Feeding Minds, Fighting Hunger Partnership
Rome, 2001
Our vision is a world without hunger and malnutrition – a world in which each and every person can be assured of having the food they need to be well-nourished and healthy. Our vision is a world that provides for and protects the welfare and human dignity of all of its people. A world in which all children can grow, learn and flourish, developing into healthy, active, caring members of society.

While many achievements have been made in alleviating hunger and malnutrition worldwide, we still fall very far short of having a world in which all people can be free from hunger. We see education and information on issues related to world hunger, food security and nutrition as key factors in making this global vision a reality. Thus, we focus our efforts on the young and their teachers. If every year, on World Food Day (16 October), children all over the world are introduced simultaneously to common teaching materials about hunger and malnutrition and what needs to be done, would they be more likely to grow up understanding the interdependences of our world? If they are taught lessons from different parts of the world, from different cultures and circumstances, would they be more ready to work together to solve the problems of hunger and food insecurity? Are there ways in which a generation of young people can be nurtured to develop responsible global citizenship?

We believe that the answers to all these questions are “YES”. As educators, you are in a special position to instill in young people a sense of caring and commitment to join in the fight against hunger. The imagination, ideals and energy of young people represent a vital resource for the continuing development of their communities and nations. You, their teachers, can help make a difference through informing, sharing knowledge, encouraging participation, and showing the young that they have an important role to play in achieving a world free from hunger.

We encourage you to join with teachers and students all over the world to participate in Feeding Minds, Fighting Hunger.
Introduction

Teacher's Introduction to Feeding Minds, Fighting Hunger

**WHO:** Teachers all over the world who would like to introduce their students to the problems of hunger and malnutrition can use and adapt the Feeding Minds, Fighting Hunger materials and model lesson plans.

**WHAT:** The Feeding Minds, Fighting Hunger lessons have been developed as a starting point for teachers to introduce the topic of hunger in the world to their students. Given the wide variety of problems, cultures and environments around the world, the lessons have been prepared as a framework for teachers, with the understanding that teachers will need to tailor the scope, language, discussions and activities provided for each lesson to fit their students and local conditions. All levels cover the topics of What is hunger and malnutrition, and who are the hungry? Why are people hungry and malnourished? and What can we do to help end hunger? Each lesson contains Objectives, Concepts and Activities to engage your students in a discussion about these serious and persistent problems.

Three lessons are provided for each of three broad school levels: primary, intermediate and secondary. The lessons have been directed towards the middle of the developmental skills range for each level. As grade levels and student ages are defined differently around the world, teachers will need to examine the lessons and select the materials that best match their students' level of cognitive development, making modifications as necessary.

**WHEN:** On World Food Day, 16 October — and throughout the year — students all over the world can use these lessons to gain a better understanding of hunger and malnutrition. Teachers can then submit lessons generated in their specific classes for use by other teachers around the world on subsequent World Food Days. New ideas, activities and lessons from around the world will be collected and distributed each year.

**WHERE:** In your classroom and in thousands of others around the world at the same time.

**WHY:** Our vision is a world where every person has access to enough food to live a healthy and productive life and where malnutrition is absent. We see education and information on issues related to world hunger, food security and nutrition as key factors in making this global vision a reality. The aim is to create a global classroom in which children and young people everywhere study and discuss the same issues, with the hope of preparing and stimulating them to participate in activities to create a world free from hunger.

**HOW:** You are encouraged to copy and use these materials throughout the school year, adapting the lessons to fit the particular circumstances of your students and your...
classroom facilities. Lessons that are adapted and developed locally to meet local problems, interests and culture are usually the most effective. Locally developed lessons and materials can then be used to help each community address its own particular problems. The model lessons are designed to be covered in three classes of approximately 45 minutes each, but they can be covered in greater or less detail, as you wish, to fit the needs of your class. Background information is provided for each lesson and concept for use either by you or by your students, as you feel appropriate. Each lesson contains suggested activities and discussion points which you can use as presented or as a base to create your own class activities on each topic.

As teachers around the world see what works best in various cultures and environments and begin to adapt these lessons accordingly, a series of relevant and compelling teaching tools and activities on the topic of hunger in the world will be created. We would like to hear your comments on these lessons and would especially like you to share any adaptations you have made. This will help us to improve the programme year after year. You are also encouraged to submit lessons or results from your classes that can be shared around the world for this project on next year's World Food Day (it is always on 16 October).

