it was very useful for you; 3 that it was somewhat useful; 2 that it was not very useful and 1 that it was not useful at all. If you did not use the leaflet we would like to know this and so put a 0 in the column after the name of that leaflet; if you cannot remember if you used a leaflet or not mark --.

A.	Make Room for Apples	-- 0 1 2 3 4
B.	Breads - "The Staff of Life"	-- 0 1 2 3 4
C.	A Forest of Broccoli	-- 0 1 2 3 4
D.	The Pleasures of Cantaloupe	-- 0 1 2 3 4
E.	Tips About Cheese	-- 0 1 2 3 4
F.	A Cupful of Corn	-- 0 1 2 3 4
G.	Colorful Cranberries	-- 0 1 2 3 4
H.	Eggs, Good at any Meal	-- 0 1 2 3 4
I.	Don't Forget Fish	-- 0 1 2 3 4
J.	The Goodness of Milk	-- 0 1 2 3 4
K.	Let Some Sunshine in Your Life with Oranges	-- 0 1 2 3 4
L.	An Event for Poultry	-- 0 1 2 3 4
M.	It's Time for Winter Squash	-- 0 1 2 3 4
N.	Tasty Tomatoes	-- 0 1 2 3 4

2. Now, I'd like for you to read the names of the different parts of the leaflets and rate each one for its usefulness. Again, we will have 4 mean that it was very useful for you; 3 that it was somewhat useful; 2 that it was not very useful and 1 that it was not useful at all. And if you did not use a certain part mark 0 or if you cannot remember if you used a part or not mark --.

A.	Food information	-- 0 1 2 3 4
B.	Recipes	-- 0 1 2 3 4
C.	Other mother and child activities	-- 0 1 2 3 4
D.	Child's games	-- 0 1 2 3 4

3. Would you use the leaflets again if they were available to you?
   Yes _____
   No _____

4. On what other subjects would you like to see other leaflets?

_____

5. What suggestions do you have that you feel would make this type of leaflet more useful in your work?

_____

_____

6. What suggestions do you have that you feel would make this type of leaflet more useful for your homemakers?

_____

_____

APPENDIX C

NUTRITION EDUCATION LEAFLETS

1. MAKE ROOM FOR APPLES
2. BREADS - " THE STAFF OF LIFE"
3. A FOREST OF BROCCOLI
4. THE PLEASURES OF CANTALOUPE
5. TIPS ABOUT CHEESE
6. A CUPFUL OF CORN
7. COLORFUL CRANBERRIES
8. EGGS, GOOD AT ANY MEAL
9. DON'T FORGET FISH
10. THE GOODNESS OF MILK
11. LET SOME SUNSHINE IN YOUR LIFE WITH ORANGES
12. AN EVENT FOR POULTRY
13. IT'S TIME FOR WINTER SQUASH
14. TASTY TOMATOES

FOOD TIPS FOR MOMS & TOTS

MAKE ROOM FOR APPLES

MOTHER -

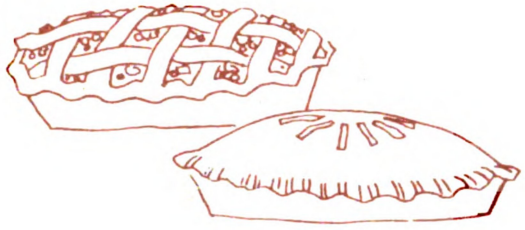
Apples have a little of a lot of different nutrients, like vitamins A and C. Apples help to reach the amounts you and your child need every day.

Apples were brought to this country by early settlers and much credit for their population in the U.S. is given to John Chapman (Johnny Appleseed), a 19th Century missionary who traveled the midwest, planting apples and preaching the Gospel.

Crab apple is a smaller fruit, more tough and fibrous, and used mainly in jelly and pickling.

If you ever wondered how, in the pictures they keep the apples looking so white, it may be that they coated them with lemon or orange juice or they are in a sirup mixture. Both methods prevent browning.

Apples can be used in many many ways. To name a few: fried, baked, sauce, juice, dried, pies, crisps, cider, pancakes, canned, carameled, candied, and frozen.

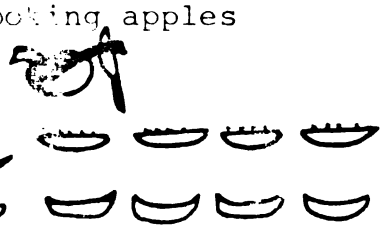
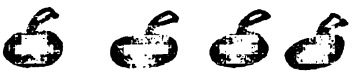
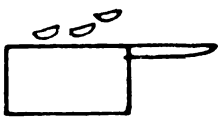
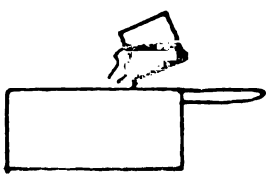
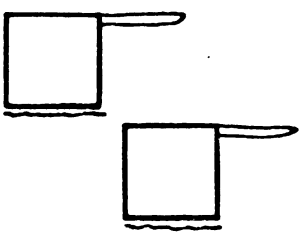
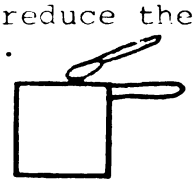
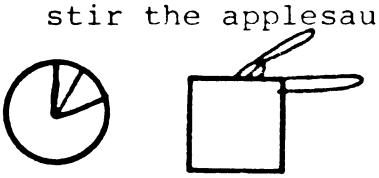
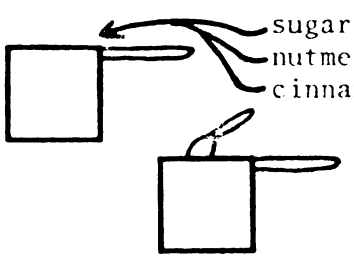


Apples are a good easy snack food for your children.

YOU AND YOUR CHILD

Making Applesauce

It is an interesting experience for your child. They can see how firm, raw apples become mushy, cooked apples. Ask your child to describe the apple and apple sauce. Let them taste the cool apple and the warm applesauce.

STEPS FOR:	MOTHER	CHILD
1.	4 medium cooking apples pared quartered cored 	
2.		Place apples in saucepan.
3.		Help your child measure 1 cup water. 
4.		Add water.
5.	Heat the apples and water over medium heat to boiling.	
6.	Once the apples and water boil, reduce the heat and simmer.	
7.		Help your child to occasionally stir the applesauce.
8.	Cook 5 to 10 minues or until the apples are tender. (Test with a fork.)	
9.		Help your child measure:  1/2 cup sugar  1/4 teaspoon cinnamon  1/8 teaspoon nutmeg
10.		Add sugar, cinnamon and nutmeg to cooked apples.
11.		Stir wutil the sugar is dissolved.

12. Then it is ready to serve or chill. (Makes 4 cups.)

Alternate Methods: If you have a Baby Food Mill, your child will

YOUR CHILD

Your child will need your help to learn this game. Follow the lines and motions and play the game together. Soon you will both know it.

Apple Tree

Hole hands above head, form circles with thumb and forefinger of each hand.	AWAY UP HIGH IN THE APPLE TREE
Smile.	TWO RED APPLES SMILED AT ME
Put hands out as if on a tree and shake.	I SHOOK THAT TREE AS HARD AS I COULD
Hands above head and lower to ground.	AND DOWN THEY CAME,
Rub tummy.	AND H-MMMMMMM WERE THEY GOOD!

Prepared in part from research projects supported by the Agricultural Experiment Station and by Special Needs Fund of the Extension Service, USDA, Michigan State University cooperating.

FOOD TIPS FOR MOMS & TOTS

BREADS - "THE STAFF OF LIFE"

MOTHER -

Breads are an important part of your and your child's diet. Breads are a good source of energy which is needed each day in your diets and also bread has some B vitamins. Most breads and flour are enriched and are important sources of B vitamins and iron. Whole wheat bread is also a good source of these nutrients.

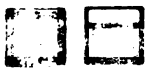
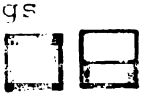
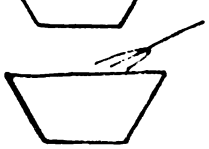
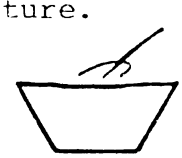
Included in breads are quick breads -- popovers, griddle cakes, waffles, muffins, biscuits and pastry; or yeast breads -- rolls and coffee cakes.

Every culture has some type of bread and for a long time bread has been considered "the staff of life" and still is in some countries; but the form it takes varies from country to country. In Sweden, they eat limpa, a sweetened rye bread; the Norwegians eat a flat bread. The bread in Mexico is the tortilla. You can probably think of others.

YOU AND YOUR CHILD

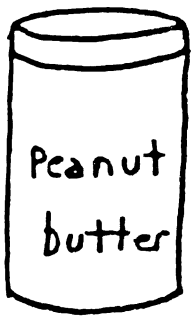
You and your child may want to try making bread. Here is a recipe for peanut butter bread - remember, peanut butter is a good source of protein, making the bread even more nutritious.

STEPS FOR: MOTHER CHILD

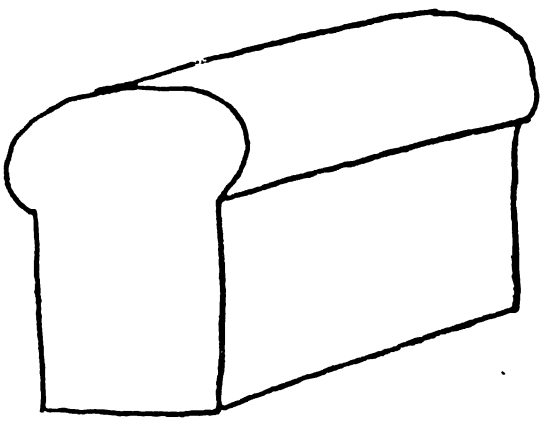
1. Measure ingredients:
   - 1 3/4 cups  flour
   - 1/3 cup  sugar
   - 1 tablespoon  baking powder
   - 1 teaspoon  salt
   - 1 cup  peanut butter
   - 2  eggs
   - 1 1/2 cups  milk
2. Preheat over at 350° (moderate oven) 
3.  Grease loaf pan.
4.  Mix sifted flour, sugar, baking powder and salt in a large bowl.
5.  Mix in the peanut butter with a fork until crumbly.
6.  Beat eggs slightly in another bowl.
7. Add the milk to egg mixture. 
8. Add the milk-egg mixture to the flour mixture.
9.  Stir just enough to mix. 
10. Fill the greased loaf pan half way.
11. Bake for 1 hour. 

YOUR CHILD

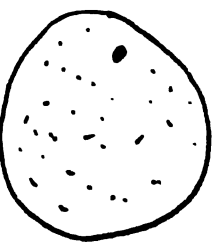
Help your child to name all the foods. Then, have your child point to the foods you can spread on bread. Let them color all of the pictures.



potatoes

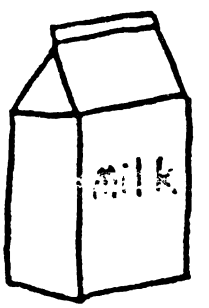


bread



orange

butter



red in part from research projects supported by the Agricultural Experiment Station and ecial Needs Fund of the Extension Service, USDA, Michigan State University cooperating.

