

INTERNATIONAL NUTRITION COMMUNICATION SERVICE
CONSULTANT REPORT SERIES

JAMAICA

— February 1986 —

**Report of technical assistance and production
of the student manual for the Jamaica Primary
Nutrition Education Project**

by

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Introduction

In 1984, INCS began a collaborative effort with Unesco, the Jamaican Ministry of Education, and USAID to develop innovative reading materials that would also include nutritional messages for primary school children. The intent was to increase students' nutritional knowledge at the same time as improving their language arts skills. The production of these materials has passed through a progression of steps, including the implementation of a baseline survey to determine students' nutritional knowledge and reading levels, a participatory workshop in which teachers and parents contributed ideas to the design of learning materials, development and illustration of reading materials, orientation workshops for teachers, pre-testing of materials.

In February 1986, INCS communication specialist, Christine Hollis, returned to Jamaica to assist the Ministry's Core Curriculum staff in the final preparation of the student manual and teachers' guide. A final draft of the manual was completed, and printing was scheduled for the end of March. At that time, it is intended that the manual, teachers' guide, and other supporting materials will be distributed to the pilot test schools in the Clarendon area. Their use and effectiveness will be monitored during the school year, and the results of this monitoring research will be presented at a final conference to be held in December of 1986. It is hoped that this effort will demonstrate the utility of new and experimental methods for teaching nutrition in the primary school system.

Background

In 1984, INCS entered into a collaborative effort with Unesco, the Jamaican Ministry of Education, and USAID to increase primary schoolers' nutritional knowledge at the same time as developing their language arts skills. The project intended to develop innovative reading materials that would include not only nutritional messages but also incorporate aspects of the language arts curriculum for fourth and fifth graders. In order to carry out this project, activities were planned in several stages. The first step was the design and implementation of a baseline survey to provide information on students' nutritional knowledge and reading level. This took place in April and May of 1985.

In July, 1985, INCS communication specialist, Christine Hollis, traveled to Jamaica to help the Ministry of Education with the second phase of this project--a participatory workshop for parents and teachers involved in the project. She spent the first week with the Ministry staff planning and organizing the workshop and then traveled to Mandeville where the workshop was held. At that workshop, teachers and parents developed their own visual aids to teach nutrition and reading; provided ideas for the adaptation of several language arts stories so they would convey nutritional concepts; developed potential stories, jingles, poems, and skits that could be used to teach children nutrition; discussed ways to promote the project with the community and in the schools; and learned improved methods of teaching language arts. This material and input was utilized by the Ministry staff and INCS consultant, Mr. Benedict Tisa, in the development of the first prototype educational package that was designed after the workshop.

In September 1985, Ron Israel, Director of INCS, traveled to Jamaica to discuss the revised version of the educational materials with the Ministry of Education. At that time, it was decided to provide the materials, in the form of a nutrition/language arts booklet, with a theme. The theme chosen was that the children could become "nutrition magicians" and improve their own health by following the nutritional concepts and behaviors emphasized in the manual.

At a second teachers' workshop, participating teachers reviewed portions of the booklet and provided critical comments. Based on those comments, the Nutrition Magician manual was revised once more. A teachers' guide was also formulated at that time. While those revisions were underway, the Core Curriculum Unit of the Ministry of Education finalized a draft of one reading story from the Ministry's Dr. Bird series that had been adapted to contain a nutritional message. This story was intended for a printing separate from the Nutrition Magician booklet and was titled "No Fish for Dinner." A Ministry artist also finished the prototypes of three food group posters. These were to be printed not only in a poster format, but were also to be cut up into flash cards that the children could use in class (see Appendix A).

In November, INCS sent an illustrator of children's books to Jamaica to provide the illustrations for the Nutrition Magician booklet. She worked closely with the staff of the Core Curriculum Unit in actual development of the drawings to support the stories, and she also designed two cartoon series for the booklet. Some preliminary feedback was gathered concerning the drawings, and some revisions made at that time. The draft booklet and illustrations were left with the Ministry staff for their critique and adaptations.

In February, Christine Hollis returned to Jamaica to assist the Ministry staff in completing the final draft of the booklet, so that it could be printed and disseminated to the schools.

Purpose of the Visit

It was intended that I carry out the following:

- a) Review and redesign, with Ministry of Education counterparts, the Nutrition Magician coursebook and teachers' guide,
- b) Carry out formative research with a representative audience (4th and 5th graders) to determine reactions to the learning materials that had been developed,
- c) Analyze the results of that research and incorporate the information into the final design of the coursebook,
- d) Work with counterparts on arrangements for the booklet's printing and dissemination.

Report

In preliminary meetings with the Ministry staff, Mrs. Lola McKinley, Ms. Gladys Archer, and Ms. Isoline Reid, we discussed their desired revisions. I recommended that we agree upon the general themes/concepts and messages to be included in the booklet or manual. I was assigned the task of drawing up those themes and specific messages, in the sequence in which they were to be presented in the manual. These themes were developed with an eye to proposed nutrition curriculum guidelines already developed by the Ministry. We also worked out a general strategy and schedule for final development of the manual and agreed on a method of communicating with each other to obtain feedback and decisions as quickly as possible,

Working with Ms. Reid, a sequenced listing of nutritional concepts and messages was developed. We then reviewed the Nutrition Magician manual, making note of:

- which of the identified concepts and messages were covered adequately,
- how the stories, exercises, and activities could be sequenced in order to promote an orderly method of progressing from simpler nutritional concepts and reading skills to those that were more complex,
- which stories, exercises, cartoons, and illustrations needed change and improvement.

After determining the amount and type of work that remained to be done, we allocated responsibilities and began work on separate aspects of the manual.

During a discussion with Unesco officials, it was discovered that a camera-ready copy of the manual and any support materials had to be ready by March 1, 1986, in order for Unesco to disburse the remainder of the funds allocated for printing/publication costs. Because of the sudden time constraint, it was determined that I would remain for an extra week to assist the Ministry in finishing the manual for final production.

While working on the revisions and writing new materials for the manual, I discussed a potential production schedule with Ms. Beverly McFarlane, head of

the Publications Unit. She also arranged to have the "No Fish for Dinner" story and the food group posters sent to the printers so we could get an estimate of their printing costs. She assigned an artist to complete a few illustrations I needed to supplement the new materials we were developing.

During the second week we met with Mrs. McKinley to present her with the revised manual, and to plan a work schedule for the next two weeks. At that meeting, she stressed that she felt the focus of the manual should be on what the children could realistically do to take care of their own health and nutritional needs. She did not feel the emphasis should be on having children telling their parents what was right or wrong, or on what the parents should do. She stressed cultural sensitivity in terms of dealing with both the subject matter and illustrations.

Pre-testing of materials

Because of a salary negotiation dispute between the national teachers' union and the Jamaican government, many of the schools were "on strike" and not in session. It, therefore, became extremely difficult to locate schools similar to those in the rural Clarendon area in which we could do any extensive pre-testing of materials. As time was limited, we finally located one school in the Kingston suburbs, at which some 4th and 5th graders were present. An impromptu pre-testing session was held with approximately five children from each grade. The sections in the manual that we pre-tested with the children included the following:

- "Best Food for Baby" (a cartoon stressing the importance of breastfeeding)
- "The Junk Food Man" (a poem stressing the importance of eating nutritional snacks)
- An illustration of the Nutrition Magician holding a baby in his fingertips
- "The Anaemia Monster" (a cartoon concerning to anaemia)
- An illustration concerning Vitamin A
- "How to Keep Healthy" (a conversation between the Nutrition Magician and children relating to basic sanitation and hygiene)
- "No Teeth" (a poem stressing what can happen to one's teeth when too many sweets are eaten).

We spent approximately 1 1/2 hours with the children, having them read the stories out loud, looking at the illustrations and answering open-ended questions. The main points that we were checking on were:

- comprehension (did they understand the main points in the story?)
- clarity (were the stories and illustrations easily understood?)
- interest (how did they like the stories and pictures?)
- likes/dislikes (what did they like/dislike?; was there anything that disturbed them?)
- ease of reading (was the reading level appropriate?)
- relevance (did the characters seem similar to the children?; were the suggestions about nutrition appropriate to the children's situation?).

Some points that need to be taken into consideration regarding this research:

- 1) All schools were out of session (due to teacher and parent protests) in Clarendon and the neighboring parishes. It was, therefore, very difficult to get to a rural environment fairly representative of the Clarendon area (site of the nutrition/reading curriculum pilot test). It was obvious that most of the children participating in our focus groups were bright and among the more advanced students (as they read the new material quite easily) and also more knowledgeable about nutritional subjects. For instance, they used words like "nutrition," before it was introduced. In general, they had few problems interpreting the illustrations; it is assumed that the visual stimulae is greater in the Kingston area than in the Clarendon area.

However, some of their reactions to the materials and pictures did provide us with some useful feedback. Also, we could determine some potential problem areas by watching the reactions of some of the "slower" children who did not participate as actively as the other students in the group.

- 2) The pre-test was not carried out in the most rigorous fashion, in terms of focus group methodology. Several times, the Ministry staff referred to the session as "our class." The students responded as such, raising their hands and calling out, "Me, miss," whenever they wished to respond to a question about the materials. Also, many of the questions asked were not

open-ended per se, and the Ministry staff occasionally responded to the "wrong" answers given by the children, correcting them.

A summary of the results of this pre-testing follows:

- 1) The children liked the illustration of the nutrition magician and found him quite amusing. There was some confusion about some of his plant parts, but they enjoyed guessing what those parts were. Things like "cabbage" or "lettuce" are a bit hard to distinguish for them, but since both are edible vegetables, this was not deemed to be a major concern. The students did feel that it was a bit strange to see the magician balancing a baby on his fingertips, rather than holding him in the palm of his hand, so it was determined that that should be changed in the illustration.
- 2) As concerns the "Junk Food Man" poem, the children had no problem understanding the message involved. Some of the slower children were not quite so sure of it, however. I had specifically wanted to check this poem, because it did not have quite as explicitly stated a message as did many of the other materials in the manual.

There did seem to be a tendency on the part of the children to associate "junk food" only with "sweets." We felt we could draw this to the teachers' attention in the guide, so that they could talk about it in class discussions. The children felt that the junk food man illustrations portrayed a man who was similar to people they knew, and they had no problem identifying the food portrayed on the junk food and healthy food snack wagons.

- 3) In terms of the Vitamin A picture, the children understood the illustration. However, vitamin A itself did not seem to be something they were familiar with, as opposed to other nutritional concepts mentioned. There was a tendency shown to associate vitamin A foods with all vegetables. We decided that this was also a point to stress to teachers, so they could point out to their students that different vegetables have different nutrients.

- 4) In reading "The Anaemia Monster," the children stumbled on the name "Lydia." We decided to change it to a girl's name that was more common. The children definitely had trouble pronouncing "anaemia"--it was a new word for all of them, but they got the message in the cartoon. However, again the tendency to associate all vegetables with having all the elements needed for the body was shown by the students.

The children generally read the cartoon in the right sequence, which is what caused a problem on the second page, where they are instructed to draw their version of an "anaemia monster." They read what Lydia said last, then the instruction telling them to draw a monster, rather than moving right along to what Lydia said next. In doing so, they lost their train of concentration. We felt that the picture needed to be reversed, or changed in some way to avoid this disruption in the reading pattern.

The children did not like the face of Lydia's mother. They said her face was ugly and not like theirs--that the lips were too broad, the nose too flat, as well as the whole face. The children were quite explicit in describing the characteristics they did not like, saying that the mother looked like a "monkey."

- 5) The children saw the man illustrated in the "No Teeth" poem as rather funny, although some described him as "rugged," and others saw him as "weak" and "sad." It should be noted that the child who described the man as "rugged" was one who did not read as well as the others and may have misunderstood the meaning of the poem.
- 6) The children had more trouble interpreting the "Best Food for Baby" cartoon. This may be related to the fact that that cartoon was the most complex and "busy" of all the illustrations.

They had trouble reading the cartoon in the proper sequence. For example, on the first page, the title was placed in the center of the top line, but the children read it after reading the first box of conversation. The students also had some trouble distinguishing who was speaking, mother or baby, particularly when there was no picture of a person to go with the

balloon that held the words. They also tended to read all the balloons left to right at a certain level, then dropped to the next level--rather than reading from box to box.

The balloons confused them, particularly when the baby had three different "milk-related" balloons at once. They would read one balloon, then pass to the mother, then return to what the baby said, and then went back to the mother--even though the continuity of the conversation made no sense when read that way. They were confused and had trouble reading words like "jittery" and "jiggly." Overall, they did seem to understand the main message and they liked the pictures, except for one in which the baby was shown in a side profile.

- 7) The final section tested was the "How to Stay Healthy" conversation. The students had no trouble reading it, except for the slower students, and understood the main messages.