About World Food Day

World Food Day is celebrated every year on 16 October to commemorate the founding of the Food and Agriculture Organization of the United Nations (FAO) in 1945. World Food Day aims to heighten public awareness of the plight of the world's hungry and malnourished and to encourage people worldwide to take action against hunger. More than 150 countries observe this event every year. In the United States, 450 national, private voluntary organizations sponsor World Food Day, and local groups are active in almost every community. First observed in 1981, each year World Food Day highlights a particular theme on which to focus activities. The theme for 2000 was “A Millennium Free From Hunger”. Themes from the previous years are “Youth Against Hunger” (1999) and “Women Feed the World” (1998).

A related initiative is the TeleFood Campaign, in which television and radio broadcasts, concerts, celebrity appeals, sporting and other events pass on the message that it is time to do something about the problem of world hunger. The objective of TeleFood is to raise awareness and mobilize resources for microprojects on food security. Donations to TeleFood support hundreds of small projects in developing countries that help poor farmers grow more food or generate income to buy enough food to feed their families. Materials for recent World Food Day/TeleFood themes are available on the FAO Web site.

Hunger and Malnutrition in the World

To be healthy and active, we must have food in adequate quantity, quality and variety to meet our energy and nutrient requirements. Without adequate nutrition, children cannot develop their potential to the fullest, and adults will experience difficulty in maintaining or expanding theirs.
Not everyone has adequate access to the food they need, and this has led to large-scale hunger and malnutrition in the world. Nearly 800 million people today are chronically undernourished and unable to obtain sufficient food to meet even minimum energy needs. Approximately 200 million children under five years of age suffer from acute or chronic symptoms of malnutrition; during seasonal food shortages, and in times of famine and social unrest, this number increases. According to some estimates, malnutrition is an important factor among the nearly 13 million children under five who die every year from preventable diseases and infections, such as measles, diarrhoea, malaria and pneumonia, or from some combination of these.

The vast majority of the undernourished people live in Asia and the Pacific. This region, which is home to 70 percent of the total population of the developing world, accounts for almost two-thirds (526 million) of the undernourished. India alone has 204 million undernourished people, and the South Asian subregion accounts for more than one-third (284 million) of the world total. Another 30 percent (240 million) live in Southeast and East Asia, where more than 164 million of China's 1.2 billion people are undernourished. Almost one-quarter of the undernourished are in sub-Saharan Africa, which is also the region with the highest proportion of its population undernourished. The situation is especially severe in Central, East and Southern Africa, where 44 percent of the total population is undernourished.

Malnutrition is one of the prime causes of low-birth-weight (LBW) babies and poor growth. LBW survivors are likely to suffer growth retardation and illness throughout childhood, adolescence and into adulthood, and growth-retarded adult women are likely to carry on the vicious cycle of malnutrition by giving birth to LBW babies. Links between malnutrition in early life – including the period of foetal growth – and the development later in life of chronic health conditions such as coronary heart disease, diabetes and high blood pressure are also emerging. Some 30 million infants are born each year in developing countries with impaired growth caused by poor nutrition in the womb.

Malnutrition in the form of deficiencies of essential vitamins and minerals continues to cause severe illness or death in millions of people worldwide. More than 3.5 billion people are affected by iron deficiency, 2 billion are at risk of iodine deficiency and 200 million pre-school children are affected by insufficient vitamin A. Iron deficiency can result in growth retardation, low resistance to disease, long-term impairment in mental and motor development and impaired reproductive functions; it contributes to approximately 20 percent of pregnancy-related deaths. Iodine deficiency may cause permanent brain damage, mental retardation, reproductive failure, decreased child survival and goiter. In an expectant mother, iodine deficiency can produce varying degrees of mental retardation in her infant. Vitamin A deficiency can result in blindness or death among children; it contributes to decreased physical growth and impaired resistance to infections, with consequent increased mortality in young children.

Even mild forms of these deficiencies can limit a child's development and learning capacity early in life, which can lead to cumulative deficits in school performance, resulting in higher school drop-out rates and a high burden of illiteracy in our future populations. Many of the most severe health consequences of these three leading
micronutrient deficiencies could be greatly alleviated by ensuring adequate food supplies and varied diets that provide essential vitamins and minerals.