FOOD TIPS FOR MOMS & TOTS

A FOREST OF BROCCOLI

MOTHER -

The Italian word broccoli means "arm" or "branch." Like other cabbage like vegetables, broccoli is thought to be native to the Mediterranean area and Asia Minor. Broccoli has been extensively used in the U.S. only in the last 25 years.

Broccoli is a very nutritious vegetable. Not only is it a very good source of vitamin A and C, but it also has some calcium, iron and riboflavin.

Broccoli is a tall cabbage plant with clusters of smaller flowers on top of a tall stalk. When buying broccoli look for: fresh, clean, compact bud clusters; firm and tender stems and branches. (Tough, woody stems and opened yellow buds show overmaturity.)

Ways to serve: buttered with salt and pepper; topped with different seasoned butters or grated cheese or a cream sauce or a Hollandaise sauce; season with nutmeg or oregano. If broccoli is overcooked, an undesirable, strong flavor develops.

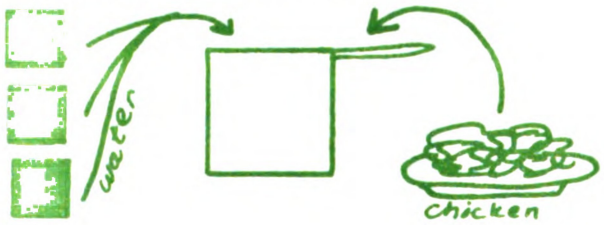
YOU AND YOUR CHILD

When you have mashed potatoes with your broccoli, have your child "plant the little trees in the potatoes" before they eat them.

Explain to your child that broccoli is a tall plant and that the clusters on the top of the stalk are the flowers. Ask them what the color is -- is it green or red; what does it taste and smell like -- is it mild or strong.

Try this colorful recipe, it's packed full of vitamin A.

BRAISED BROCCOLI
(6 servings)

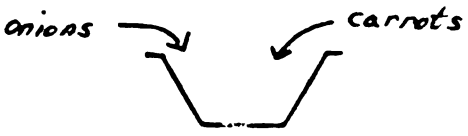
STEPS FOR:	MOTHER	CHILD
1.	Prepare chicken stock:	
		Measure and add 3 cups wat to a medium saucepan. Add bones and skin from ch can also use necks and wi
	Bring to boil; then, lower heat and simmer 30-40 minutes	
	Alternatives: use chicken bouillon or canned chicken broth	
2.	Preheat over to 350°F	
3.	Trim off large leaves and cut off tough ends of lower stems of 2 pounds of broccoli	
4.	 	Wash and drain broccoli.

5. Clean and chop 1/4 cup carrots

Measure 1/4 cup carrots

6. Chop 1/4 cup onion

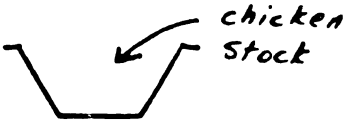
Measure 1/4 cup onion

7. 

Place the carrots and onion in the bottom of a baking dish

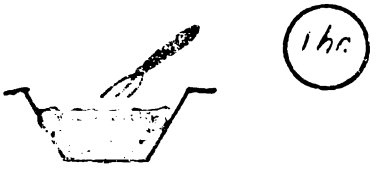
8. 

Add broccoli

9. 

Cover with well seasoned chicken stock (if desired cover with dried bread crumbs)

10. Bake the vegetables until they are tender (test with fork)-about 1 hour



11. Serve

YOUR CHILD

Name the foods, then have your child name them. Broccoli is a green vegetable. Help your child pick out the other green vegetables. Have your child color them. (Dark green vegetables are a good source of vitamin A.)

CARROT

SPINACH

BROCCOLI

ESCAROLE

TOMATO

ASPARAGUS

RUTABAGA

Prepared in part from research projects supported by the Agricultural Experiment Station and by Special Needs Fund of the Extension Service, USDA, Michigan State University cooperating.

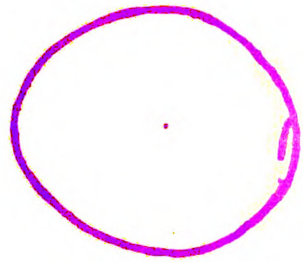
FOOD TIPS FOR MOMS & TOTS

THE PLEASURES OF CANTALOUPE

MOTHER -

You probably heard cantaloupe called muskmelon, but really muskmelon also includes casaba and honeydew melons. Each of these melons are spherical, but the cantaloupe and casaba have a netted surface and orange flesh, whereas honeydew melon is smooth with a greenish-white flesh.

CANTALOUPE



HONEYDEW

CASABA

Cantaloupe has a large amount of vitamin A and vitamin C needed for growth, vision and repair of blood vessels.

Cantaloupe also has a large amount of water which is important for regulating many processes in the body, like your body temperature.

Unlike vegetables which change from sugar to starch when ripening, fruits like cantaloupe change from starch to sugar when ripening.

Extra cantaloupe can be frozen in balls or cubes and covered with a sirup.

Cantaloupe not only make a refreshing, tasty, low calorie dessert but it also can be used in salads, at breakfast and is especially good for snacks.

It can be sliced, cubed, halved, mixed with other fruits. When you scoop out the seeds, fill it with other fruits or whatever seems appropriate.

YOU AND YOUR CHILD

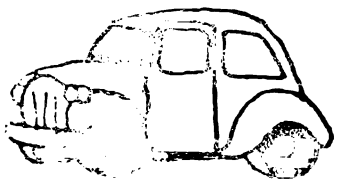
If you are making a fruit cup or fruit salad, let your child help scoop out the seeds and mix or arrange the fruit.

Help your children 'discover cantaloupe'. Ask your child if cantaloupe is sweet or sour, juicy or dry, orange or blue, firm or runny, chewy or crunchy.

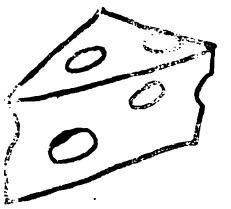
Have your child inspect the whole cantaloupe; show him the 'netting' and how it is green underneath the netting. Cut open the cantaloupe and have him inspect the inside; show him the seeds and have your child scoop out the seeds.

YOUR CHILD

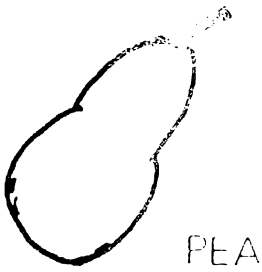
In this game, point to each object and name them for your child, then have your child name the objects. Next, have your child point to the things we eat. Have your child color all of the objects.



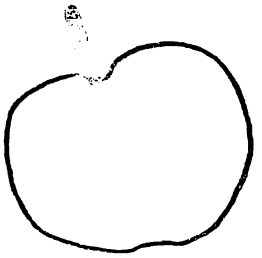
CAR



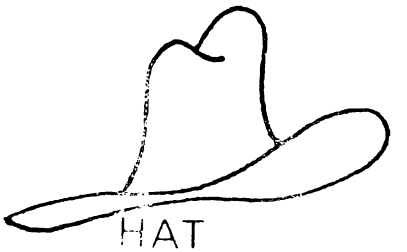
CHEESE



PEAR

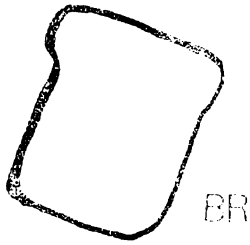


APPLE

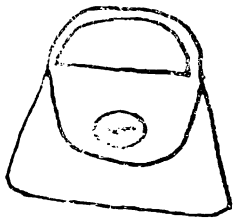


HAT

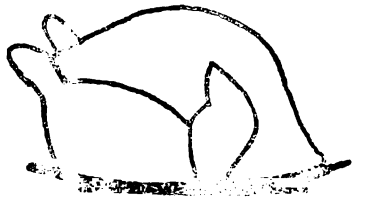
SHOE



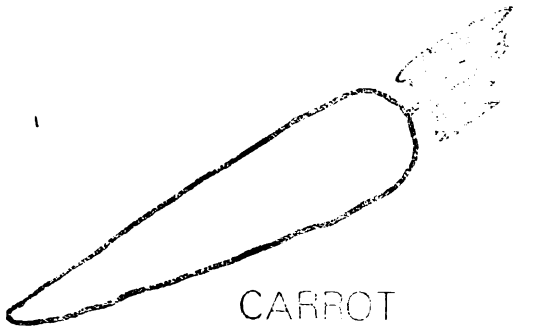
BREAD



PURSE



TURKEY



CARROT

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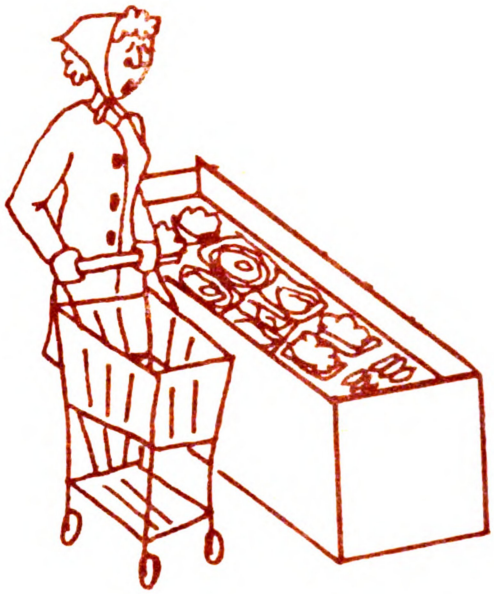
FOOD TIPS FOR MOMS & TOTS

TIPS ABOUT CHEESE

MOTHER -

It's a time for the high cost of meat. Because cheese is a good source of protein, cheese in various dishes can be used instead of meat to help keep your food cost down. (Protein is needed for building tissues in growth, especially in childhood and pregnancy, and also for the upkeep of tissues already built.)



Cheese, like milk, has a high amount of calcium. (Calcium is important for healthy bones and teeth in adults and especially for your growing children.)

Children need 1 1 to 1 1 1 cups of milk a day. If your children do not like milk, try using cheese as part of this amount. (2 slices of cheese, 3/4 cup macaroni is equal to ☐ cup of milk.)

Uses of cheese with children -- cheese can be used as a finger food for snacks, in salads, sandwiches, cooked dishes, as a sauce and with desserts.

YOU AND YOUR CHILD

When preparing a meal with cheese this could be the time to have your children discover cheese with the 4 senses, smell, taste, sight and touch. Have them smell it, is it strong or mild; have them feel it is it firm or runny; have them taste it, is it salty or sour, is it chewy or crunchy; and have them look at it, what color is it, does it have holes?