Based on the feedback we received from the children, we made the appropriate changes in the illustrations and reading materials. I developed some "cut and paste" revisions for the two cartoons.

The manual was passed to a Dr. Ashley of the Ministry of Health so she could provide feedback on the technical content of the nutritional messages. She also checked the messages to see that they conformed to those the MOH stresses in their own educational and media efforts. That feedback and her other comments were incorporated as much as possible into the final draft of the manual. Diane Browne edited that draft.

I received the first estimates of cost of production for the posters and the fish story. Ms. McFarlane was provided with a clean copy of the final draft of the manual so she could obtain an estimate on its cost of production.

On Thursday, Mrs. McKinley discussed with Diane Browne the changes she wished to see take place during the editing process. I discussed with her again the fact that the materials in the manual could not be considered "perfect," and

that the point was to continue testing the materials in the schools, gathering feedback during the monitoring process.

On Friday, Unesco was provided with the final draft of the manual (subject only to final editing changes), copies of the posters/flash cards, a copy of the "No Fish for Dinner" story, estimates of cost of production, and a progress report from the Ministry. This information was sent by special courier to Unesco/Paris asking for the remainder of the production funds to be disbursed.

A production schedule was set up for March with the intended result of having all materials printed and ready for distribution by the first of April (see Appendix B).

Sample copies of the final draft of the Nutrition Magician manual and the Teachers' Guide are included in Appendices C and D.

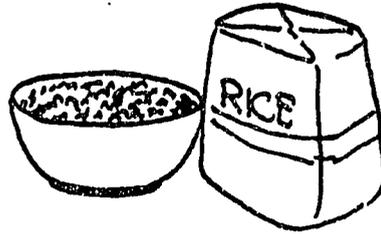
APPENDIX A

GO FOODS FOR...

ENERGY TO STUDY, WORK & PLAY



SUGAR CANE



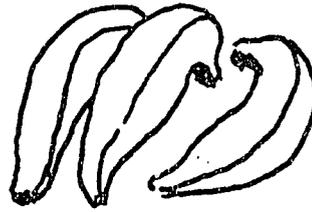
RICE



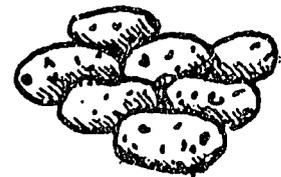
CORN MEAL



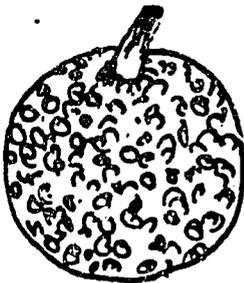
YAM



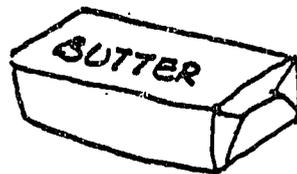
GREEN BANANA



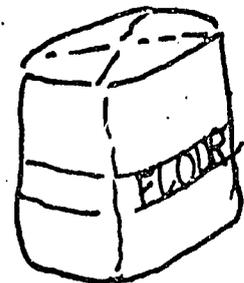
POTATOES



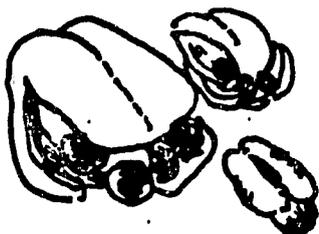
BREADFRUIT



BUTTER



FLOUR



We do many different things each day. We study, we work, we play. Our bodies need lots of energy to do all these things. For energy we need foods that make us go.

GROW FOODS

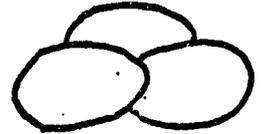
FOODS THAT HELP OUR BODIES GROW



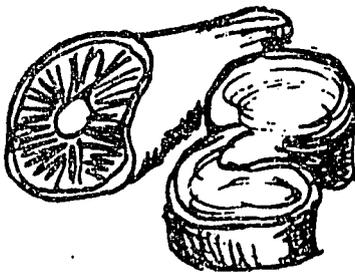
CHICKEN



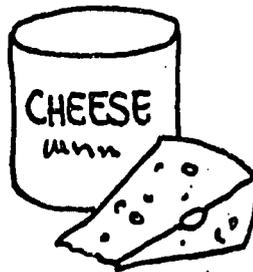
FISH



EGGS



MEAT



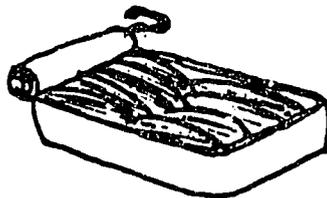
CHEESE



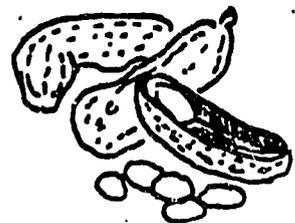
MILK



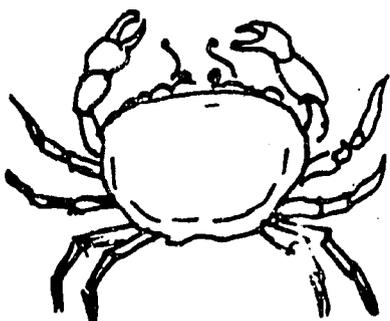
PEAS & BEANS



SARDINES



PEANUTS



CRAB

We need GROW FOODS to...

- help our bodies grow big & strong
- help our bodies repair cuts and broken bones.
- help our bodies build strong muscles, skin, blood, hair and nails.

HEALTHY HELPER FOODS...

FOODS THAT KEEP OUR BODIES HEALTHY



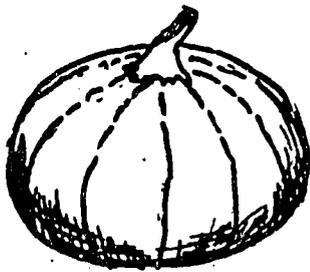
CALLALU



CARROTS



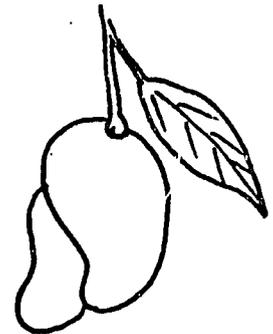
PAK-CHOY



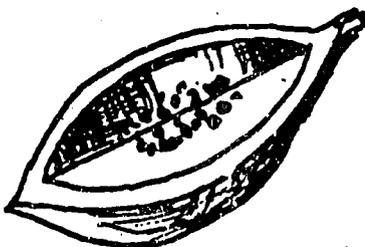
PUMPKIN



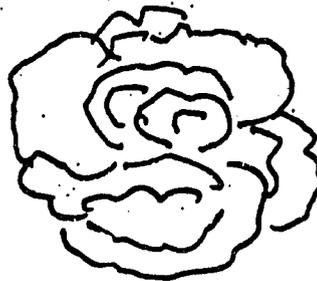
PINEAPPLE



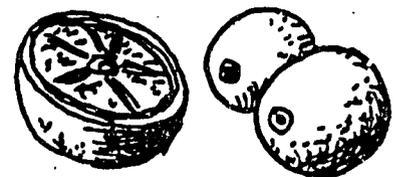
MANGO



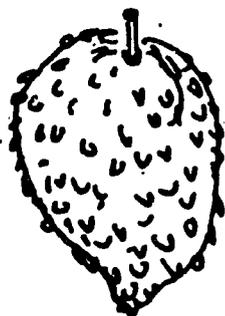
PAPAYA



CABBAGE



ORANGE

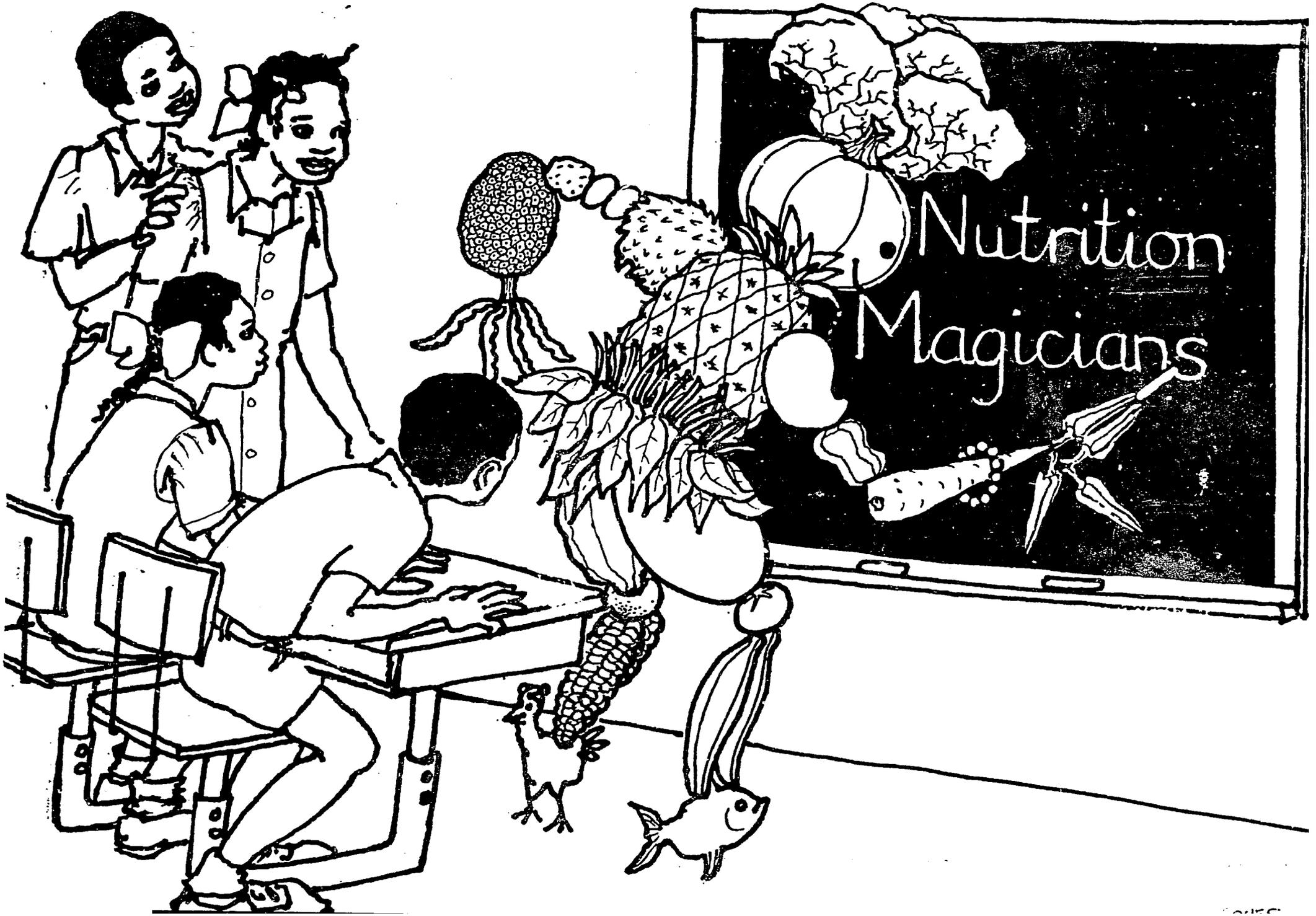


Our bodies need special 'Helpers'
to keep healthy and to fight sickness
Our bodies need Healthy Helper foods
to use GO and GROW FOODS properly.

APPENDIX B

Estimated Nutrition Magician Publication Schedule

Action	Person	Date
Final estimates of posters/"Fish" story	BM	<u>2/21</u>
Decision on printing posters/"Fish" story - run printing	LM/GA	<u>2/21</u>
Final review/decision to print Teacher's Guide	LM/IR/GA	<u>2/28</u>
Typing of Teacher's Guide	MR(suc)/GA	<u>3/4</u>
Final editing of nutrition magician manual	DB	<u>2/24</u>
Final typing of edited version of nut. magician manual	MR(suc)/DB	<u>2/24</u>
Proofing typed, edited text	DB/IR	<u>2/25</u>
Proofed, typed copy of manual to the typesetters	BM	<u>2/25</u> - <u>2/26</u>
Delivery of posters/"Fish" story		3/14
Illustration work/illustration corrections completed for nutrition magician	BM	<u>2/27</u>
Final draft of nutrition/reading pre-test to be completed	CH/GA/IR/LM	<u>3/5</u>
1. Typing of pre-test	MR(suc)/GA	<u>3/7</u>
2. Typed up copy of monitoring/ evaluation guidelines for M/Ed and teachers	CH/GA/IR	<u>2/26</u>
3. Copy of nut. mag manual returned from typesetters		<u>3/4-5</u>
1. Typesetting proofed for errors Copy of typeset manual to BM	DB/IR BM	
Typeset copy returned for corrections		<u>3/7</u>
Layout of manual copy finished	BM	<u>3/8</u>
Approved/checked of layout of manual	LM/ IR DB	<u>3/8</u>
7 layout (camera-ready) copy to printers	BM	<u>3/8</u>
8 Delivery of manual		<u>3/28</u>



Nutrition
Magicians

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THE NUTRITION MAGICIAN

I am a nutrition magician! I know how to make you into a nutrition magician, too.