**In many countries**, health problems related to dietary excess are an ever-increasing threat. Obesity in childhood and adolescence is associated with various health problems, and its persistence into adulthood leads to health effects ranging from an increased risk of premature death to several non-fatal but debilitating conditions that affect productivity. These emerging problems are not just limited to developed populations; an increasing number of developing countries are confronted with the double burden of undernutrition and chronic diet-related disease. In addition, food contamination from microbial agents, heavy metals and insecticides is a barrier to nutrition improvement in every country of the world. Food-borne diseases are common in many countries, and children are frequent victims, experiencing diarrhoea leading to underweight and wasting and high levels of child mortality.

**Whether in their mildest** or in their most severe form, the consequences of poor nutrition and health result in a reduction in overall well-being and quality of life, and in the levels of development of human potential. Malnutrition can result in productivity and economic losses, as adults afflicted by nutritional and related disorders are unable to work; education losses, as children are too weakened or sickly to attend school or to learn properly; health care costs of caring for those suffering from nutrition-related illnesses; and costs to society of caring for those who are disabled and, in some circumstances, their families as well.

**Over the last century**, remarkable progress was made in increasing the quantity and quality of global food supplies and in improving the nutritional status of populations. As global food supplies have kept pace with population growth, and health, education and social services have improved throughout the world, the number of hungry and malnourished has declined significantly. And yet, access to sufficient supplies of a variety of safe, good-quality foods remains a serious problem in many countries, even where food supplies are adequate at the national level. In every country, some form of hunger and malnutrition continues to exist.

**Putting an end to hunger** necessarily starts with ensuring that enough food is produced and available for everyone. However, simply growing enough food does not guarantee the elimination of hunger. Access by all people at all times to enough nutritionally adequate and safe food for an active and healthy life - food security - must be guaranteed. Worldwide, increased efforts to ensure food security are needed in order to eliminate hunger and malnutrition, and their devastating consequences, among current generations and those to come. The contribution of each and every one of us - through information sharing, caring and participating in activities - is imperative to ensuring the fundamental right of all human beings to be free from hunger.
The Feeding Minds, Fighting Hunger project has been initiated by a group of international and non-governmental organizations that have joined forces to help eradicate hunger and malnutrition through education. The partners believe that, by bringing together their individual efforts and expertise, a world free from hunger can be achieved more quickly and successfully than by working alone.

American Federation of Teachers (AFT)
The American Federation of Teachers is a trade union representing more than 1 million members in the fields of K-12 education (teachers and paraprofessionals), state governments, higher education and nursing and health professions. Founded in 1916, AFT continues to be known for its democratic ideals and cutting-edge work on behalf of its members, exerting strong influence on the standards and professional practices in members' workplaces.

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Web site: www.aft.org

Food and Agriculture Organization of the United Nations (FAO)
FAO was founded in 1945 with a mandate to raise levels of nutrition and standards of living, to improve agricultural productivity, and to improve the condition of rural populations. With a worldwide staff and 180 Member Nations and the European Community (EC), FAO works to alleviate poverty and hunger by promoting agricultural development, improved nutrition and the pursuit of food security — access by all people at all times to the food they need for an active and healthy life.

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Future Harvest
Future Harvest is committed to creating a world with less poverty, a healthier human family, well-nourished children, and better environment by raising awareness and support for international agricultural research. Future Harvest supports scientific research, helps bring the results of research to rural communities in developing countries, and works to educate children and adults about the importance of feeding the world and protecting the Earth.

PMB 238, 2020 Pennsylvania Ave NW Washington, DC 20006-1846, USA
Tel.: (+1) 202 473 3553
Web site: www.futureharvest.org
**International Food Policy Research Institute (IFPRI)**

IFPRI's mission is to identify and analyse alternative national and international strategies and policies for meeting the food needs of the developing world on a sustainable basis, with particular emphasis on low-income countries, poor people and sound management of the natural resource base that supports agriculture.

2033 K Street NW, Washington, DC 20006-1002, USA
Tel.: (+1) 202 862 5600
Web site: www.ifpri.org
List serve: www.ifpri.cgiar.org/new/newatifpri.htm

**International Education and Resource Network (I*EARN)**

I*EARN is a global educational telecommunications network linking schools and youth groups in more than 90 countries in order to enable students to use Internet technologies for collaborative project-based learning on projects that address local, national and international issues.