Did You Know:

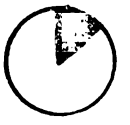
When milk is mixed with another substance and sets for awhile, the milk becomes curdled or lumpy. The liquid (whey) is separated from the curds and these curds are pressed together. Sometimes the curds are cured for a longer period of time to develop the flavor.

'Cheese comes from milk'

With this game compare milk and cheese with your child. Taste, smell, touch and look at milk and then cheese. (Milk is runny, white, mild, wet, a liquid and has no particular smell; whereas cheese is firm, different colors, some have a mild and some have a strong taste and smell.)

CHEESE BOATS

5 servings (2 hotdogs each)

STEPS FOR:	MOTHER	CHILD
1.	Split 10 notdogs lengthwise, not cutting through completely.	
2.	Cut 10 strips of cheese about 2 1/2x 1/2 x 1/4	
3.		Place strip of cheese in split
4.		Wrap each with a slice of bacon
5.		Secure with toothpicks
6.	Place cut side down on broiler pan	
7.	Set oven control at Broil or 550° - Hot oven!	
8.	Broil 5 inches from heat about 10 minutes	
9.	When bacon is crisp, turn with tongs or fork	
10.	Broil until other side is crisp - about 5 minutes	
11.	Serve	

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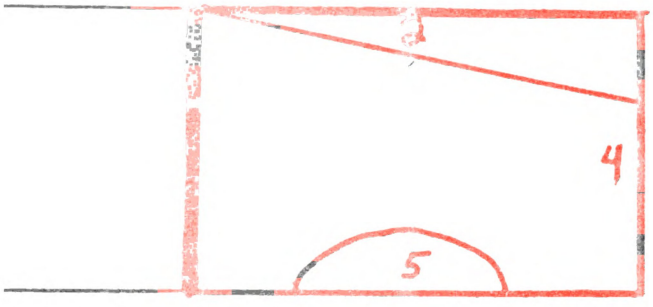
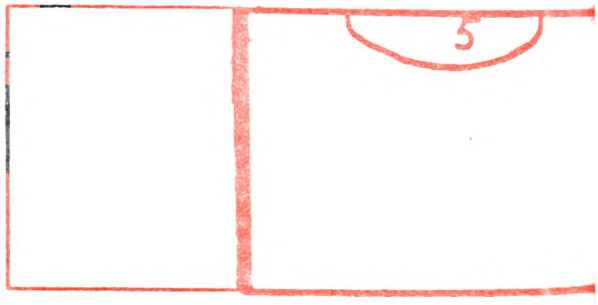
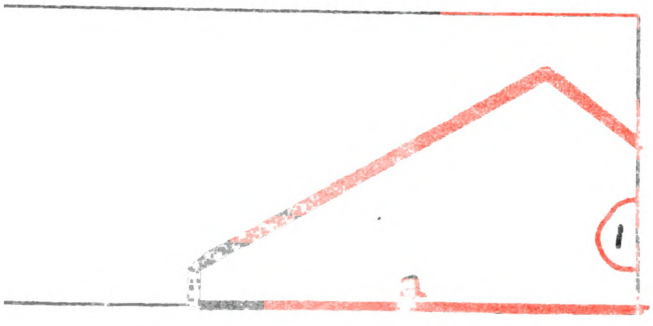
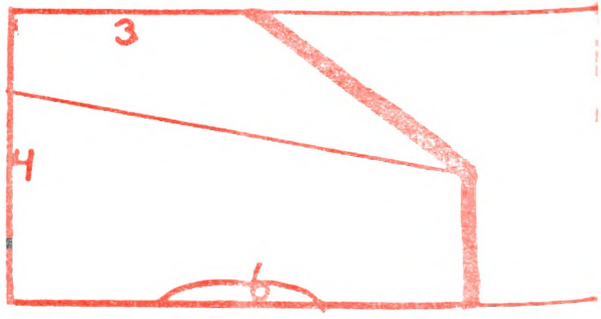
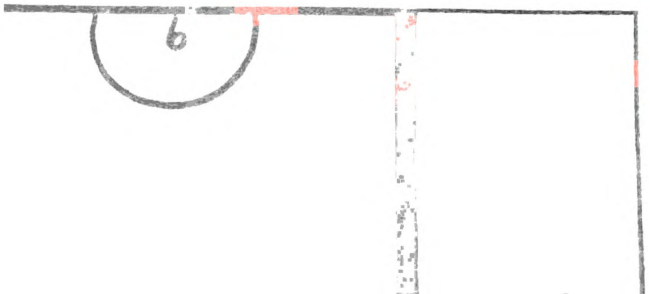
Explain to your child how he or she can play this game. Have them cut out the 6 rectangles below with blunt scissors. Help your child match 1 with 1, 2 with 2, and so on, and you will have a piece of cheese. Then, paste the piece of cheese together in the frame below.

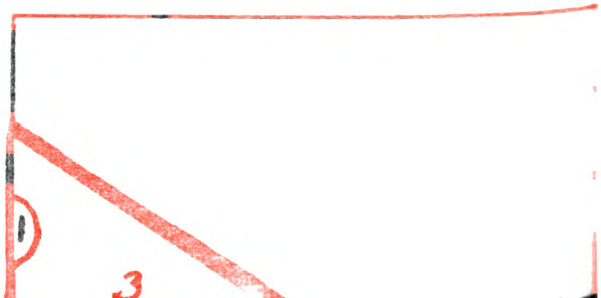












FOOD TIPS FOR MOMS & TOTS

A CUPFUL OF CORN

MOTHER -

Yellow corn is high in vitamin A but not white corn because vitamin A is carried in the yellow color. (Vitamin A is important for growth, vision and teeth development.)

Although corn is in widespread use around the world it is native to the Americas and was first grown by the Indians. It was quickly accepted in many other countries because it was easy to grow and ripened early.

Corn is made from many flowers. Each kernel is a flower and the silk is really the part that is used to fertilize the flower.

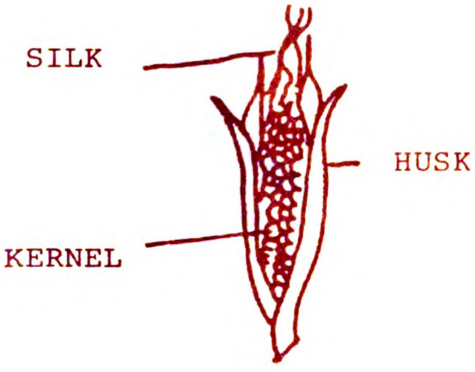
Young vegetables such as young corn have a high sugar content but as they mature it turns to starch.

Because of its starch and vitamin content corn can be used instead of bread at a meal.

If you have freezer or shelf space, freezing or canning corn saves money. Corn can be frozen on or off the cob.

Have leftover corn? Use it in fritters, chowder and mixed with other vegetables. Fresh corn can be roasted or boiled or cut off and mixed with other vegetables. Corn meal can be made into corn meal mush, stuffing or break.

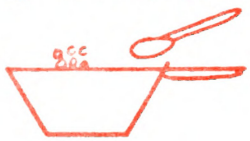
YOU AND YOUR CHILD



1. Show the husk covering the corn, the silk, kernels and cob and explain how corn comes from flowers.
   Have your children help husk the corn.
2. Add a little water to cornstarch and mix. Looks watery but is sticky.
3. Make popcorn - show the closed seed and explain how it 'explodes' when it is heated to expose the white popcorn.

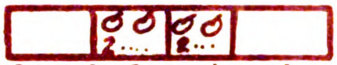
4. Tomatoed Corn

STEPS FOR: MOTHER CHILD

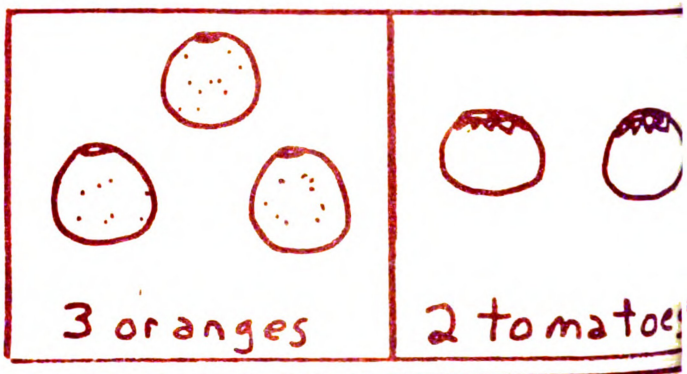
1. 4 ears of fresh corn  or 2 cups corn 
   If you are using fresh corn, remove husk and silk.
2. Cut kernels from the cob 
3. Measure 2 cups corn 
4. Measure:
   - 1/4 cup  butter
   - 1/4 cup  chopped onion
   - 2 tablespoons  sugar
   - 1/2 teaspoon  salt
   - 1/4 cup  chopped green pepper (optional)
5.  Add butter, onion, sugar, salt, green pepper, corn to saucepan.
6. Cook and stir over medium heat for a few minutes. 
7. Cover saucepan. 
8. Turn down to low heat and cook for 10 minutes. 
9. Cut up 1 tomato 
10.  Add to saucepan. Stir.
11. Cover. Cook 5 minutes longer. 
12. Serve.

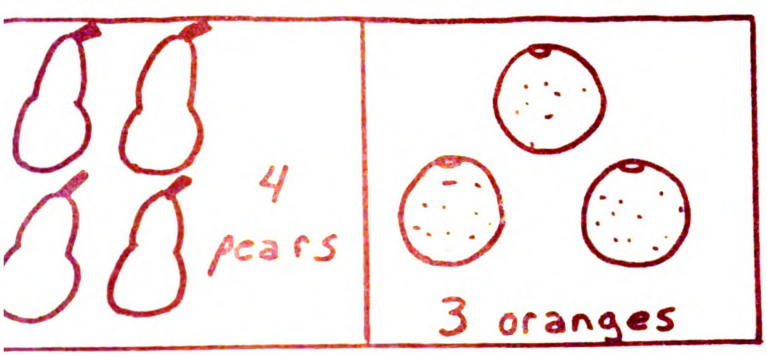
YOUR CHILD

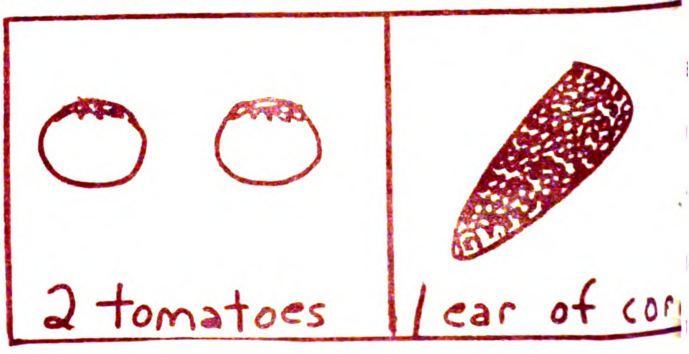
In this game help your child cut out the rectangles with blunt scissors. Have them match the blocks with the same number and food, touch the edges of the blocks together.