I do my magic with food. I use food that comes from plants, like rice and yams, fruits and vegetables. I use food from animals that I raise, and fish that swim in the sea, ponds and rivers.

What magic do I do with these foods. These foods keep you growing and healthy. Nutritious foods are my magic fuel that will keep your body strong, will help you move your arms and legs, and even help you study in school.

My first magic food is mother's milk. Mother's milk is all a new baby needs to eat for his first few months. Just watch that baby grow. See how healthy he will become.

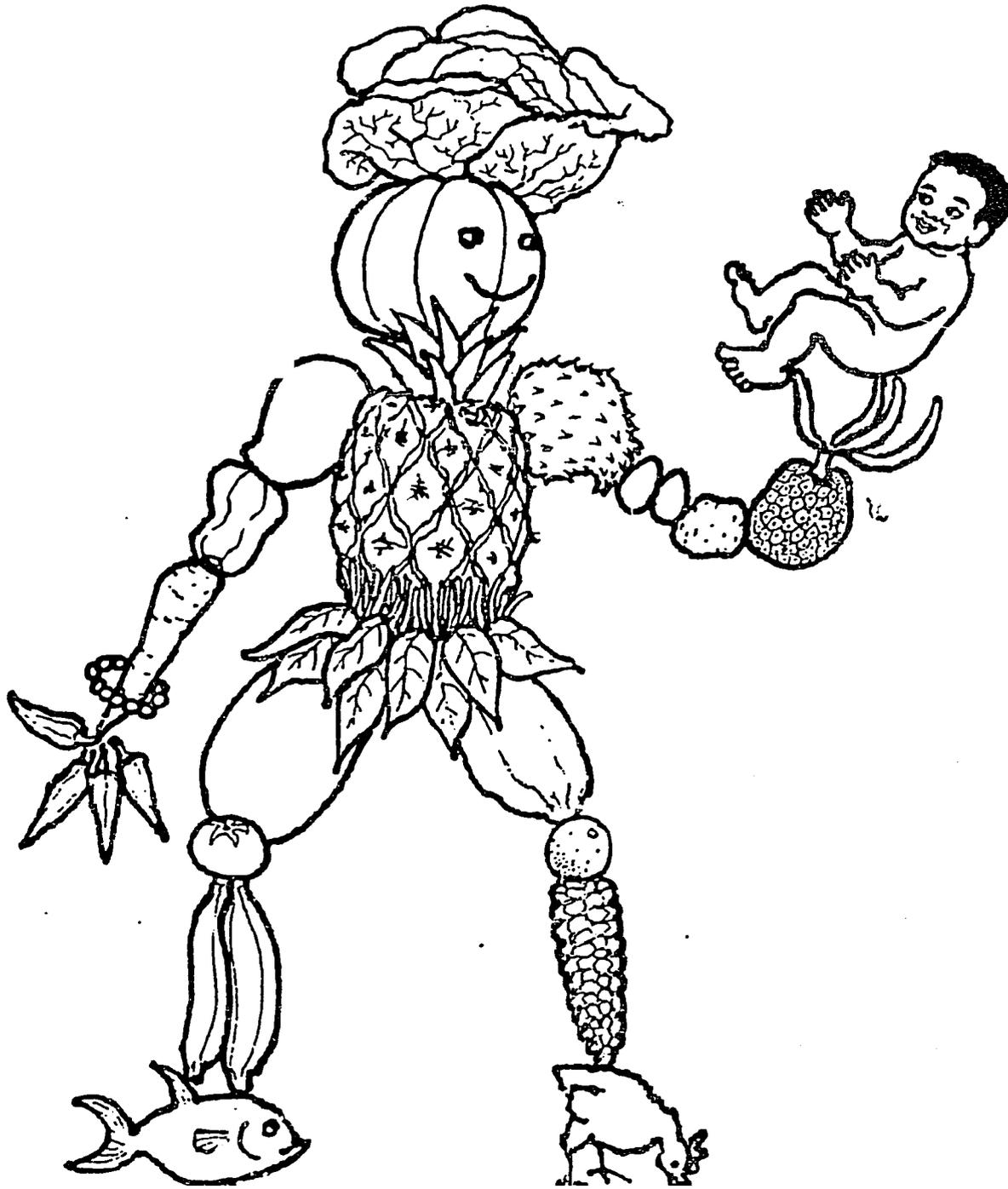
As that baby gets older, I know when to give him other nutritious foods to fuel his body. I will grow yams, potatoes, bananas

and corn that will give the children of Jamaica the energy they need to play and to do well in school.

But energy is not enough. I also know what foods to eat with those energy-giving foods so you will grow big and strong. I can cook red peas with rice to help you grow. I can show you how eating fish, meat, chicken and eggs will give you strong muscles to play football. I will show you how fresh milk helps develop strong bones and teeth. Yes, I can show you what to do with these magic foods!

My magic has not ended! There are other nutritious foods too. Did you know that vegetables like carrots and pumpkin from the garden help you see well, even in the night? I can also show you how fruits like oranges and mangoes keep you healthy.

So, my friends, if you learn to eat



energy-giving foods, muscle-building foods, vegetables and fruits in the right way, you will be surprised at what will happen to you. You will be so strong and healthy, and do so well in class, that everyone will call you a magician--a nutrition magician, just like me!

Yes, I will teach you what I know about foods and how they can help you. But remember, only you can choose what foods you will eat. A nutrition magician always tries to choose the healthiest foods to eat, and helps his family eat healthy foods too.

The stories, pictures and exercises in this book will help you become a nutrition magician. Read the book carefully. When you finish the book, you will take a short test. When you finish the book, practice what the nutrition magician says and pass your test, you too will become a magician who knows how to stay strong and healthy.

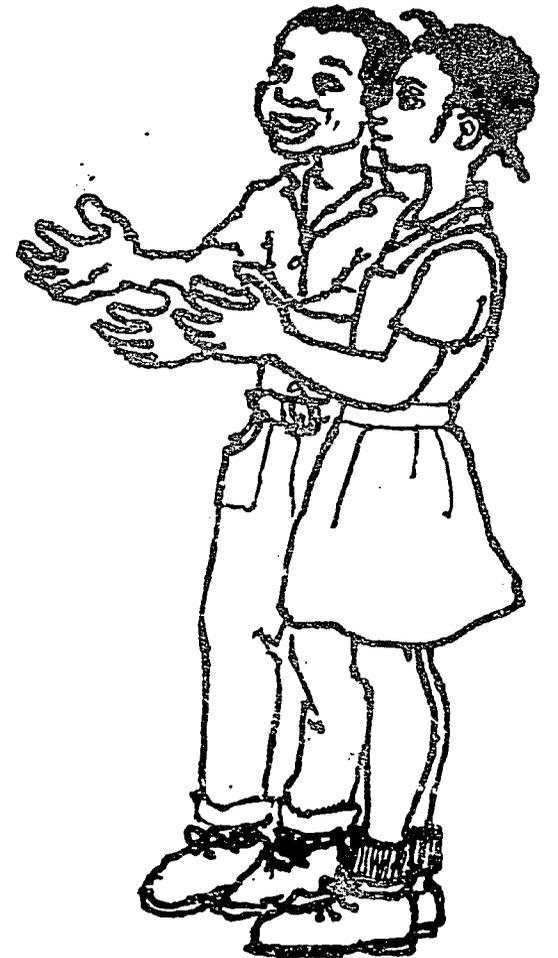
To receive your magician's certificate, you must know the following:

1. What food is and why we eat.
2. What kinds of food you and your family should choose to eat.
3. What happens to us if we don't eat nutritious foods.
4. How we can keep our food clean and safe.

I will explain all of these to you in this book. Soon you will be nutrition magicians!

Vocabulary

callalu	magic/magician
energy	nutrition/nutritious
fruits	fuel
healthy	muscles
choose	



Questions:

1. What is the magic of the nutrition magician?
2. What are the kinds of food that give children energy to play?
3. What foods will help develop strong muscles?
4. How could you help people if you were a nutrition magician?
5. If you could have:
~~bread and cheese~~
~~or~~
~~soda and cheese trix,~~
what would you choose? why?



Now, my friends, we will begin your nutrition lessons. Don't worry, you will like them! Do you remember why we should eat the right foods? We eat nutritious foods to be strong and healthy. Without the right foods, people would become sick.

You know there are many kinds of food. Do you know how to choose the most nutritious foods, since there are so many? Read on and I'll tell you.

CHOOSING THE RIGHT FOODS

One of the first things a nutrition magician should know is that there is no perfect food that does everything to keep us healthy. Foods have different magic substances that keep us healthy. Each substance does something different for the body. One gives us energy; one helps us grow; and one protects us from sickness.

So the best way to get everything we need is to eat a number of different foods. To make it easier for us to remember which foods have the same substances, we put them into groups.

Vocabulary

substance

group

Questions:

1. Each substance does something different for our bodies. What three things do they do?
2. Why is it better to eat different kinds of foods?

THREE FOOD GROUPS

I put my foods into three main food groups. The first group is made up of "Go Foods." These are foods that fuel our body and give us lots of energy to play games, run, work in the garden and to study in school. Go foods include such foods as green bananas, potatoes and yams. Rice and corn are go foods too; so are fats, such as oil and butter.

The second group contains foods that help our bodies grow big and strong. This group is called the "Grow Foods." These grow foods help build strong muscles, bones, skin and blood. They also help repair broken bones. Grow foods include animal foods, such as meat, chicken and fish. However, peas and beans are also good grow foods, as are milk, eggs and nuts.

The third group of foods is called the "Healthy Helper Foods." These healthy helper

(picture of nutrition magician in the garden here)

foods protect us from sickness; they help the body repair cuts and bruises. The substances in the healthy helper foods are called vitamins and minerals. Foods that have these vitamins and minerals include fruits like paw-paws and oranges, and vegetables like carrots and pumpkin .

Questions:

1. Name the three food groups.
2. What do foods like corn, yams and fats do for our bodies?
3. Name three foods that help us grow big and strong.
4. What substances do we find in healthy helper foods?
5. Why do we eat healthy helper foods?



Well-Balanced Meals

The best way to be sure we stay strong and healthy is to eat food from all the food groups. A well-balanced meal has a go food, a grow food and a healthy helper food. So, for dinner, we may have a well-balanced meal of green bananas, fish and callalu. That meal gives us some energy from the green bananas, some strength from the fish, and vitamins from the callalu. Sometimes it is difficult to have all three kinds of food at one meal, then we should try to eat a mix of the three kinds of food during each day.

Vocabulary:

sickness	fats	healthy helper food
go food	oil	well-balanced
grow food	repair	mineral
vitamin	mix	

Questions:

1. What is the best way to stay healthy?
2. What is a well-balanced meal?
3. What should you try to do if you cannot eat all three kinds of food at one meal?
4. Look at the food group posters. Use the pictures of foods to make a well-balanced, nutritious lunch or dinner.

NO FISH FOR DINNER



Have you ever wanted to buy something to eat, but the shop didn't have it? A nutrition magician knows that if he can't get a certain food, he can eat another food instead.

Here's an interesting story about a boy whose mother asks him to go to the shop to buy some fish and rice for dinner. He stops

on the way and plays with his friends. When he gets to the shop, he finds that there is no fish. Ask your teacher for the story, No Fish for Dinner, which is in another book, and see what happens. After reading it, answer the questions below.

Vocabulary:

pounds	callalu
fresh	instead
pineapple	dried peas

Questions:

1. What did Clive's mother ask him to buy for dinner?
2. Do you think that it is a nutritious meal? Why?
3. What happened to Clive when he got to the shop?
4. What did Clive's mother cook instead of fish?

5. If you went to the market and could not get a pineapple, what could you buy instead?
(Circle one answer)
 - a) Fish
 - b) Peas
 - c) Oranges
 - d) Bread
6. Write a different ending for the story and discuss your ending with your classmates.
7. Have you ever been sent to the shop and not been able to buy what your mother asked you to get? What did you do? What did your mother do?