EXAMPLE: 

Help them paste the rectangles below in the right way inside the frame.







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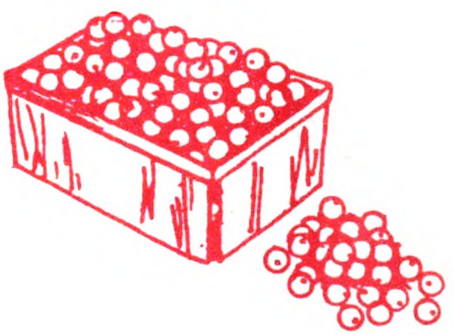
FOOD TIPS FOR MOMS & TOTS

COLORFUL CRANBERRIES

MOTHER -

Cranberries are an economical food which not only taste good, but also add color.



You can make your own sauce from fresh cranberries or you can buy either whole cranberry sauce or jellied cranberry sauce. Either way, they are delicious as an addition to any meal.

YOU AND YOUR CHILD

Using jellied cranberry sauce for dinner? Open a can of jellied cranberry sauce. Cut off a slice for your child to use.

Talk about the 4 senses. (Taste, Smell, Touch, Sight) Talk about the color and what other things are the same color. Let your child cut it with a fork - what does it feel like? Let him or her taste it - what does it taste like? What does it look like? When serving it for dinner let your child tell the rest of your family what he or she learned.

Stringing Cranberries and Popcorn

1. Buy fresh cranberries and/or pop some corn.
2. Use a darning needle with heavy thread.
3. Knot the thread.
4. Also, knot around the first cranberry so it won't fall off.
5. String the cranberries and/or popcorn to the length you want.
6. When you come to the end make sure to tie around the last cranberry like you did for the first one.
7. Many families use strings of cranberry and/or popcorn to decorate their Christmas trees.

Cranberry - Apple Crunch

Another way of serving cranberries is in a dessert. Here is a recipe your child will like and you will too. A nutritious recipe with apples, oatmeal and nuts. Let your child compare the soft tangy cranberry sauce and crispy sweet apples.

STEPS FOR: MOTHER CHILD

1. Measure ingredients:

1 cup whole cranberry sauce

1 cup apples

pared,

cored,

chopped

1/2 cup quick-cooking rolled oats

1/3 cup brown sugar, packed (press down)

3 tablespoons flour

1/4 teaspoon salt

3 tablespoons melted butter or margarine (melt in small saucepan over low heat; when melted, set aside)

1/4 cup chopped nuts, if desired

2. Preheat oven at 350°

3. Grease 8 inch square baking pan

4. Combine cranberry sauce and apples in a bowl

5. Spread in the baking pan

6. Combine oats, sugar, flour, salt. Add melted fat; mix until crumbly.

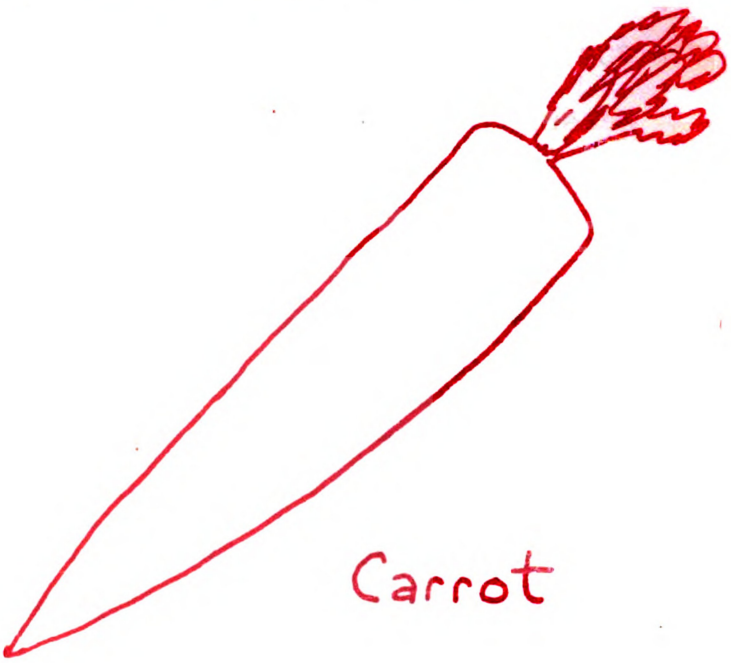
7. Sprinkle over fruit. Top with nuts, if desired.

8. Bake 45 minutes or until apples are tender. Serve warm.

YOUR CHILD

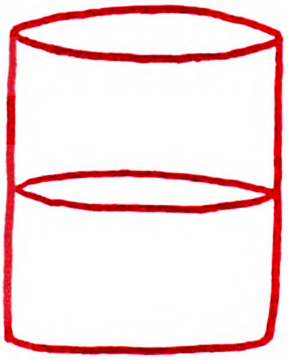
With this game help your child pick and color the food that is red; the one that is orange and the one that is yellow. Ask him to point out the food that is white.

Grapefruit



Carrot

Cranberry Sauce



Milk

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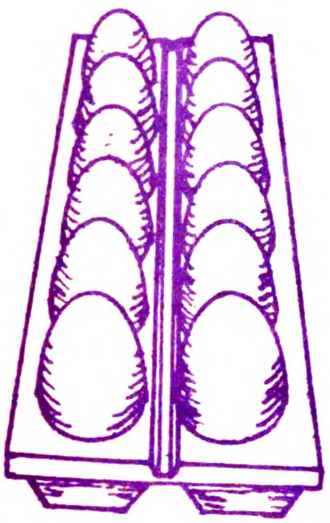
FOOD TIPS FOR MOMS & TOTS

EGGS, GOOD AT ANY MEAL

MOTHER -

Like meat and milk, eggs are high in protein. Even with their rising cost they are still a bargain source of protein and other nutrients such as vitamin A which is needed for growth and to see well in dim lights.



Eggs can be cooked in many ways. How many of these have you or your children tried?

hard cooked

soft cooked

poached

scrambled

omelet

fried - 'sunny side up' or 'over easy'

Eggs are also used for meringues, in custards, puddings and pie fillings, as coating for breading foods, a binder in meat loaf, and as a leavener when egg is beaten.

Egg combines well with many other foods such as meat, vegetables, cheese, and noodles.

YOU AND YOUR CHILD

Recipe for Scrambled Eggs

Scrambled eggs can show the child how the raw, runny eggs are changed to solid, scrambled eggs.

STEPS FOR:	MOTHER	CHILD
1.		Use 0 or 00 eggs for each person.
2.	Break the 00's into a bowl.	
3.		Add  1 tablespoon of milk for each egg. (Help the child measure.)
4.		Season with salt and pepper
5.		Beat the mixture with a fork or wire whip until well blended.
6.	If you want, add other ingredients to the egg mixture after it is well blended. (It is good plain, but some people like to add crispy fried bacon bits or 1/2 cup of cubed cheese.)	
7.	Melt just enough fat (margarine, oil, butter, or shortening) in frying pan to coat the bottom using low heat	
8.	Cook over low heat setting.	
9.		Stir occasionally to let the uncooked portion flow to the bottom. (Your child will need some help.)
10.	Serve.	

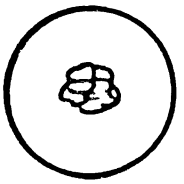
SERVING SUGGESTION

SCRAMBLED EGG BUTTERFLY

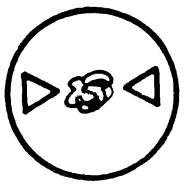
Make one slice of toast and butter it.

Cut it in half diagonally. 

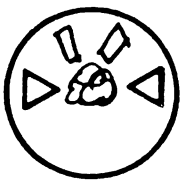
Place a mound of scrambled eggs in the middle of a plate.



Arrange toast triangles to form wings.

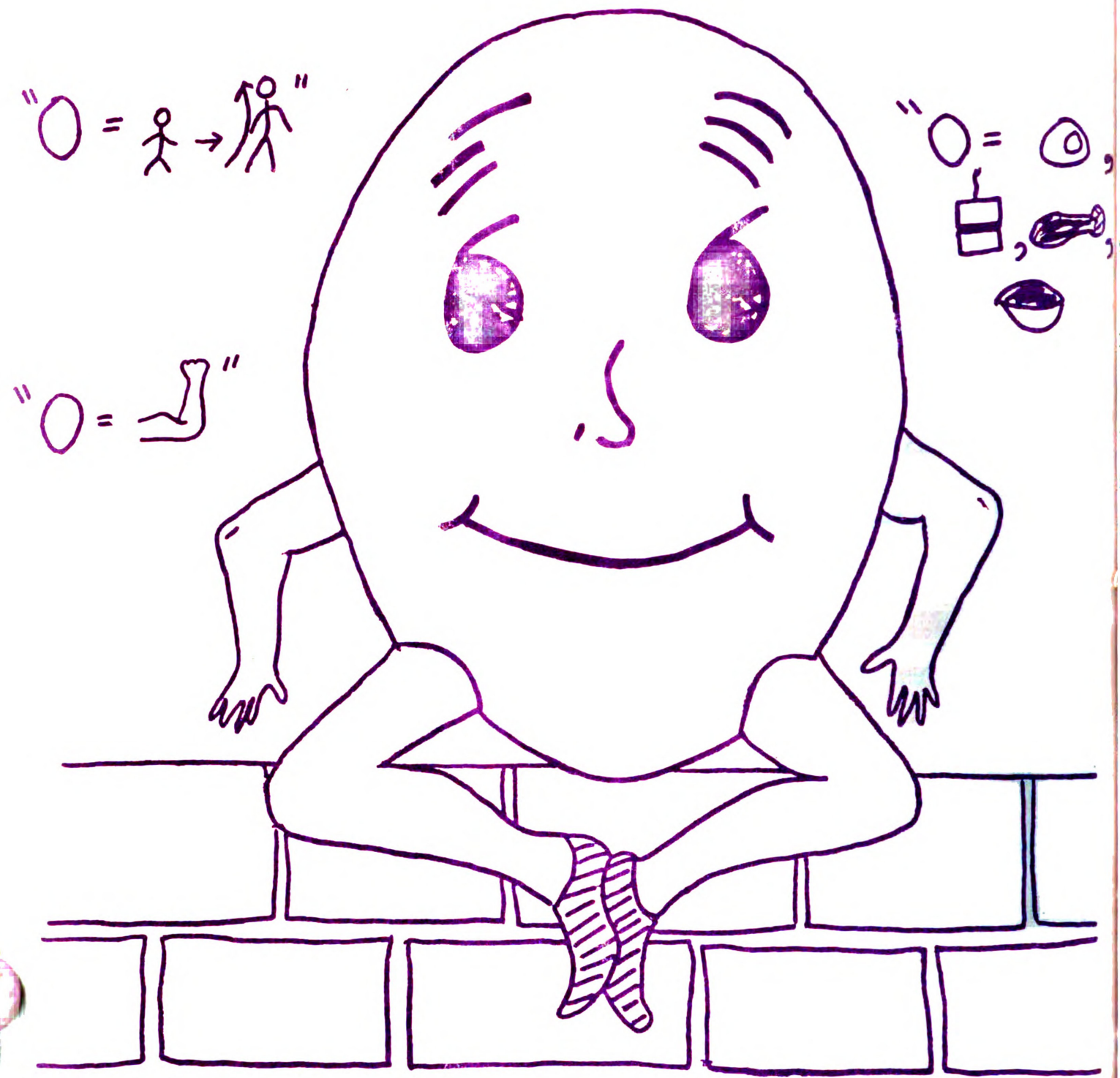


Use bacon strips, cheese chunks or carrot sticks for butterfly feelers (or whatever else that's available).



YOUR CHILD

HUMPTY DUMPTY SAYS:



"Color Me"

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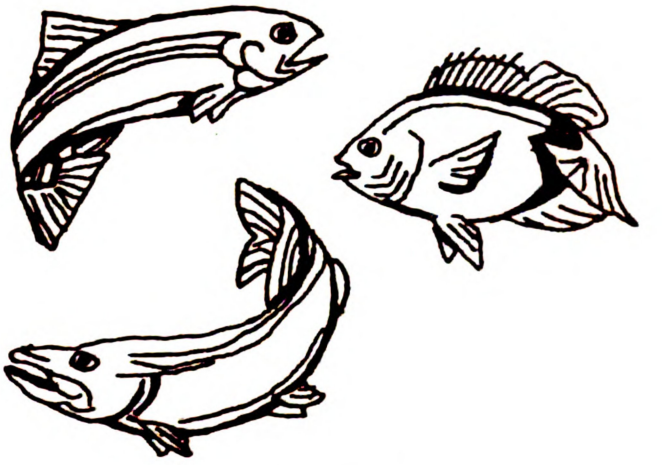
FOOD TIPS FOR MOMS & TOTS

DON'T FORGET FISH

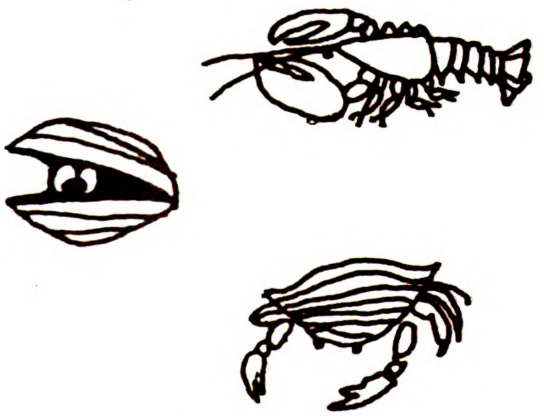
MOTHER -

Fish is another substitute for meat. Like cheese, fish also adds variety.

It contains the same amount of nutrients as meat, except it is not as high in fat. Fish is a good protein source which means it builds and upkeeps your tissues.



FINFISH



SHELLFISH

Fish also has a high amount of niacin which is important in making compounds needed in the function of your body. Some iron is available in fish, but not as much as meat.

There are two classes of fish - finfish (trout, cod, haddock) and shellfish (oysters, shrimp, lobster).

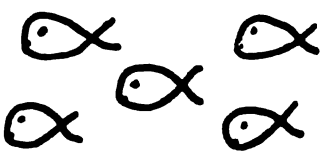
Fish is easy to prepare! Fat fish, such as salmon, can be broiled or baked. Lean fish, such as cod and turbot, can be brushed or basted with oil before broiling. Whole fish can be stuffed and then baked. All fish can be steamed, fried, boiled or poached. To poach fish is just like for eggs: simmer in a salted or seasoned water until the fish flakes easily.

If you think fish is dull, try a seasoning of lemon or parsley butter. Fish can be used in salads and casseroles. Some fish are even used as appetizers - smoked and pickled.

YOU AND YOUR CHILD

'Fish' is an easy shape in which foods can be served. Try it with a tuna salad or with fruit. Let your child decorate by adding eyes, mouth, fins, etc. with the foods you may have available.

If you have fresh fish available have them feel the scales and see how it is cleaned. Show the bones and how they give the fish shape and also how our bones give us our shape. Have them feel their bones. Let them feel the fish. Also, you can show them the gills, mouth, insides and tell them that these are used to keep the fish alive.



YOUR CHILD

Five Little Fishes

Your child will need your help to learn this game. Follow the lines and motions and play the game together. Soon you will both know it.

(Hold up 5 fingers, starting with the thumb, bend down one finger at a time as the verse progresses.)

FIVE LITTLE FISHES WERE SWIMMING NEAR THE SHORE
ONE TOOK A DIVE, THEN THERE WERE FOUR.

FOUR LITTLE FISHES WERE SWIMMING OUT TO SEA
ONE WENT FOR FOOD, THEN THERE WAS THREE.

THREE LITTLE FISHES SAID, "NOW WHAT SHALL WE DO?"
ONE SWAM AWAY AND THEN THERE WERE TWO.

TWO LITTLE FISHES WERE HAVING GREAT FUN,
BUT ONE TOOK A PLUNGE, THEN THERE WAS ONE.

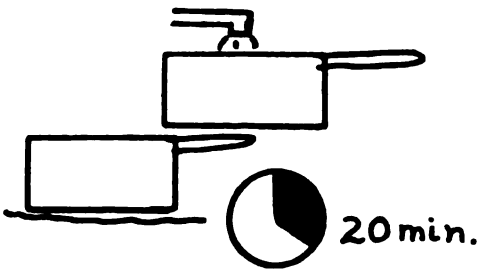
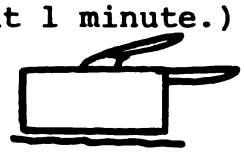
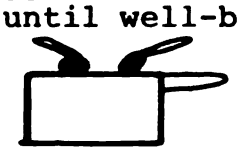
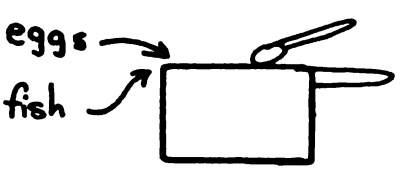
ONE LITTLE FISH SAID: "I LIKE THE WARM SUN."
(Put hand behind back.) AWAY HE WENT AND THEN THERE WERE NONE.

YOU AND YOUR CHILD

Fish and Egg Sauce

A simple nutritious recipe you and your family will enjoy. Let your child taste and describe the foods before they are mixed and after to see how the different tastes will blend together.

STEPS FOR:	MOTHER	CHILD
1.	Warm 5 eggs in warm water	

	MOTHER	CHILD
2.	Add enough water in a saucepan to cover the eggs.	
3.	Heat water until it almost boils.	
4.	Add warm eggs and turn heat down and simmer 20 minutes.	
5.	Cool eggs in cold water	
6.		(Help your child measure) Measure 1/3 cup flour and 2/3 cup instant non-fat dry milk. Mix together in a bowl.
7.		Measure 2 cups water and add to a saucepan. Set aside.
8.		Tap cool egg on hard surface to crack egg.
9.		Roll between hands to help loosen the shell.
10.	Open can of fish, drain. (1 7 oz. can of tuna or 1 1 lb. can of mackerel)	Peel. (Holding egg under running cold water may help ease off the shell.)
11.	Sprinkle flour-milk mixture over water. Stir until it thickens. (Once it boils it will take about 1 minute.)	With a table knife cut the eggs into small pieces. 
12.	Turn off heat. 	Measure 2 tablespoons butter or margarine and add to sauce.
13.		Add eggs and fish to sauce; stir until well-blended. 
14.	Season if desired.	
15.	Serve on toast or over boiled noodles. Enough for 4 people.	

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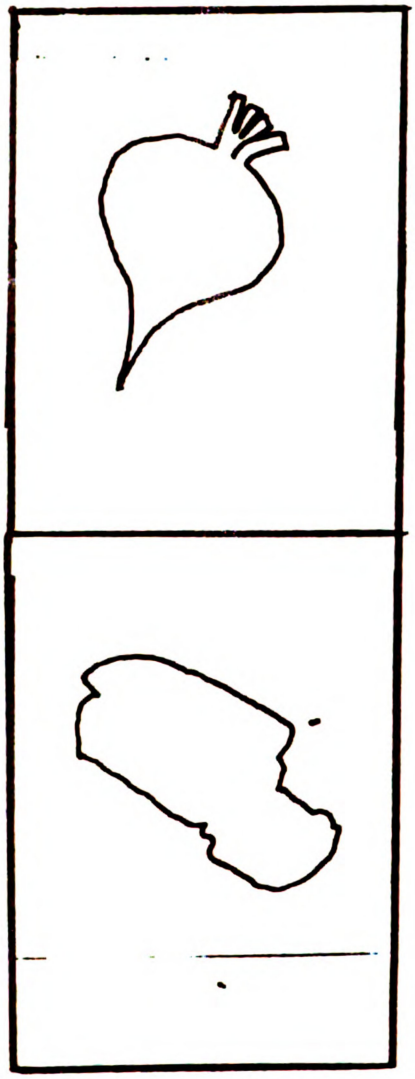
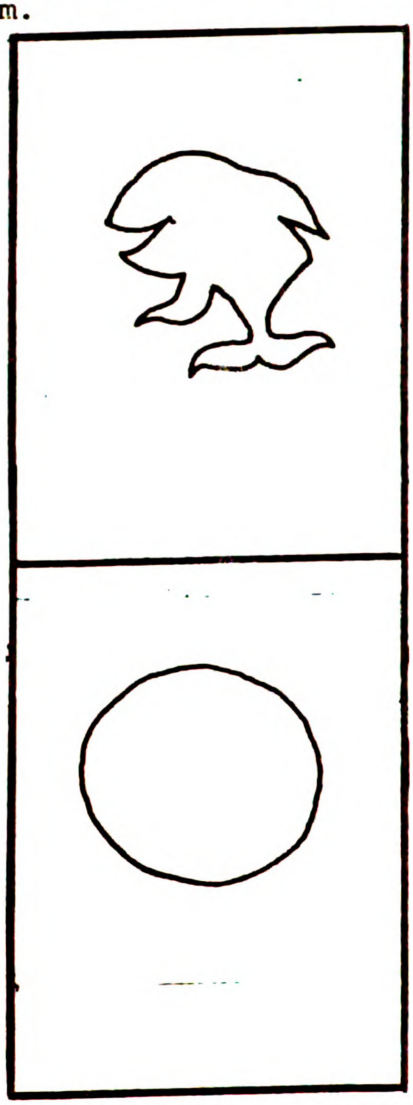
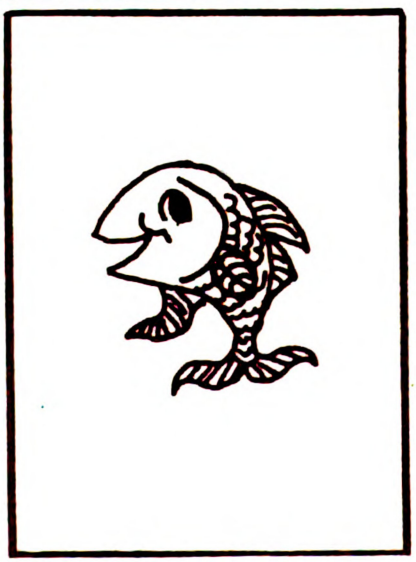
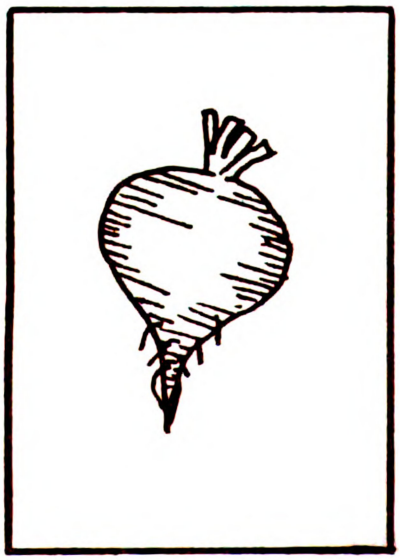
YOUR CHILD

This is a game where you can help your child to cut out the foods in the rectangles at the bottom of this page with blunt scissors and have your child paste the foods onto the right shapes in the other rectangles. Once they dry, have your child color them.