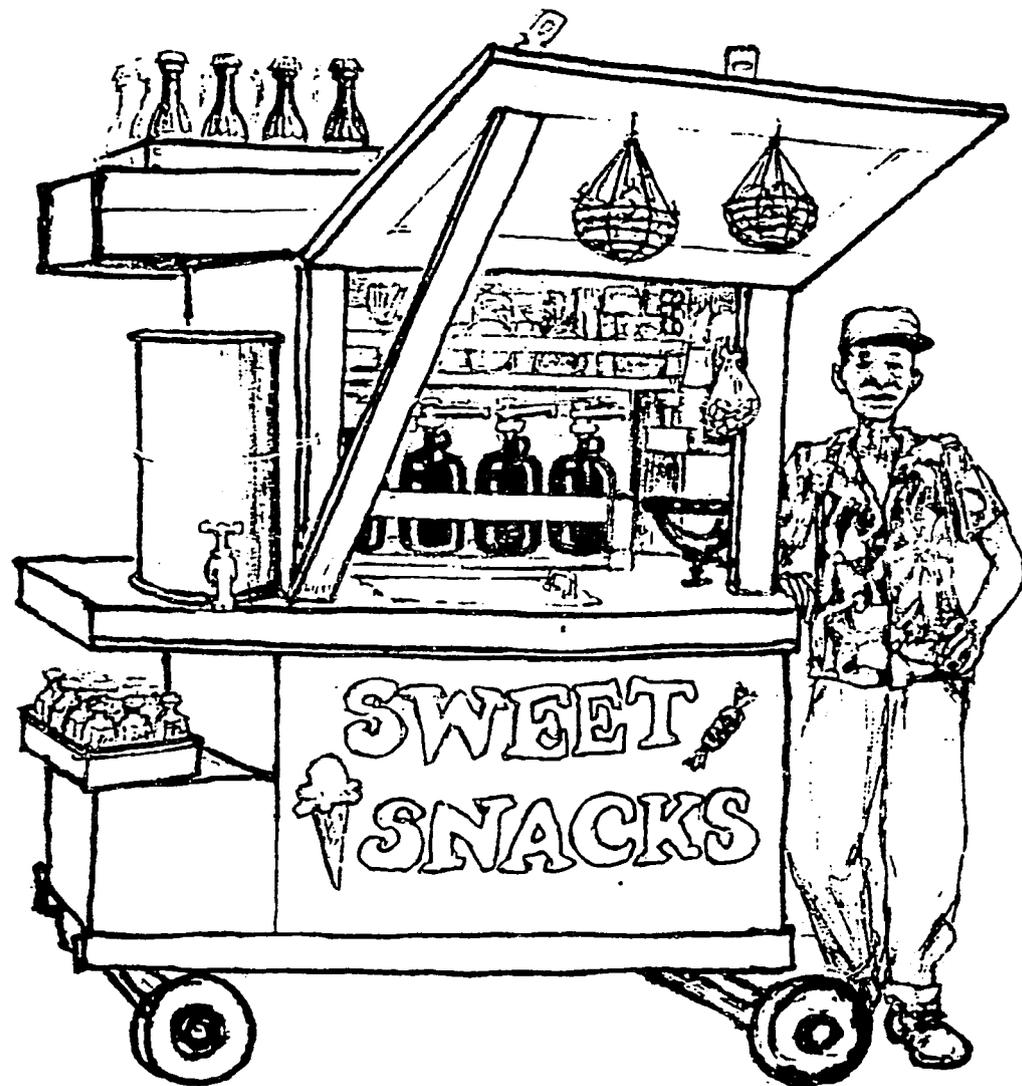
Image
of
nutrition
magician

There are many kinds of food to choose from. But some foods are better than others. We call some foods "junk food" because they fill our bellies when we are hungry, but have very few substances that are good for us. Some junk foods that you know are suck-suck, cheese trix and soda.

If we eat too many junk foods instead of nutritious foods, they may cause harm to our bodies. Read this poem and see what happens to the children who ate John's junk food.

THE JUNK FOOD MAN

John-John, the Junk Food man,
Comes to school, sets up his stand,
And shows the world what's in his hand.



Soda, suck-suck, sweeties too,
 Cold as ice and soft as goo,
 Who says that it's not good for you?
 We give to John what should have gone,
 To buy a lunch of cheese and bun.
 Then sing and dance and have much fun.

But trouble starts to fall like rain,
 Teeth get holes, children get pain
 Junk food, they say, has no gain.

Parents think that it's a shame,
 That children can't even spell their name,
 And they don't know who is to blame.

The teacher answers with a shout,
 "Those sweet snacks without a doubt,
 Have turned your child into a lout."

John hears and says he'll start anew,
 Oranges, mangoes, pineapples too,
 Bananas and apples, quite a few.
 He puts a new sign on his stand,
 "Healthy Snacks" are here at hand,
 Come and join the happy band.

Now all are happy all day long,
 Children work well, their teeth are strong,
 They know good food cannot be wrong.

Vocabulary:

junk food	lunch
soda	sweet
suck-suck	snack
cheese	lout

Questions:

1. What kind of foods did John sell at the beginning of the poem?

2. What happened to the children who ate only John's soda and suck-suck?
3. Why did John change from "sweet snacks" to "healthy snacks?"
4. What do you think the poem is telling you to do?

Exercises:

1. Discuss with your classmates what "junk food" is. Why is it called "junk food?"
2. In your exercise book, list the snacks you eat. Tick the ones that are junk food and those that are healthy foods, like this:

<u>Snacks</u>	<u>Junk Food</u>	<u>Healthy Food</u>
plum	_____	_____ X _____
_____	_____	_____

3. Should you eat junk foods for snacks?
Explain your answer.





If we don't eat enough of the right foods, we will become tired and weak, and then sick.

If we don't eat proper meals, our body will not be healthy and we won't feel well. It is very important for children to have healthy foods because they are growing quickly, and are very active. They need lots of energy and strength.

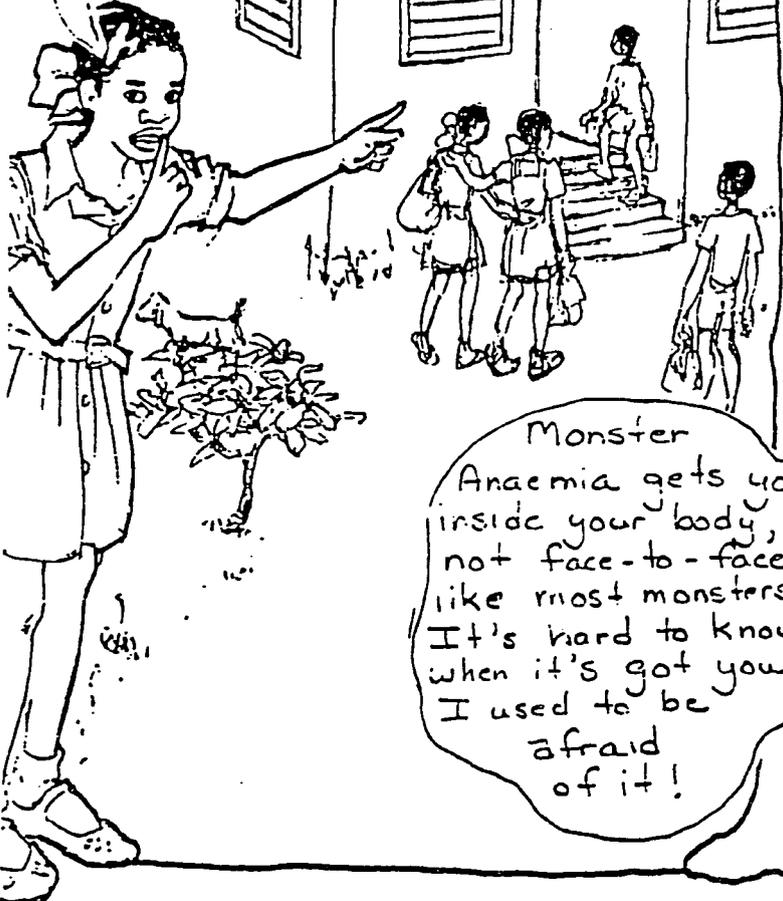
The important thing is to eat enough healthy food. Sometimes, even if we don't get enough of a nutritious substance, we might become sick. For example, one thing our body needs is iron. Iron helps our body get energy from the food we eat. So, if we don't get enough iron, we may become very tired and weak. We say we have anaemia. Now,

read the next story to find out how you can keep this anaemia "monster" away from you!

THE ANEMIA MONSTER

Monster Anaemia is hiding here. Draw what you think it looks like in your exercise book.

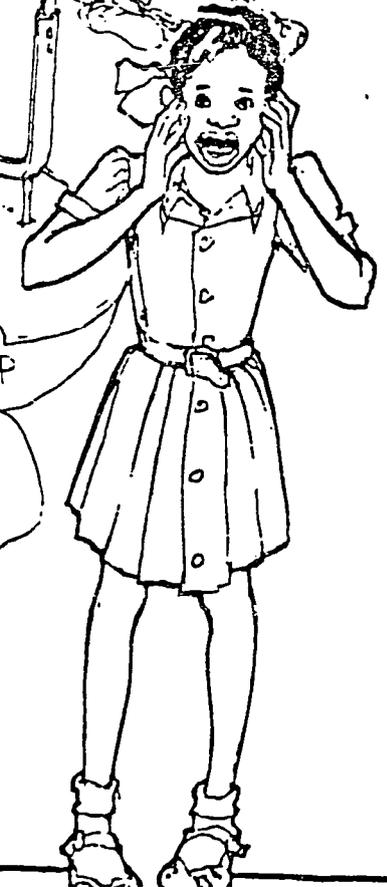
There's a nutrition monster who lives near our school. We call it Monster Anaemia. It's invisible and you never know it's got you until its power until you begin to feel weak and tired.



Monster Anaemia gets you inside your body, not face-to-face like most monsters do. It's hard to know when it's got you. I used to be afraid of it!



Every time one of my friends in school seemed weak and fell asleep in class, I would be afraid that Monster Anaemia had got him. Maybe I would be next!



That was before I learned that eating enough the right food can save me. My mother taught me!

Do you know, Sandra, how to keep Monster Anaemia away from you?

No, mom, how?



It's afraid of iron!

Iron?



Which iron stops anaemia mother?

Sandra, we get iron from certain foods. Like meat, fish and dark green, leafy vegetables. We need to eat those foods with iron to keep away anaemia. If you eat your meals, you will stay healthy.



Everyday, I eat all the meals my mother makes. And I try to eat either fish, meat or dark green leafy vegetables, like callala. I'm not afraid of monster anaemia anymore.



So you see, my children, anaemia isn't a "monster" at all. It happens only if we don't eat foods that have iron. Iron helps give our bodies energy and strength. If our bodies don't have enough iron, we won't have the energy to work, play or pay attention in school.

But iron is just one thing our bodies need. To be sure we get everything our body needs, we should eat many different kinds of foods from the three groups. That way we can stay strong and healthy.

Now, in your exercise book,
draw two foods that can give us
iron. Write the names of the foods.
What food groups do they come from?

Vocabulary:

anaemia	weak	afraid (of)
tired	iron	leafy
monster		

Questions:

1. What is anaemia?
2. How does an anaemic person feel?
3. We get anaemia if we don't get enough:
 - a) energy
 - b) iron
 - c) vitamin C (circle one answer)
 - d) junk food
4. What foods have iron?
5. If you don't eat enough nutritious foods, how do you think you will feel?



A nutrition magician
never skips a meal! He
never skips breakfast!

Breakfast helps him run faster, feel stronger, and learn better during the morning. He knows that if he goes to school without breakfast, there is a good chance he might be too hungry and sleepy to work well. Read about what happens to poor Micky when he did not finish his breakfast.