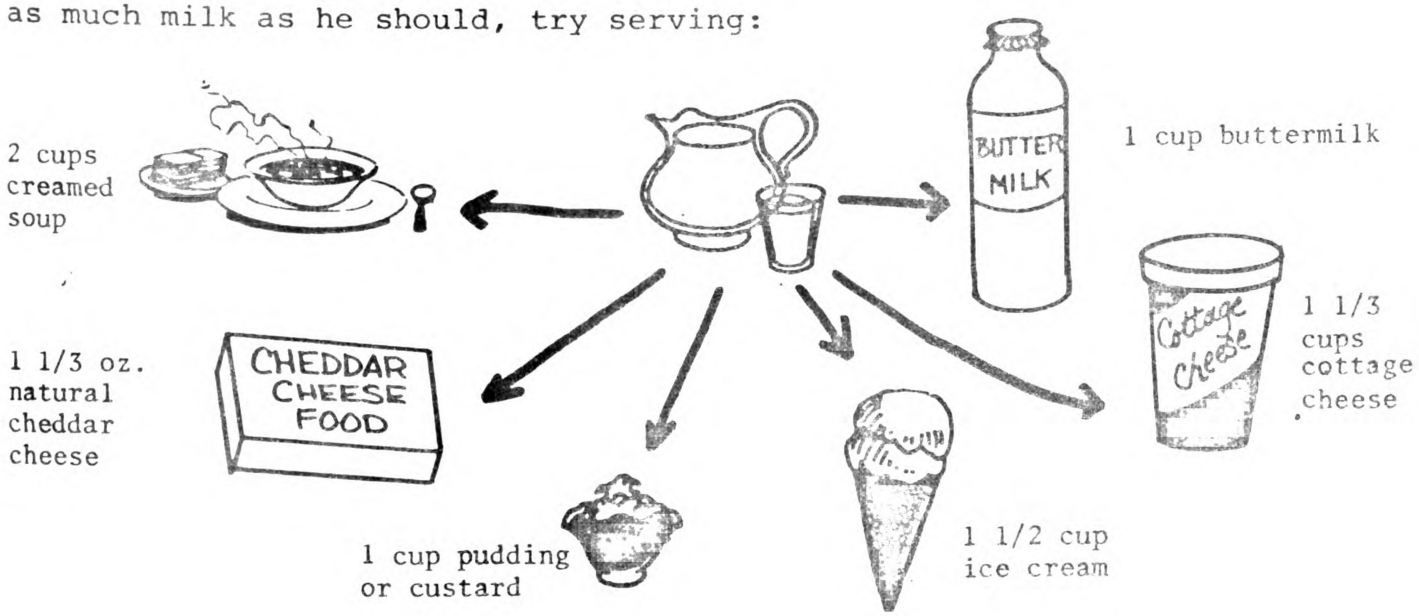
FOOD TIPS FOR MOMS & TOTS

THE GOODNESS OF MILK

MOTHER -

Everyone needs the goodness of milk. Children should have ▢▢ to ▢■■ cups of milk each day.

Milk can be served in many ways. If your child doesn't drink as much milk as he should, try serving:



Milk provides the protein to help build muscle and blood. It also provides calcium which is important for building strong bones and teeth. Vitamin D found in milk also helps in building strong bones and teeth.

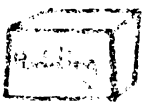
Powdered Milk is a good source of protein and calcium and is also much more economical than buying fluid milk. Let your child help you make it -- he will see that water is a large part of milk; but milk has more than just water. Increase the protein content by adding powdered milk to: cooked cereals, cream soups, meatloaf, meatballs, mashed potatoes to name just a few.

YOU AND YOUR CHILD

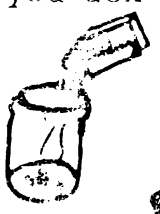
Instant Pudding

STEPS FOR: MOTHER CHILD

1. Get 1 package of instant pudding



1 large jar with tight lid
(if you don't have a jar use a bowl)

2. 

Pour 1 package of instant pudding into the jar

3. 

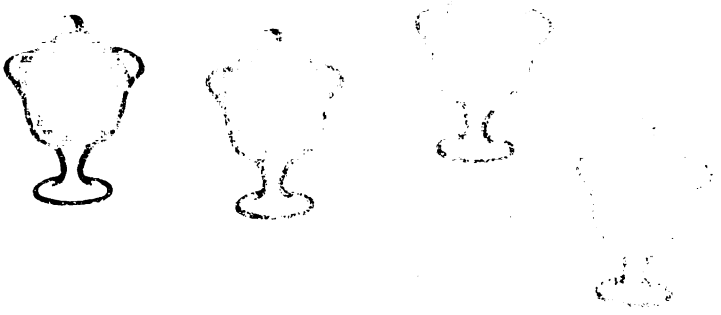
Measure and add 2 cups milk

4. Put on the lid

5. Shake until it thickens - about 30 seconds. (If you use a bowl, stir until ready - about 2 minutes.)

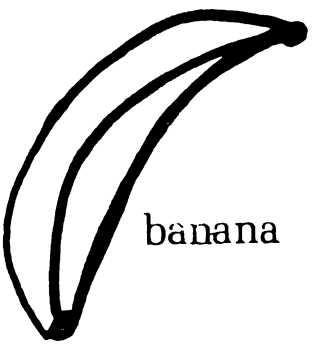
6. Pour into dishes; the pudding is ready to eat in 5 minutes. (If stored in the refrigerator, cover with waxed paper or plastic wrap.)

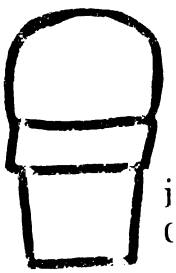
7. Makes 4 1/2 cup servings.

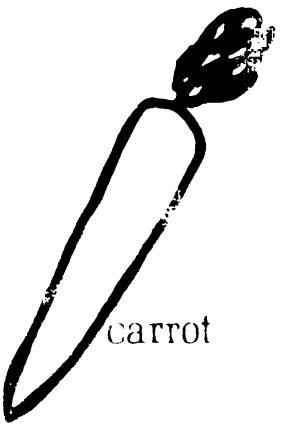


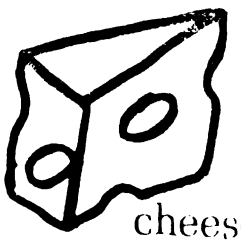
YOUR CHILD

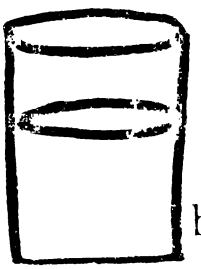
Milk is a part of many foods. Name each of the foods for your child and then have your child name them. Have them circle the foods made from milk. Let them color all of them.


banana

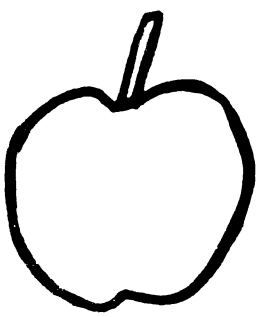

ice cream


carrot

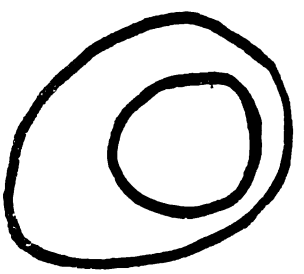

cheese


buttermilk


cottage cheese


apple


butter


egg

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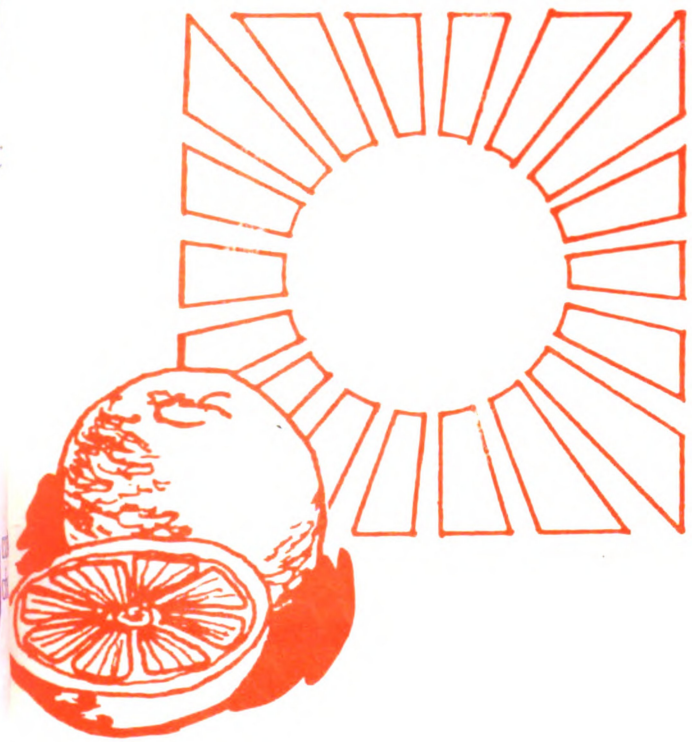
FOOD TIPS FOR MOMS & TOTS

LET SOME SUNSHINE IN YOUR LIFE WITH ORANGES



MOTHER -

As you know, oranges are a good source of vitamin C; 1 orange provides a preschool child with enough vitamin C for a whole day.

When you think of oranges you probably think of sweet oranges which are the most popular oranges, but there are two other types of oranges - the mandarin from China and the sour orange from Spain.