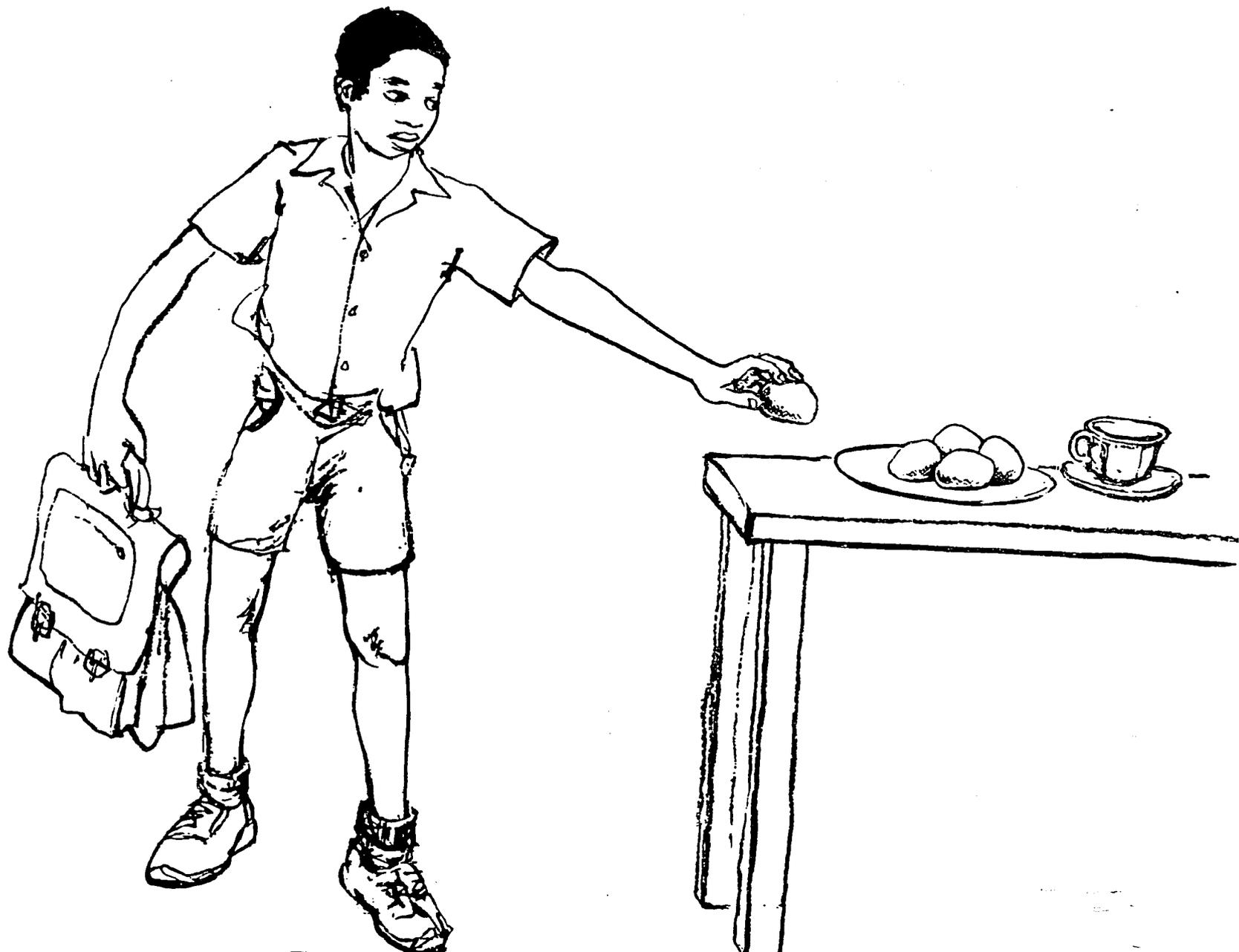
(illustration) Ma

MICKY LEFT HIS FIVE DUMPLINGS

Micky turned over in bed, opened his eyes and saw that it was morning. "Oh, my!" he cried, as he jumped out of bed. "I'm late for school, and today we have a test."

He ran to the pipe, washed his face and hands, and in a few minutes, he was dressed.

"Micky! Micky! Where are you?" cried his friends, Kevin and Georgie. "I can't



stop to eat," Micky said, and took his bag.

Micky's mother said, "Micky, eat your breakfast."

With his bag in his hands, Micky ran and drank some mint tea. He grabbed a dumpling and ran to meet his friends.

Soon they were at school. "Good morning, teacher. I'm sorry I'm late, Miss," said Micky, as he sat in his chair. The teacher gave him his test paper. Micky looked through it quickly. "This will be easy," he said to himself with a big smile.

As Micky worked on his test, he began to feel tired. Just as he began the sixth problem, he felt funny all over. His head hurt. His eyes were tired. He felt hot and weak. Then he fainted.

"My goodness, what happened?" cried the teacher. She went to Micky and then said,

"He has fainted!" By this time, the students had stopped their work. They stared at Micky. They knew something was wrong.

"Kevin, Georgie! Help me with Micky," said the teacher. She shook Micky and fanned him with a book. "Run and get the principal, Georgie!" cried the teacher. "Hurry, boy!"

In minutes, the principal was there. She went at once to the teacher, who was fanning Micky and shaking him. The teacher told her Micky had fainted in class. The principal stared at Micky.

Micky slowly opened his eyes. "How are you feeling now?" asked the principal. "I still feel weak, Miss," said Micky.

"Did you skip your breakfast this morning?" asked the principal. "Oh, no, Miss," said Micky.

The principal was not sure what had

happened to Micky. She sent Kevin to get his mother.

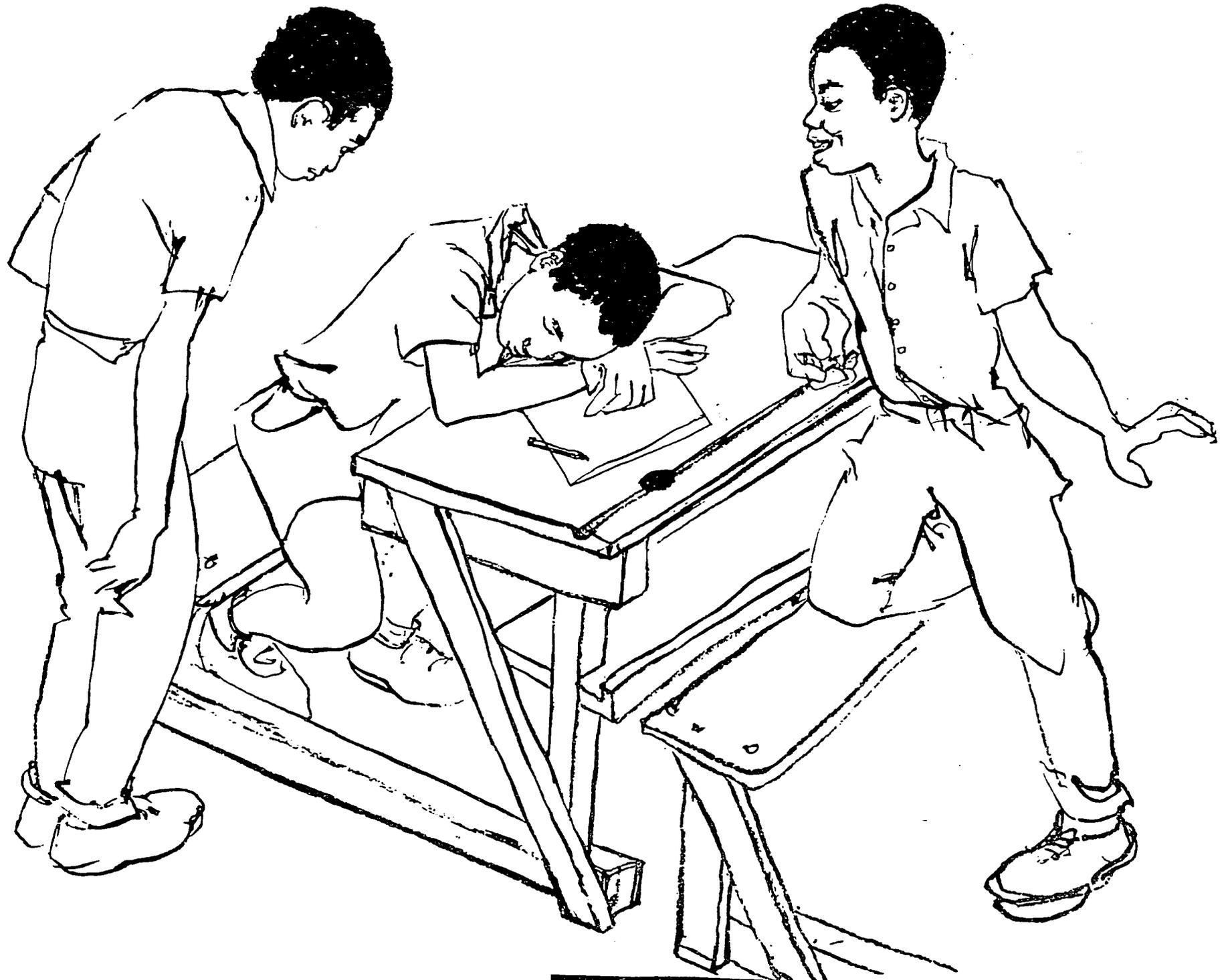
"Good morning, Miss," said Micky's mother in a worried voice when she came to the school. "What has happened to Micky?"

"He fainted when he was taking his test. I don't know why because he said he didn't skip breakfast this morning," said the principal.

"Breakfast?" cried Micky's mother. "Oh, m'am. The boy grabbed only one dumpling and left the rest of his breakfast in the kitchen. I gave him five dumplings and one cup of mint tea. And he only took one and ran out of the house."

"Oh, Mrs. Baker," said the principal, "I was worried, but now I understand why he fainted. He was weak because he had only one dumpling. But even if he had eaten the five, that would not be the best breakfast for a growing boy. Let's make a special breakfast for him."

illustration Mb



She took Micky and his mother to her house, which was near the school. Since she didn't have much time, she prepared a breakfast of bread, a fried egg, a glass of milk and an orange. When Micky saw the breakfast, he began to eat quickly. His mother stared in surprise. The principal told Micky and his mother that it is important to eat a well-balanced breakfast.

"But, m'am," said Micky's mother. "The dumplings and mint tea fill his belly."

"He may feel full," said the principal, "but that food may not be all that his body needs to grow and be strong. Yes, the dumplings do give him energy, but he also needs other foods that keep him strong and healthy."

This was a special breakfast for Micky, because he fainted. Usually, I make my children some porridge, milk and fruit, if I have it. And if we don't have all the foods we need at one meal, I just make sure we get them during the day."

illustration Mc



↑ cut the picture off about
an inch higher than this line so
people don't worry about his legs

Micky's mother smiled. "I want Micky to be healthy and do well in school," she said. "From now on I will make sure that he eats right and that he doesn't skip breakfast."

"Good for you," said the principal. "As for you, Micky, now that you have had a healthy breakfast, you can finish your test."

Vocabulary

dumpling	prepare
faint	fried egg
skip	worry
breakfast	mint tea

Questions:

Do you remember the story? Finish the sentences by filling in the blank spaces with the correct word from the vocabulary list.

a) Micky ran and drank some _____.

b) He grabbed a _____ and ran to his friends.

c) The principal asked Micky if he had _____ breakfast that morning.

d) The principal _____ a breakfast of milk, bread, a _____ and an orange.

1. What happened to Micky when he took his test?
2. Why did that happen to him?
3. What kind of breakfast did the principal prepare? Was it a healthy one? Why?
4. Have you ever skipped breakfast before school? How did you feel?
5. If you don't get all three kinds of foods at one meal, what should you do during the day?
6. Make a list of foods we can eat at breakfast. Write two different breakfasts you could make from the foods on your list.

illustration V_A



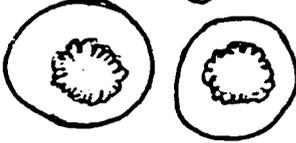
If we don't eat enough nutritious foods, we may become sick. Remember that some foods have substances, called nutrients, that others don't. Our bodies need the nutrient vitamin A which helps us see well, and also helps bones, skin and teeth develop. We get vitamin A from dark

green leafy vegetables, like callalu, and in yellow vegetables and fruits.

List some vegetables and fruits that have vitamin A. Read the picture above to see how these children remember to eat vitamin A foods.

What do
two round carrot
slices look like
from above?



Two eyes,

To help us remember
that carrots have
vitamin A that helps us
see better, even in
the dark!





Do you remember what happened to the children who ate John's junk food? Some of them had problems with their teeth. If we eat too many sweet foods and don't clean our teeth, we may get holes in them.

A nutrition magician knows that we should eat some sugar, especially brown sugar, to give us energy. But too many sweet things can be bad for our teeth.

He also knows that milk, fish and green vegetables have a mineral that helps develop good strong teeth. So he chooses to eat these foods.



No Teeth ~~Poem~~

I ate too much sugar
and I lost my teeth.
Now all I can do
is go down on my knees
And pray for plates
of good false teeth
To chew my rice
~~and fish~~ and peas.
Oh child of mine,
remember PLEASE:
Stay away from sugar candy
And keep your teeth!

Vocabulary

sugar	chew
knees	plates
false teeth	

Questions:

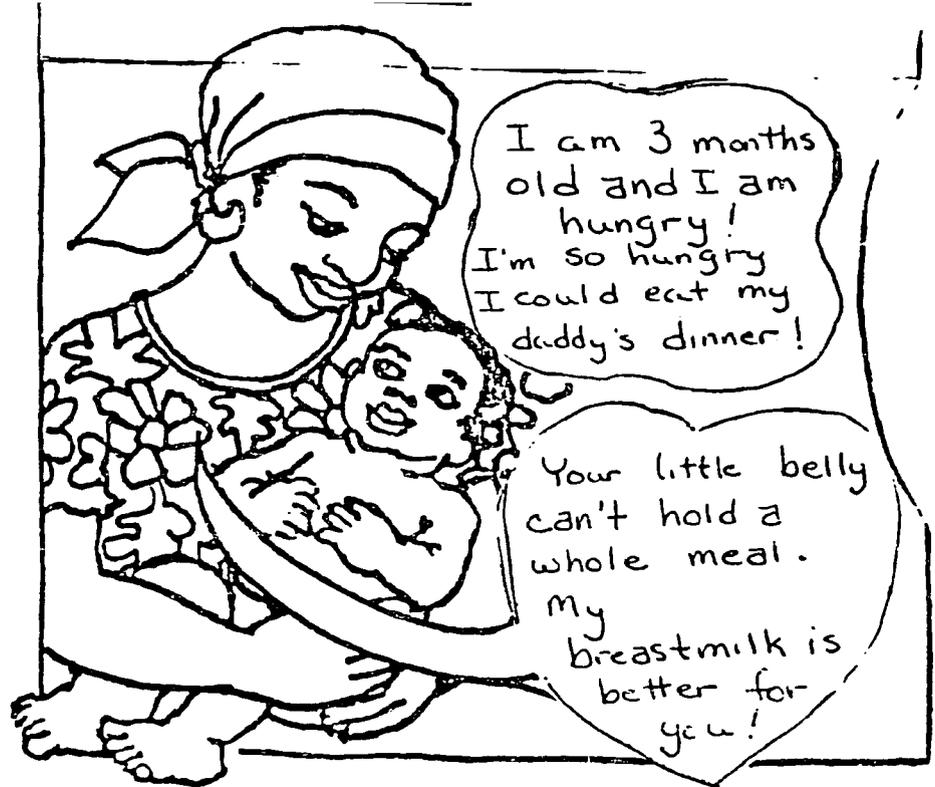
1. What kind of food did the man eat?
2. What happened to his teeth?
3. What does he tell children to do?
4. Write down some foods that help our teeth stay strong?
5. How can you take care of your teeth?



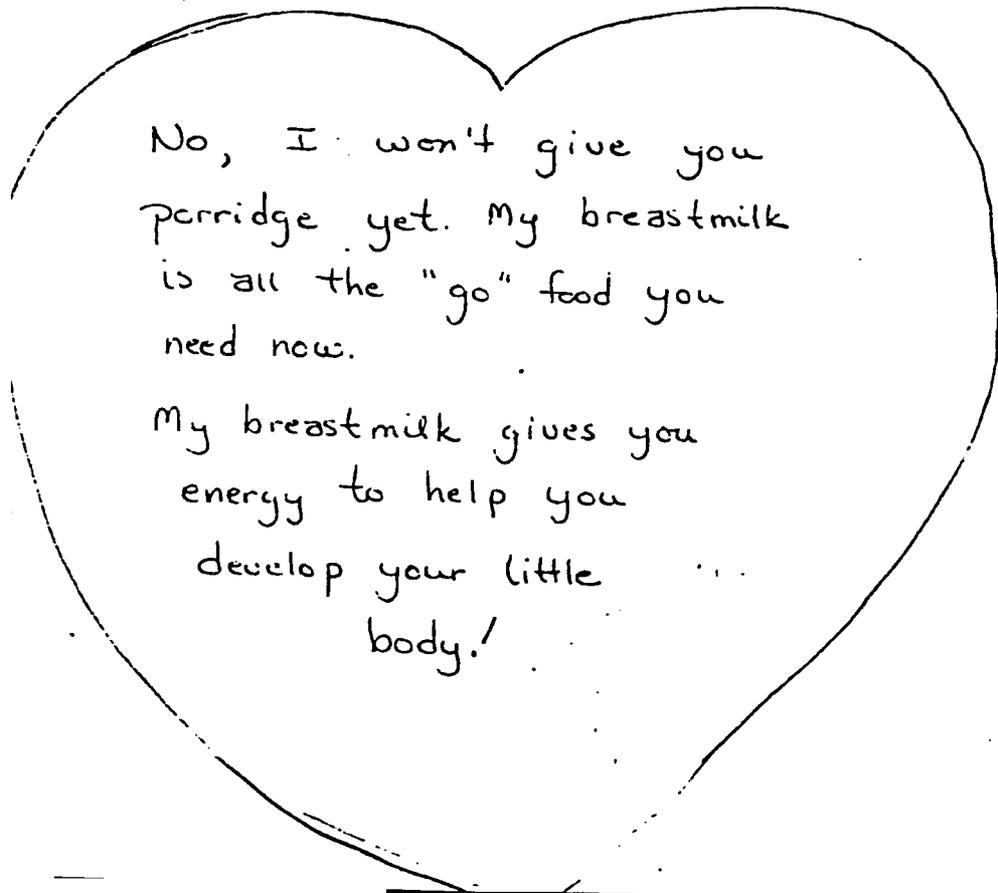
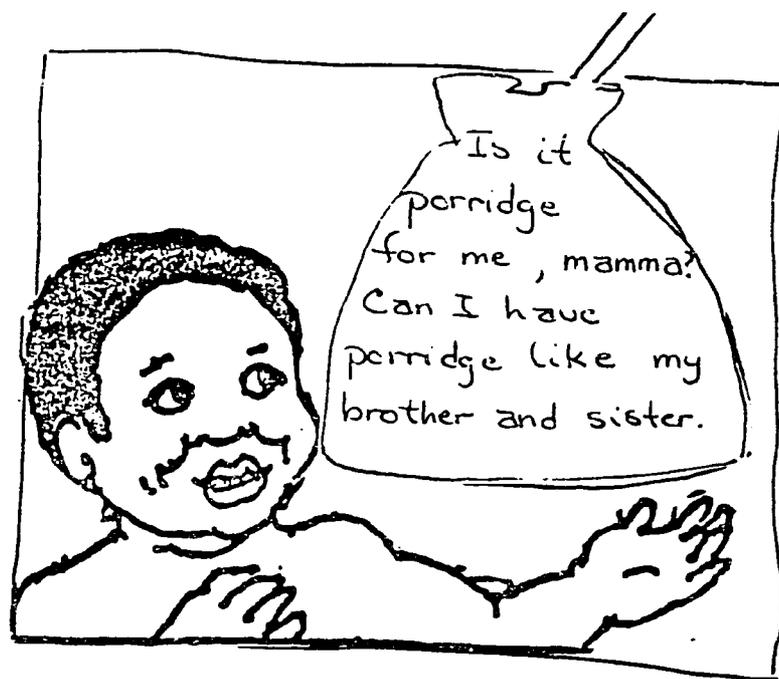
Have you a baby brother or sister? What do they eat? I told you in the beginning of the book that there is one food that is all that new babies need, until they are four months old.

This next lesson tells you what it is. Read the comic, and pretend the baby is talking to its mother.

**THE
BEST
FOOD
FOR
BABY**



Version #1



Give me milk, then, māmā.
Let me drink all the milk from
all the cows on the whole
island of Jamaica!

I like formula,
māmā.

Let me drink baby's
formula from a
bottle.

When you're older, child, you
shall drink cow's milk. But not
now!

The formula bottle may get
dirty. My breastmilk is clean,
so you won't get running
belly. No running belly for
my child! My food
will keep you strong
and healthy!

BUT, MAMMA,

WHAT
CAN
I
EAT?



Child,
you are my new,
small baby. For now,
because I can give it
to you, I will give
you the only food you
need to grow strong and
healthy --
milk from your
mamma's breast!

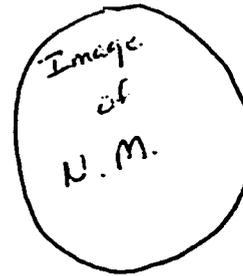
And so
the baby
opened its mouth
and closed its
eyes and drank its
own mamma's
milk!

Vocabulary

breastmilk	formula
mangoes	running belly
mash	

Questions:

1. When the baby asked for mangoes, what did its mother answer?
2. When can the baby have fish? What will his mother do to the fish?
3. After fish, what did the baby want to eat?
4. Why is it better to give breastmilk to the baby than formula? What sickness can breastmilk protect the baby from?
5. Tell in your own words what the best food is for a new baby? Give two reasons why it is best.



You've read about what a new baby should eat. Now see what other people need to stay healthy. You can see that we need more food when we are active. We also need to eat differently when we are different ages.

STAGES OF LIFE

illustration

I'm Roger and I'm nine months old. I still drink breastmilk, but I'm growing so fast I need more food. I eat plenty of thick porridge. I don't have many teeth, so my food must be soft or mashed. My mother gives me plenty of mashed go, grow and healthy helper foods. She feeds me with a clean cup and spoon. Because I'm growing so fast I need lots of food to give me energy and to build muscles.

illustration

I'm Sarah. I go to school and help my mother at home. Because I'm still growing, I need to eat well-balanced meals and nutritious snacks. I eat plenty of go foods, grow foods, and healthy helper foods . I try not to skip meals.

illustration

I'm Jimmy, Sarah's father. I work in the sugarcane fields and at home in our garden. It's hard work and I need a lot of energy to keep going. I eat regular meals with plenty of go foods and grow foods to give me energy and strength. But I don't forget to eat vegetables and fruits.

illustration

I'm Tom, Sarah's grandfather. I don't do much work now; I sit in the sun a lot of the time. I don't need to eat as much food because I don't use much energy and I've stopped growing. But I still eat well-balanced meals to keep me healthy.

Vocabulary

plenty (of)

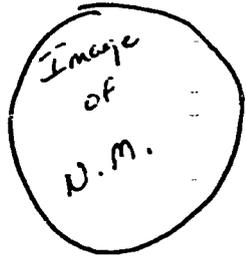
Questions:

1. What kind of food can a nine-month old child eat?
2. Which person are you like? What should you eat?
3. What work does your father do? What do you think he needs to eat?
4. What work does your mother do? What do you think she needs to eat? Why?
5. If you were an old person, would you eat more or less than a farmer? Why?

Review Exercise:

Match the person with the kind of food that is best for him or her:

<u>Person</u>	<u>Kind of food</u>
New baby	-Well-balanced meals, especially a good breakfast and no junk food snacks
Child 6 months to 1 1/2 years old	-Foods to give him energy and strength to work the whole day long
4th or 5th grade student	-Only mother's breastmilk
A farmer	-Mother's milk and soft foods to give energy and strength



One day two school children talked to the nutrition magician about some questions they had about sickness and keeping healthy. You probably have some of the same questions. Read the discussion that follows. Cover what the nutrition magician says and try to give your own answer first. Then read on to see what he tells the children.

HOW WE KEEP HEALTHY

Georgie: Mr. Magician, we eat healthy helper foods to protect us from getting sick. But what makes us sick?

Nutrition

Magician: That's a good question, Georgie. Germs cause sickness. Germs are things so small you can't see them. But they live and grow all around

you, especially in dirty places. When germs get into our bodies, they can make us sick.

Lily: But how do germs get into our bodies?

Nutrition

Magician: Well, Lily, let me ask you something first. How does food get into our bodies?

Lily: Why, we eat food and it enters through our mouths.

Nutrition

Magician: Right. And that is how germs enter our bodies. One of the ways for germs to enter our bodies is through our mouths, in the food and water we eat and drink.

Georgie: How do germs get in our food and water?

Nutrition

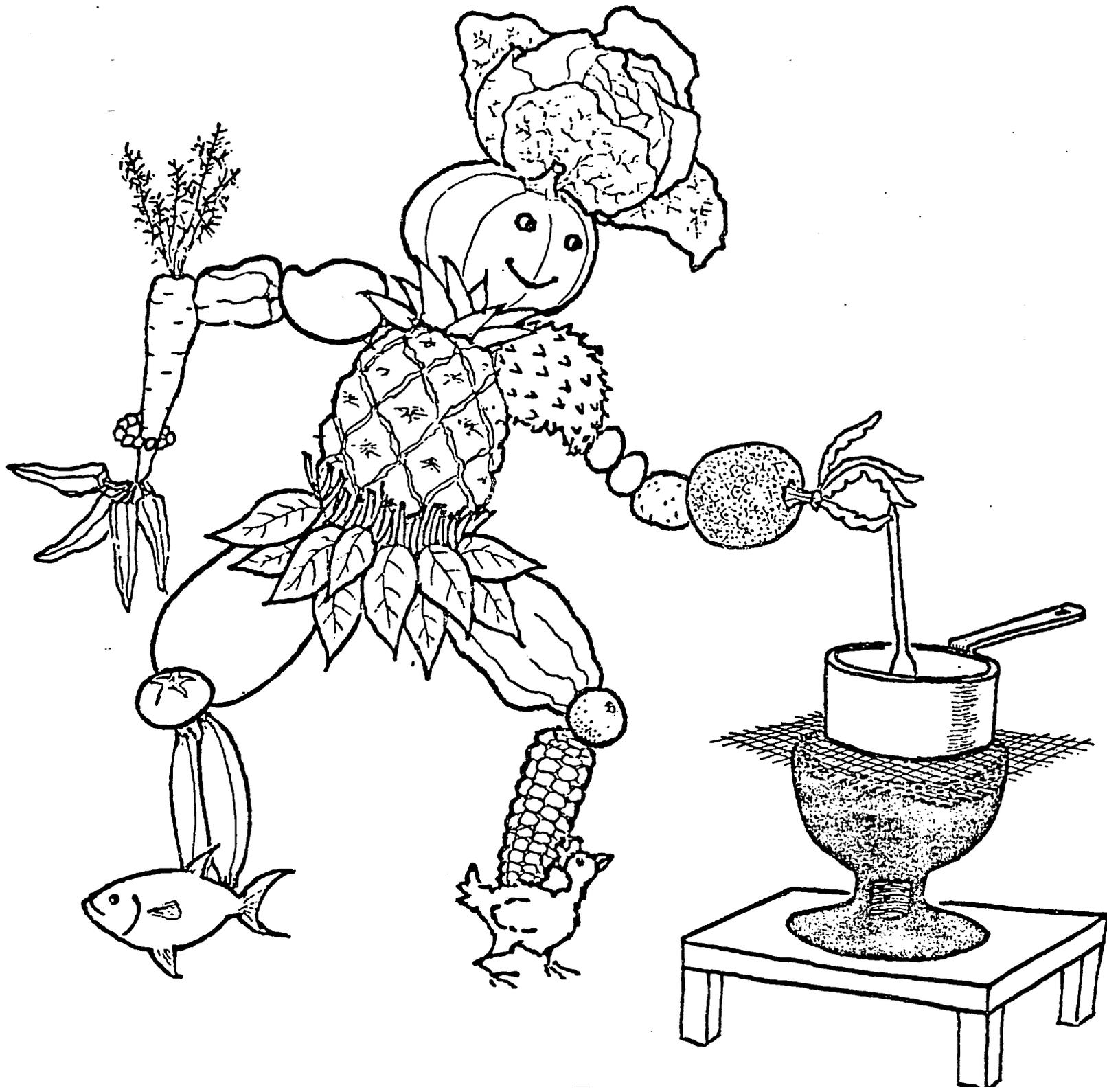
Magician: Remember, germs grow in dirt and on things that are not clean. If you eat food with dirty hands after playing in the yard, or going to the toilet, you may get sick. If the food we eat is spoiled, or not clean, it will have germs. If we eat that food, the germs get into our bodies. Germs can also get into our bodies if we eat from plates, cups and spoons that are not clean.