Navel orange is named because of the umbilical mark on the blossom side of the fruit.

If you have ever been to Florida, California or Texas you may have noticed that the oranges are not really orange on the trees, but really a greenish-brown. Before they come to the stores coloring is added to the skin to make them orange.

Oranges are used for desserts, salads of all kinds, juice, at breakfast or anytime you may enjoy one. Oranges, like apples, make a good, easy snack food for your youngsters. The peeling is used for flavoring in some foods.

Orange drink is not orange juice and does not supply the nutrients like oranges. Orange drink is made with orange flavoring and sweetening.

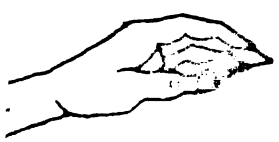
YOU AND YOUR CHILD

Do your children like fresh squeezed orange juice? Well, let your children squeeze it next time. It is a good way for the preschool child to develop his small muscles (fingers, hands).

Let them try peeling one and let them discover oranges with the 4 senses.

taste

sight



touch

smell

Ask your child what color it is; how does the outside covering (peel) feel - rough, smooth, waxy; how does it taste - sweet or sour; how does it look - square or round; how does the inside look - one piece or sections; and how does it smell - strong or mild.

Growing Orange Seeds

1. Take the bottom half of a plastic gallon container and fill with dirt until it is about 1 inch from the top.
2. Place the seeds from an orange on the dirt and lightly cover with other dirt.
3. Water.

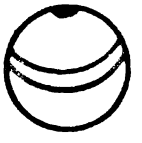
4. Covering the container and dirt with plastic wrap will help the seeds to sprout faster. The seedling should appear in 1 to 2 weeks. (You can keep the orange plant outside only when the weather is warm. Orange plants are sensitive to temperature changes.)
5. In about 1 month the seedling will grow shiny green leaves.
6. If you have the plant for a year or two it will blossom, but only in certain climates will they have oranges.

Don't forget, all plants need water and sunshine!

YOUR CHILD

Row of Boats

Have your mother take a knife and make a strip around the orange. Easy-peel oranges work best. This includes most California oranges, but usually not Florida oranges.



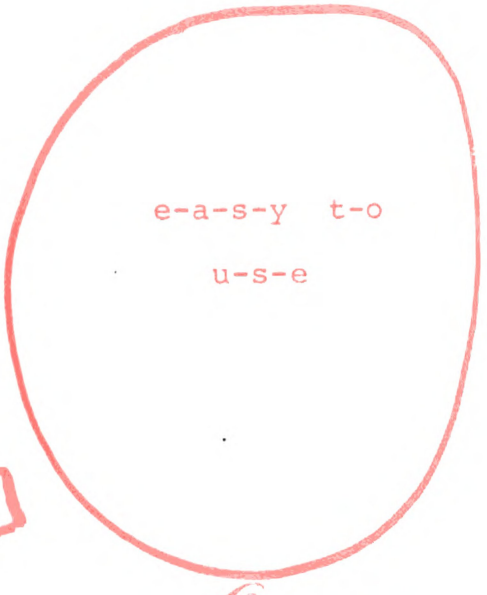
Leaving the strip, peel the rest of the orange.

Split open the orange and you will have a row of boats!

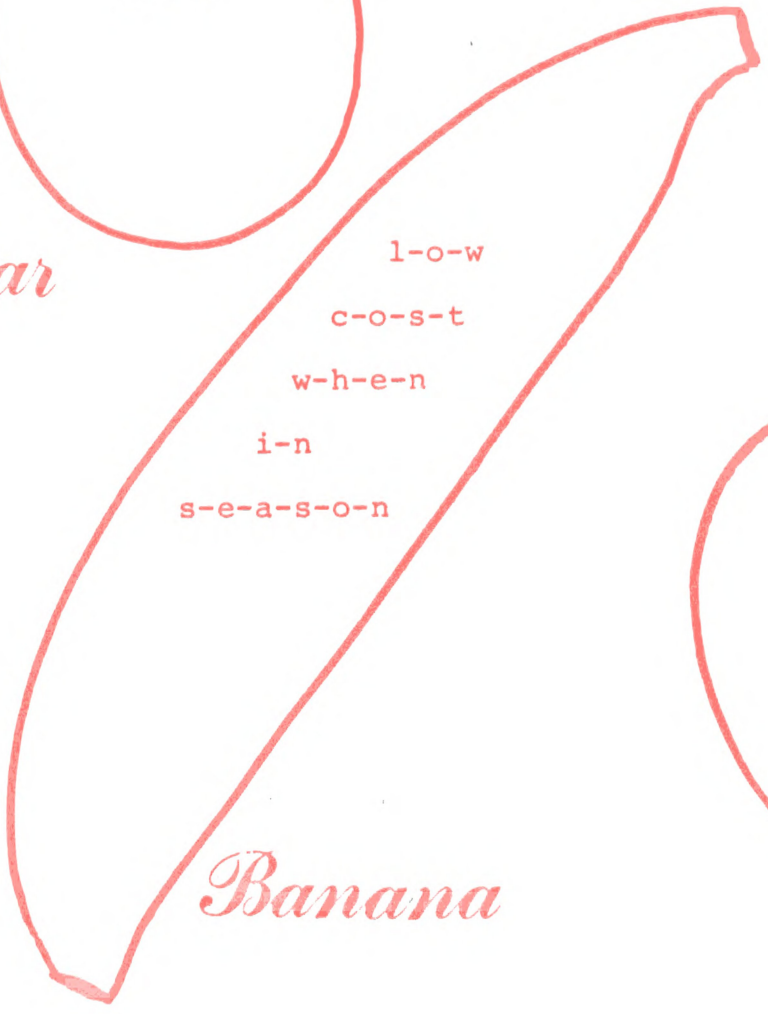
This is a game for you to play with your child. Help him name the fruit and pick out the right color for the fruits (yellow, orange, red or green). Read to your child the phrase that is on the fruit. Then, let your child color the fruits.

FRUITS ARE:

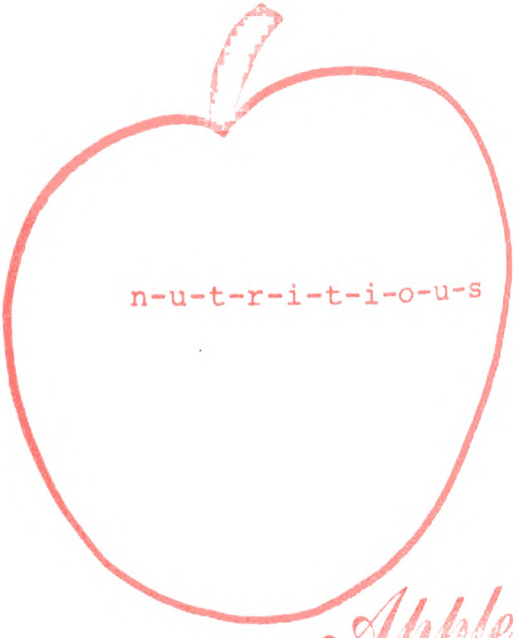
Pear



Orange



Banana



Apple

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FOOD TIPS FOR MOMS & TOTS

AN EVENT FOR POULTRY

MOTHER -

The holidays are just around the corner -- time for turkey. But don't forget about whole chicken for those smaller families who get tired of turkey leftovers.

When buying either turkey or chicken, plan on 2 to 3 servings per pound.

Thawing a frozen turkey is safest if done in the refrigerator. It takes about 24 hours for every 6 pounds - an 18 pound turkey will take 3 days. Be sure to keep it tightly wrapped. If thawed at room temperature, be sure it is tightly wrapped with several layers of newspaper or placed in a doubled brown grocery bag, tightly sealed.

Do you know the difference between "stuffing" and "dressing"? Stuffing is placed inside a thawed turkey or other meat and cooked with it -- dressing is baked in a separate container. The food is the same.

YOUR CHILD

Food Comes From?

Talk to your child about where we get our food. Then let him draw a line to the plant or animal from which the food came.

EGG

COW

MILK

WHEAT

BREAD

CHICKEN

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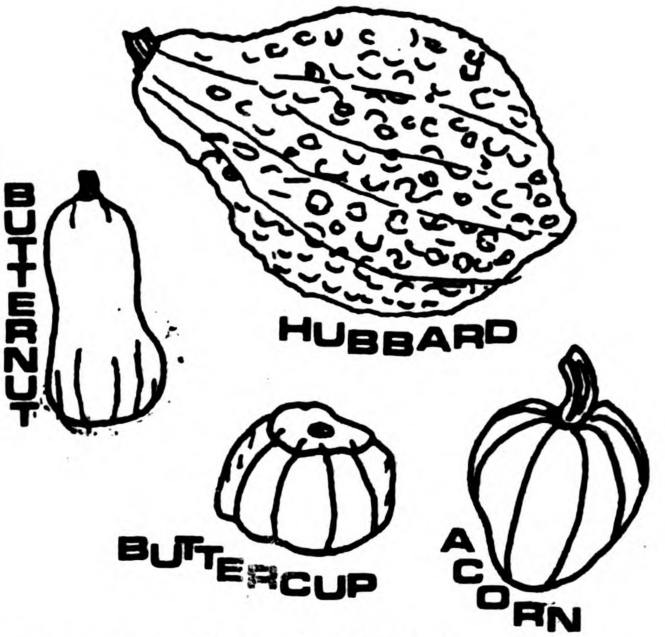
FOOD TIPS FOR MOMS & TOTS

IT'S TIME FOR WINTER SQUASH



MOTHER -

Squash is native to the Americas.

Some names for winter squash that may be found in your stores are Acorn (Table Queen), Butternut, Buttercup and Hubbard. They have a tough, ridged green or yellow-orange rind.

Squash can be served in many different ways. Here are some of these ways -- either buttered with salt and pepper or removed from the rind and mashed with one or two of the following: cream, nutmeg, brown sugar, crumbled crisply fried bacon, candied ginger, grated orange peel or orange juice.

Squash is a good source for a lot of different nutrients such as vitamin A, needed for growth and seeing in dim light; vitamin C needed for healthy gums and repair of blood vessels; and that's not all. Squash also provides some calcium needed for healthy bones and teeth and some iron needed to carry oxygen in your body.

Winter squash lasts a long time when stored in a cool, dry, well-ventilated area.

YOU AND YOUR CHILD

GROW SOME SQUASH SEEDS

1. Cut off the bottom half of a plastic gallon container.
2. Fill with dirt until it is about an inch from the top.
3. Place about 4 or 5 squash seeds on top of the dirt and cover with some other dirt. Water. Set the container in a sunny area.
4. In a week or two the seedlings will sprout.
5. Within a month large green leaves will begin to appear.

Have some extra apples then try them with your squash. Here's a recipe to do just that.