Georgie: How can we keep our food clean, and keep away the germs that cause sickness?

Nutrition

Magician: First, we should always wash our hands before eating meals and snacks, and after using the toilet.

illustration Go



Nutrition

Magician: Second, we should wash our plates, and cups, glasses, knives and forks to keep them clean. All the things we cook with and eat with should be clean to keep our food clean.

Lily: How do we keep food from being spoiled?

Nutrition

Magician: Always store food in a clean place. Cover food to keep flies and other insect pests away.

Where do you see flies and insect pests?

Lily: I see flies and cockroaches around the trash in the road and around food that is not covered. They seem to be on things that are very dirty and smelly.

Nutrition

Magician: Flies are always around trash and dirt. That's why they carry germs onto food. So we should cover our food and store it in a clean place to protect it from them. We should also clean up food that's left after our meals and put our trash in a covered place, away from the house.

Georgie

and We can do that! To keep away germs and sickness, we will wash our hands after using the toilet, and before eating food. We will cover food carefully and store it in a clean place. We will pick up our trash and keep the trash covered.

Nutrition

Magician: Keeping yourselves and food

clean will help you stay
healthy. And don't forget to
eat those healthy helper foods!

Vocabulary

germs	toilet	insect pests
trash	store	cockroach
clean	cover	
wash	flies	

Questions:

1. What are germs? What do they do to us?
2. How can germs get into our bodies?
3. What can we do to keep germs from getting on our food?
4. Why do we cover food carefully?
5. Why are flies and insect pests bad?
6. What can you do to keep yourself healthy? (Write at least four sentences in your exercise book.)

illustration G b



Family Exercise:

Students may like to do this exercise with the help of their parents.

Plan a well-balanced breakfast, lunch and dinner for your family. Try to use foods that come from Jamaica, especially those that you can get locally. Write the meals in your exercise book and discuss them in class.

Are you [→]
~~HOW TO BECOME A~~ NUTRITION MAGICIAN

If so, answer the following question:

~~This is an essay. Students should~~

Write the answer in ^{your} ~~their~~ exercise book.

Then they should talk about the answers with the teacher, to see if their answers agree with what the nutrition magician would say!

WHAT MUST A NUTRITION MAGICIAN KNOW ^{and do?} HOW

~~TO DO IN ORDER TO HELP PEOPLE?~~

How does he help other people?

FOOD POEMSLunch

12 o'clock says the clock on the wall
 Time for lunch for one and all
 What's for lunch to munch
 Anything to chew, drink or crunch
 A sandwich of cheese and bun is fun
 Some milk to drink and a fruit to eat
 This will make a real good treat
 And keep you on your feet.

Good Snacks

Good snacks, good snacks
 What shall we eat
 Fresh fruits, fruit juice
 Crackers, bread, or milk
 Bread and cheese or bun and cheese
 What will you have, if you please?

Good snacks, good snacks
 Always sure to please
 Junk food never, never, never
 Always try to be very clever

Right Food

Rice, bread, corn, sugar cane
 Make you go, go, go
 Fish, eggs, cheese, milk
 Make you grow, grow, grow.
 Banana, pawpaw, orange, pumpkin
 Jolly healthy helpers
 All give nutrition, to name only a few
 So when you go to school
 Don't be a fool
 But choose correctly and have the right food!

TEACHER'S GUIDE TO
HOW TO BECOME A NUTRITION MAGICIAN

A Reading Coursebook for Jamaican
Primary School Students

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Introduction

The Jamaica Primary Nutrition Education (Nutrition Magician) Pilot Project covers 15 schools in the Clarendon parish. A baseline study of 4th and 5th grade student reading ability and nutritional knowledge was conducted in the pilot area in June 1985. In July 1985, a workshop was held at which principals, teachers, and parents helped project staff identify subjects to be covered and participated in the design of preliminary materials to be included in the course reader. Some of the reading materials were developed in total by the participants; others were developed in response to participants' perceptions of what nutrition-related problems confronted students in the Clarendon parish.

In your role as a participating teacher, the project will rely on you both to use the materials provided and to help evaluate its methodological approach. The teacher's guide is meant to provide you with a frame of reference for using the materials in class.

Goals of the Course

- (a) To demonstrate that nutrition concepts and messages can be integrated into primary school reading materials.
- (b) To demonstrate that nutritional knowledge and reading ability can be developed at the same time.
- (c) To explore the extent to which in-school learning activities (reading class and subsequent discussions) can influence changes in student knowledge.

Teaching Approach for Nutrition Magician Coursebook

This is a practical research project aimed at developing a methodology to improve nutritional knowledge and reading ability at the same time. You are one of a select group of teachers chosen for your experience and good judgement to develop a workplan for teaching the materials in the Nutrition Magician coursebook. At the end of the course period, in December 1986, you will be asked to share your workplan, together with your observations on its

effectiveness, with other teachers at a project dissemination conference. That is, you may be expected to provide information regarding what methods and approaches you used to teach different concepts and lessons, to discuss what you felt was most useful as well as what approaches did not seem to work. The participants at this workshop will also be interested in hearing your "feedback" on the coursebook itself, i.e., what stories or activities were most effective in teaching the children, what sections were unclear or difficult for the children to understand, what improvements could be made, and so forth. This feedback should be based on actual classroom experience in using the coursebook.

In developing your workplan and approach to teaching the course, please try to follow these ground rules:

1. This is a reading course and should be taught during regularly scheduled reading periods.
2. The main activities should focus on the coursebook stories and accompanying exercises. The project is also supplying flash cards and food group posters to be used in conjunction with the coursebook. However, teachers should feel free to use any other materials available to them, if they are useful in teaching the reading/nutrition lessons.
You should also refer to the document entitled: "Jamaica Nutrition Education Project; Go Foods+Grow Foods+Healthy Helper Foods=Nutritious Meal." This has a pink cover and contains a list of topics, nutritional concepts, school activities, and home activities that can be covered and/or undertaken during the project. This booklet is particularly useful in recommending certain games, exercises, or other activities you might carry out to help teach some of the concepts covered in the Nutrition Magician coursebook.
3. Start work on each reading story/comic strip/poem with a classroom discussion. The discussion should focus on (a) the practical food-related problems covered in the materials; (b) nutrition concepts and messages that are relevant to each story, etc. (see pp. 3-8 of this guide for a reference); and (c) relevant vocabulary words.
4. After the children have discussed and read each lesson, try to help them identify ways in which they can apply what they have learned, for example:

eat a better, balanced breakfast; buy nutritious snacks at school; wash their hands, and pick up trash at home and school. Keep a record of what these activities are and, in your judgement, to what extent the children carry them out.

5. If possible, encourage parents to be supportive of changes in student/family nutrition habits suggested by classroom discussion, e.g., follow a student-designed menu for a day, promote use of nutritious snacks, etc.
6. Reading progress will be measured in terms of: (a) word recognition; (b) word meaning; (c) comprehension (both factual and inferential) of messages in the stories. A list of suggested vocabulary words are provided at the end of each lesson. However, you may want to add others. Some of the questions that follow each lesson will help test for comprehension. Again, you may want to add additional questions or carry out further class/individual discussion for this purpose.
7. The materials presented vary in their level of sophistication--from comic strip to essay. If possible, try to observe and record the children's reading comprehension and nutritional learning results after each lesson.

Nutritional Concepts and Messages Found in the Coursebook

The coursebook is aimed at enabling students to understand the following nutrition concepts and messages:

Concept #1: The purpose of eating good food is to keep us healthy.

- Messages:
- a) Our bodies are human machines that are fueled by food. The food is broken down in our bodies and used to keep us warm, move the parts of our body, and help us live.
 - b) Good food helps our bodies to grow, develop properly; helps us play, work, and study well; and keeps us healthy.
 - c) Foods contain essential substance that the body needs to grow and function properly (both physically and mentally).
 - d) The important substances that the body needs are those that give us strength and help us grow well; those that give us energy to play, work, and study; and those that help keep us healthy.

- e) Choosing nutritious foods to eat is one of the most important choices we can make for our own health and well-being.

Concept #2: We can group foods and identify them according to how they affect our bodies. (Note: a prerequisite that children understand the concept of "grouping.")

- Messages:
- a) Foods have different substances (nutrients) in them which nourish us.
 - b) All of these substances are important for good health.
 - c) Some foods are more nourishing (have more essential nutrients) than others.
 - d) Foods which have a lot of the same type of substances can be grouped together.
There are three main food groups:
 - e) "Go foods" are those that give us energy for study, work, and play.
 - f) "Go foods" include foods such as staples and grains (rice, corn, yams), sugars and fats (oils). (These foods are carbohydrates or fats.)
 - g) "Grow foods" help build, repair, and maintain the body (brain, muscles, blood) and help us grow big and strong.
 - h) "Grow foods" are protein foods and include meat, beans, milk, peas, nuts, and fish.
 - i) "Healthy Helper" foods help protect us from diseases and help the body repair cuts and bruises. They also help the body use the other nutrients: proteins, carbohydrates, and fats (go, grow, and healthy helper foods).
 - j) "Health helper" foods have vitamins and minerals and include vegetables, such as callaloo and carrots, and fruits, such as pawpaws and mangoes.

Concept #3: We need to eat a balanced mix of foods from these groups in order to stay healthy. (Note: It is a prerequisite that the children understand the concept of balance).

- Messages:
- a) The body needs different types of food for it to remain healthy.

- b) People, especially children, should eat a balanced mix of "go," "grow," and "healthy helper" foods every day to provide the nutrients the body needs.
- c) Growing children need regular, balanced meals to keep their bodies working well. they should not skip meals.

Concept #4: Some foods are more nourishing than others.

- Messages:
- a) some foods are called "junk foods" because they fill our bellies when we are hungry, but they are not very nourishing or good for the body. Some examples are: suck-suck, cheese trix, and soda.
 - b) The reason for eating is not just to "fill our bellies" but to eat nourishing foods to keep us healthy.
 - c) Some foods (often advertised, like Milo) are expensive and less nutritious than some of our local, fresh foods. Some of these foods may even cause harm to our bodies if we eat too much of them and not enough nourishing foods.
 - d) Foods should be selected from the three groups when eating snacks (food eaten between regular meal times). This provides a healthy snack for children.
 - e) We can feel healthy and have lots of energy if we eat nourishing snacks instead of junk food.

Concept #5: Foods may be substituted for others in the same food group (i.e., peas substituted for fish, or oranges used instead of mangoes).

- Messages:
- a) If certain foods are not available in any food group (such as chicken), we can substitute and eat another food from that same group (such as peas [with rice] or eggs).

Concept #6: The body needs more food and different kinds of food for different activities and at different times of the day.

- Messages:
- a) The body uses more energy when we are active (playing, running, working in the field) than when we are quiet (sleeping, reading). We need to eat more food when we are being active.

- b) Primary school children should eat healthy, balanced breakfasts and lunches because they provide the energy and strength needed to pay attention and do well in class.

Concept #7: People need different kinds and amounts of food at different stages of their lives.

Messages: Infants and small children

- a) The most nutritious food for a baby a few months old (4-6 months) is its mother's breastmilk. A baby a few months old does not need any other food.
- b) Infants older than 4 months should continue to breastfeed (if possible) but should also be given mashed foods from the 3 food groups (especially fruits) to give them increased energy and strength while growing. Thick porridge of oats, rice, banana, and corn meal is recommended, with milk, some oil, and brown sugar.
- c) Children up to age 5 should eat balanced meals with nourishing snacks in between meals to help their bodies and minds work and grow properly. Children grow quickly during this time and need lots of go, grow, and healthy helper foods
- d) Primary school children should eat balanced meals, especially healthy breakfasts and lunches, to help them in their schoolwork and play. They should eat nourishing snacks.

Older Children and Adults

- e) People who are not active (for example, they sit at a desk in an office) do not need to eat as much food as those people who are very active (people who do housework, cooking, and marketing, or who work in the sugarcane fields).
- f) Women have different food needs than men. They need more iron-rich foods, as well as calcium-rich foods.
- g) Older people, who are less active, should eat less food. They should also eat less salt and fewer fats to prevent certain diseases.

Concept #8: If eating well promotes health, then not eating well may help bring about sickness or harm to our bodies.

- Messages:
- a) Infants and small children need healthy food because they are growing quickly. If they do not eat enough of the right foods, their bodies and their minds will not grow properly. They may become weak and malnourished.
 - b) Many people do not get enough food with iron in it. They feel very tired and weak because they have a condition called anaemia.
 - c) School children should eat foods with plenty of iron (dark green leafy vegetables, peas, and beans), or they will become too tired and weak to study and play.
 - d) If children eat too many sweet foods, they may get bad teeth and sore mouths.
 - e) If children do not drink enough milk or foods with calcium, like greens or fish, they may also develop bad teeth.
 - f) If people do not eat enough nourishing food, they may become weak and malnourished.

Concept #9: Our food comes from animals and plants. We get our food from many different places.

- Messages:
- a) Many of our "grow foods" (such as chicken, fish, eggs, milk) come from animals.
 - b) Other grow foods are plants, such as peas, beans, and nuts.
 - c) Most grow foods and healthy helper foods are plants.
 - d) We get foods from many sources--the market, our own gardens, from our own animals, vendors, and restaurants, among others. The foods we buy or get from these sources affect our health; the choice of food is ours.
 - e) Food that is imported or sold in shops often costs more and is sometimes less nutritious than local foods.

Concept #10: The way in which we keep ourselves and our food clean affects how healthy we stay.

- Messages:
- a) Germs can cause sickness.
 - b) We can become sick by eating food that is dirty or spoiled; or by drinking water that is unclean.

- c) We should always wash our hands before touching, preparing, or eating food to keep it from getting germs on it.
- d) We should always wash our hands after using the toilet.
- e) All utensils used to prepare, serve, and store food should be kept clean to prevent food from getting dirty.
- f) Food should be kept in a clean place and covered to keep pests from getting to it and spoiling it.
- g) Trash should be picked up and kept in covered containers away from the house, to help keep away dirt, pests, and germs.

Nutritional Project Learning Objectives

At the end of the pilot project school period (December 1986), at least 75% of the 4th and 5th graders participating in the project will:

- provide the correct response (in their own words) to questions related to why the body needs nutritious food,
- be able to select foods from the three main food groups taught, and combine them in a way that provides a well-balanced, nutritious meal,
- be able to name other substitute foods (or mixtures of foods) to replace another food in the same group,
- be able to describe (in their own words) how certain foods (selected from the three main food groups, as well as from non-nutritious foods) affect the body; i.e., why the foods are good/not good for them to eat,
- be able to recognize the difference between high nourishment-value foods and low value (junk) foods by selecting them from examples provided,
- be able to explain (in their own words) why children need a balanced diet, and especially a good breakfast, and what may happen to their health without that diet or breakfast,
- be able to explain (in their own words) what were the main point(s) of the stories that they read during the pilot project,
- be able to write three sentences explaining what they can do to prevent sickness, i.e., washing hands, eating healthy helper foods, covering foods, etc.

Reading Learning Objectives

Word Recognition:

Students should be able to recognize and pronounce 70% of the vocabulary words at the end of each lesson, as well as any additional words in the material identified as important by the teacher.

Word Meaning:

Students should be able to give accurate meanings (though in their own expression) to 70% of the vocabulary words at the end of each lesson, and to any additional words in the material identified as important by the teacher.

Comprehension

Students should demonstrate understanding of the concepts and messages expressed in each lesson by stating in their own words what the main lesson was that they learned for each story or materials. (A summary of these concepts and messages is provided on pp. 3-8 of this teacher's guide, and a list of messages found in each lesson or material is provided on p. 10.)

Some suggested guidelines for teaching vocabulary and reading skills:

Before reading the stories, or materials, you should introduce the new vocabulary words for the lesson. Some possible ways of doing this include:

- saying each word (teacher)
- have the children repeat it
- say the word and tell what it means
- write the word (perhaps have a picture to go with it)
- have the children repeat the word
- ask the children for the definition; have them repeat the definitions, or
- give the definition and ask them for the word
- ask them to use it in a sentence (after you have done so)
- write words on the board and ask children to read them; the rest of the class should repeat the words

- point to a word and ask a child to read it; the rest of the children should repeat the word
- drill each day (flash cards are useful here).

In terms of teaching reading skills, some suggestions include:

- begin with a discussion; ask some questions to get them thinking about the subject
- provide a summary of the story and introduce it
- introduce the vocabulary (see above)
- read the entire story to the children as they follow along silently
- discuss the story again
- read the story in parts (perhaps the first two pages, then the next two)
- the children can alternate reading out loud and silently
- the children can take turns reading sections
- discussions may take place as each section is covered; vocabulary should be reviewed.

Annotated Table of Contents for the Coursebook with Concept/Message References

1. Pre-test

2. "The Nutrition Magician"

Provides an overview of concepts #1 (and all the corresponding messages), #2, #3, and #9. It also briefly touches on messages 7a, 7b, and 8e. The Nutrition Magician theme is introduced; that theme will continue throughout the coursebook. The goal of passing a small test and receiving a Nutrition Magician certificate after completing the course is announced to motivate the students.

3. "Choosing the Right Foods"

The first section emphasizes concept #2, specifically messages 2a, b, c, and d. The important point is that because different foods have different substances that are good for us, we need to eat a lot of different foods in order to get all the nourishment we need.

The next section discusses the three food groupings, that is, concept #2, messages 2e-j. Discussion here could center on the fact that the magician groups his foods according to how they affect the body. This leads into the last section, which introduces concept #3, a repetition of the idea that we need to eat a balanced mix of all three kinds of foods in order to stay healthy.

Teachers may wish to make extensive use of the food group posters at this time, letting children use the flash cards to practice vocabulary, as well as using the cards to make up "balanced" meals, or to identify foods belonging to each group.

Teachers should also note that this very first section of the text stresses the overriding theme that eating the right balance and kinds of food is what keeps us healthy. This theme will be the subject of the final "essay" they are to write at the end of the text. Thus, it is best that this concept be stressed as many times as the teacher can include it in her/his lessons.

4. "No Fish for Dinner"

This story, adapted from the original Dr. Bird series, has been published separately. Teachers are to use it at this point, noting the vocabulary words and exercises listed in the magician coursebook. This story's focus is on concept #5 and message 5a. Review messages to be found are those regarding go, grow, and healthy helper foods, as well as the necessity of eating balanced meals (note the balanced meal that Clive's mother prepares). The food group flash cards can be used to select "substitute" foods for ones the teacher identifies. Teachers may wish to have the students rewrite the ending to the story as a language arts exercise.

5. "The Junk Food Man"

This poem emphasizes concept #4, specifically, messages 4a, c, d, and e. To a certain extent, messages 7d and 8d are also covered, and the poem repeats messages 2a and c. Teachers should note that children may have a tendency (because of the illustrations) to associate "junk food" only with "sweet" food. The teacher may want to provide other examples, such as cheese trix, and make it clear to the children that the problem lies in the fact that those

foods provide little real nourishment. The teacher should also note that we do need some sugar in our diet, as it provides energy. The emphasis is on not eating too many sweets.

6. "Monster Anaemia"

This is the first comic, so it may need a different approach than one applied to the reading stories. Teachers may wish to ask children questions specifically related to something "said" by the characters, to check that the children are not just depending on the illustrations to understand the messages. Also, teachers should make clear to students that anaemia is not a "monster" in the true sense--it is a nutrition problem caused by not eating enough foods that have iron. Teachers should also point out to students that an even greater problem lies in not getting enough nutritious foods, period. Anaemia is only one nutritional problem.

One aspect of this comic is to allow the children to draw both an anaemia monster, as well as foods that are rich in iron. The concept addressed here is concept #8b and c. Review concepts to go over include 2a, b, i, and j. This story should be used as a point of departure for discussing other messages under concept #8, such as messages 8a, e, and f. Although not specifically stated in the coursebook, these messages are very important. This is a good time to discuss them in more detail. The teacher may also refer to the Vitamin A illustration and/or the "No Teeth" poem as further examples of this concept.

7. "Mickey Left His Five Dumplings"

This story emphasizes messages 4b, 6a and b, 3c, and 7d. The stress is on the importance of not skipping meals, particularly breakfast. Discussion should center on the nutritional needs of primary school children, and how they need a combination of foods during the day for their active, young lives. The support materials, such as the food group posters, may be quite useful here, especially in developing realistic but healthy breakfasts (from foods normally available to them). Teachers can refer back to the "Anaemia Monster" to draw the students' attention to the importance of getting enough food in order to stay healthy.

8. "Vitamin A" Illustration

This could serve mainly as a discussion starter, in order to review concepts #8 and #2. The children might also cut carrots to see the resemblance to eyes. Discussion should include the identification of other vitamin A foods. (Note: in pre-testing these materials, it appeared that the children do not really distinguish "vegetables" in general as having certain properties, that is, that some are better than others in terms of having iron, vitamin C, or vitamin A. They tend to see all vegetables as having the same "healthy" qualities.)

9. "No Teeth" Poem

May serve the same purpose as the Vitamin A pictures. The poem addresses message 8d, but the teacher should also discuss message 8e, if possible. Again, the teacher should stress that some sugar in the diet, especially brown sugar, is needed. Too much causes problems.

10. "The Best Food for Baby"

This comic strip mainly stresses concept #7, specifically 7a and b. Concept 8a may also be brought into a discussion regarding the material. There are lesser messages, including 4c (relating to infant formula), and review concepts, such as #1 and #2. This comic may provide a starting point for a discussion of the nutritional needs of other family members. The teacher may wish to talk about "running belly" with the students; this may start them thinking about basic sanitation and germ theory, which they will go over in "How We Keep Healthy."

11. "Stages of Life"

This continues the theme started in the "Best Food for Baby," and addresses messages 7b through g. Teachers may want to bring up messages c and f on their own; these are not specifically addressed in the material.

12. "How We Keep Healthy"

This dialogue addresses all the messages in concept #10. Teachers may wish to have students read the parts, or even act it out. Activities might be developed to see how well the children might carry out some of the sanitation procedures at school and home.

13. "How to Become a Nutrition Magician"

This is an essay to determine how well the students can state, in their own words, what they have learned from the course. They will need to apply comprehension, vocabulary, and writing skills to express their nutritional knowledge. For the teacher's benefit, the main response should center around the idea that a nutrition magician should know what kinds of food to eat to keep people (in their family) healthy.

14. Testing

After students have completed the coursebook, they will take a small post-test, to be administered by project staff. The test will be used to assess the degree to which students have increased their nutritional understanding (of postulated concepts and messages) and reading ability (word recognition and understanding and overall comprehension).

Some suggested guidelines for evaluating materials in the Nutrition magician coursebook (which the teacher may want to use):

1. Do the students seem interested in the materials?
What seemed to interest them more than others?
2. Did the students respond well to the questions? or do they seem confused?
Were there any areas in particular that seemed difficult or confusing to the students?
3. How do they react to the Nutrition Magician himself? to other characters in the stories?
4. Does the language and/or expressions used in the materials seem appropriate?
If there were sections that were not appropriate, what were they?
5. Which stories or activities seemed to "work best" (be most effective in teaching the children about nutrition)?
6. Do the students participate well in the discussions and activities?
Which ones in particular?
7. What are the students' (and your) reactions to the illustrations in the coursebook? is there anything you dislike or feel is objectionable to the students? is there any illustration they particularly dislike?

The schools in the Clarendon parish have been supplied with some basic nutrition resource materials and books for the teachers' use. In addition to this, attached is a list of other international organizations and/or free newsletters (to which you can subscribe) which might supply you with further information.