Squash and Apple Bake
(Makes 6 servings)

STEPS FOR: MOTHER CHILD

1. Measure ingredients:

2 pounds butternut or buttercup squash

1/2 cup brown sugar, packed (press down)

1/4 cup butter or margarine, melted in small saucepan

1 tablespoon salt

1/2 teaspoon mace, if desired

2 baking apples

washed,

cored,

cut into 1/2 inch slices

2. Heat oven to 350°

3. Cut squash in half

4. Remove seeds and fibers

5. Pare squash

6. Cut into 1/2 inch slices

7. brown sugar
butter
salt

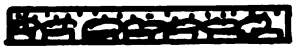
Stir together remaining ingredients, except apple slices, in a bowl.

8. 

Arrange squash in ungreased large baking dish

9. 

Top with apple slices.

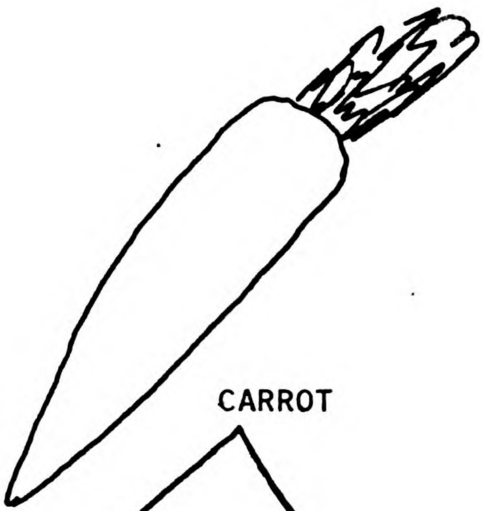
10. 

Sprinkle sugar mixture over top.

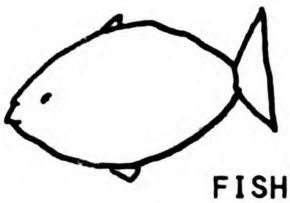
11. Cover with foil; bake 50-60 minutes or until squash is tender (test with fork)

YOUR CHILD

In this game help your child by pointing to the food and naming it, then have your child name the foods. Help them pick out the vegetables. Have them color the vegetables.

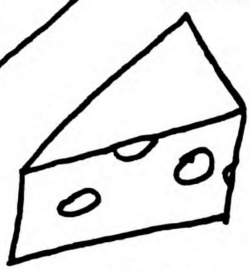


CARROT

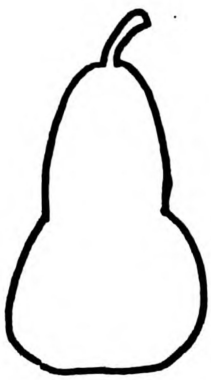


FISH

POTATOES



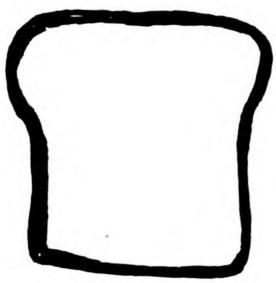
CHEESE



PEAR

LETTUCE

BROCCOLI



BREAD

ICE CREAM

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FOOD TIPS FOR MOMS & TOTS

TASTY TOMATOES

MOTHER -

Tomatoes are a good source of vitamin C. This is important for growing children as well as for adults. Vitamin C helps keep gums healthy and plays an important part in the blood, too.

Since tomatoes grow from flowers and have seeds, they are really fruits; but people eat them like vegetables.

When cooking tomatoes, the heat destroys some of their vitamin C, so don't forget to sometimes serve tomatoes raw.

Have you tried these different varities of fresh tomatoes?

1. The typical round tomato.
2. The oval shaped Italian tomato.
3. The tiny cherry tomato

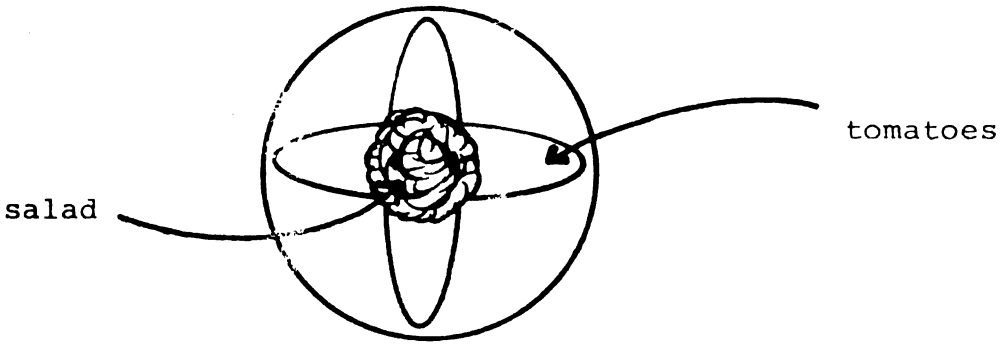
Canned tomato products also come in many ways: tomato paste, tomato sauce, tomato puree, tomato juice, tomato soup, tomato catsup, canned tomatoes.

YOU AND YOUR CHILD

Serving Idea

Wash a tomato and cut it into wedges. You may want to remove the skin if it is thick.

Have your child place the 4 wedges on a plate and put a scoop of tuna or chicken salad in the center.



Big kids like it too!

Family Goulash

STEPS FOR: MOTHER CHILD

1. Measure ingredients:

4 ounces noodles

1 pound ground beef

1 medium onion  chopped

1 16 ounce can corn

1/4 pound grated cheese or slivered cheese food (about 1/2 cup)

1/2 cup catsup

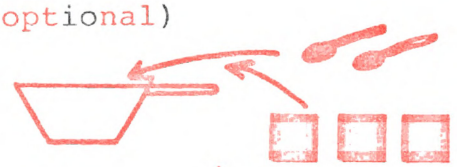
1 14 1/2 ounce can tomatoes

2 teaspoons salt

1/4 teaspoon pepper

1 green pepper chopped (optional)

2. Add 3 cups water and 2 teaspoon salt to sauce pan

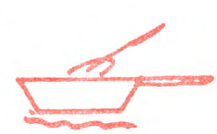


3. Bring to boil and add noodles

4. Boil uncovered, stirring occasionally for 7 - 10 minutes

5. Drain in sieve or colander.

6. While noodles cook, cook and stir ground been and onion in large skillet until meat is brown and onion is tender.

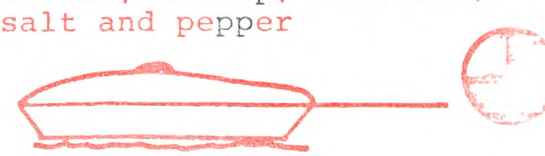


7. Drain off the fat.

8. 

Stir in drained noodles, corn, cheese, catsup, tomatoes, salt and pepper

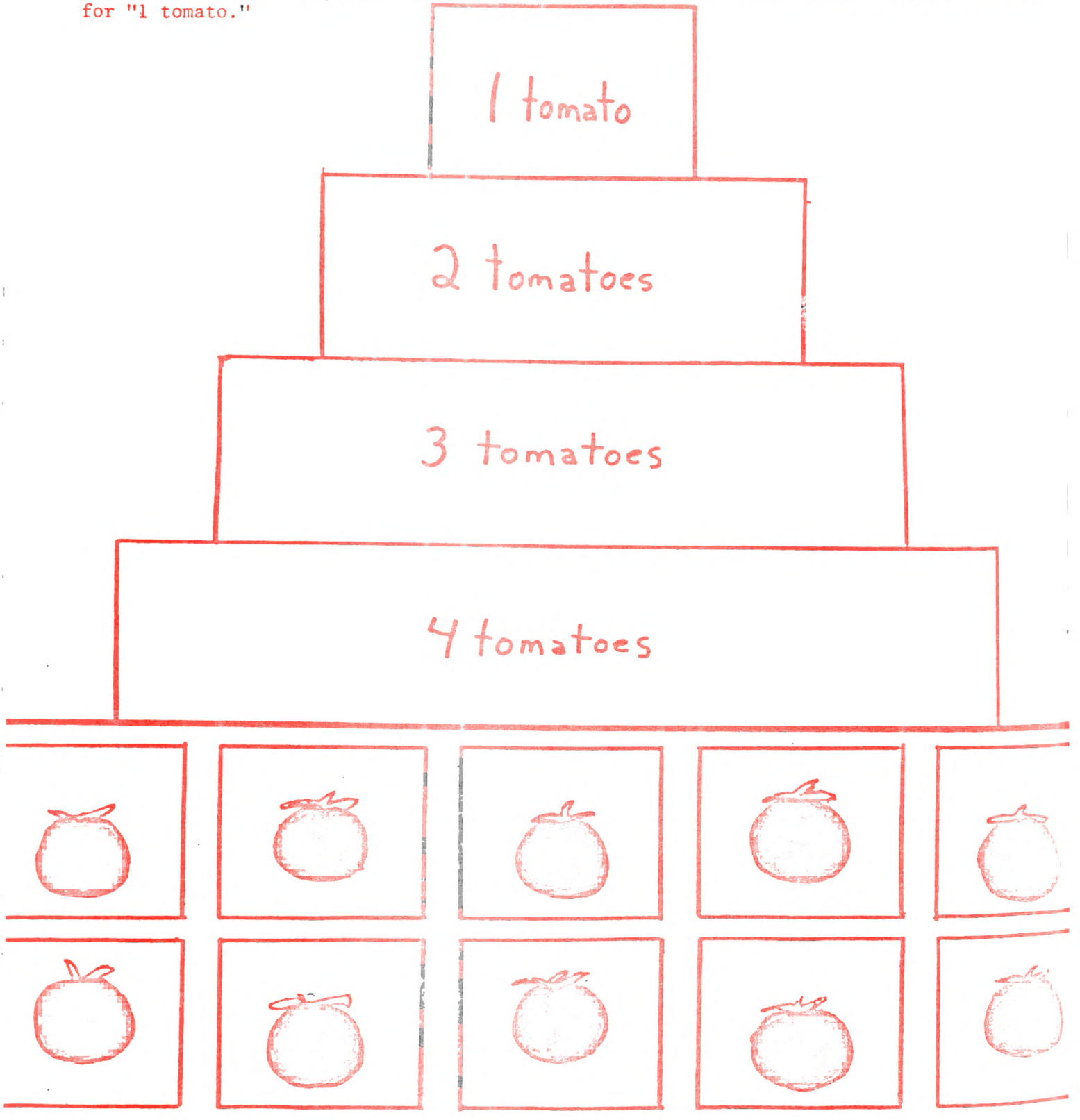
9. Cover and simmer for 30-45 minutes.



10. Serve. Makes 5 to 6 servings.

YOUR CHILD

Help your child countdown the tomatoes by having him cut out with blunt scissors 4 squares of tomatoes from the bottom and paste in the rectangle "4 tomatoes;" 3 squares of tomatoes for "3 tomatoes;" 2 squares of tomatoes for "2 tomatoes;" and finally 1 square of tomato for "1 tomato."



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