I*EARN-USA
475 Riverside Drive, #540, New York, NY 10115, USA
Tel.: (+1) 212 870 2693 - Fax: (+1) 212 870 2672
Web site: www.iearn.org

**National Peace Corps Association (NPCA)**

The National Peace Corps Association is the non-profit membership organization of returned Peace Corps volunteers, former staff and other friends of the Peace Corps. The NPCA's programming focuses on “bringing the world back home” through global education, peace-building, service and global advocacy.

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Web site: www.rpcv.org

**Newsweek Education Program (NEP)**

NEP's mission is to promote student participation in issues of the day. The programme seeks to improve students' public policy analysis skills and increase their civic participation. NEP provides class sets of Newsweek Magazine for secondary and college classes in English, Social Studies, Economics and ESL. Special low student rates apply to dozens of supplemental resources, including maps, quizzes, teacher guides, resource booklets and skills builders.

PO Box 919, Mountain Lakes, NJ 07046, USA
Tel./Fax: within the United States: 800 526 2595
Tel./Fax: outside the United States: (+1) 212 445 5032
Web site: www.school.newsweek.com
United Nations Educational, Scientific and Cultural Organization (UNESCO)

UNESCO promotes collaboration among nations through education, science, culture and communication in order to further respect for justice, for the rule of law and for the human rights and fundamental freedoms affirmed by the Charter of the United Nations. UNESCO works with educators at all levels and with partner organizations to integrate scientific and cultural knowledge and to help learners explore their environment, their social and personal choices and the conditions leading to sustainable development.

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United States National Committee for World Food Day

World Food Day is an annual worldwide event designed to increase awareness, understanding and informed, year-round, long-term action on the complex issue of ensuring food security for all. The United States National Committee is a coalition of 450 national, non-profit, private voluntary organizations based in the United States.

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World Bank

The World Bank is the world’s largest source of development assistance and provides, on average, US$20 billion in loans annually to its client countries. The Bank uses its financial resources, its highly trained staff and its extensive knowledge base to help each developing country on to a path of stable, sustainable and equitable growth. The main focus is on helping the poorest people and the poorest countries. In rural development, this is done by helping to: 1) increase agricultural productivity, employment and food security in rural areas; 2) develop infrastructure such as roads, water wells, schools and hospitals, and provide social services for rural people; and 3) promote environmentally friendly rural development.

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Collaborators

Sponsoring Feeding Minds, Fighting Hunger

All of the work on Feeding Minds, Fighting Hunger has been contributed by the project partners. In order to reach all classrooms around the world, additional support is needed for translations, artwork, class materials, printing and distribution. Further development of the materials for future World Food Days will also require additional support. If you would like to sponsor or contribute in some way to developing these materials and making them more widely available, please contact any of the Partners in Feeding Minds, Fighting Hunger.

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What is Hunger and Who are the Hungry?

Total lesson time: 45 minutes

Objective 1
To understand why we need food

Concepts
- We all need food
- Food gives us the energy and nutrients we need to keep our bodies functioning, to grow and develop and to move, work, play, think and learn
- Too little or too much food is not healthy

Objective 2
To know that we need many different foods

Concept
- People need many different foods to be healthy and to grow

Objective 3
To know who is hungry in the world

Concepts
- Hunger is not getting enough of the right kinds of foods to meet our needs
- All countries and regions have some people who are hungry
**Why are People Hungry?**

*Total lesson time: 45 minutes*

**Objective 1**
To understand the food system that feeds people

**Concept**
- The system that provides us with food involves many steps

**Objective 2**
To understand what it means to be food-secure

**Concepts**
- To be food-secure means that we must always be able to get the food we need for an active and healthy life
- The three pillars of food security are: availability, accessibility, and use of food

**What Can We Do to Help End Hunger?**

*Total lesson time: 45 Minutes*

**Objective 1**
To know that we all can and should act to fight hunger

**Concept**
- Every person can be a hero in fighting hunger

**Objective 2**
To identify how we can fight hunger and malnutrition in our own communities

**Concept**
- We can all take action to help end hunger
The lesson has been designed to be covered in 45 minutes, but it can be covered in greater or less detail to fit the needs of the class. Teachers are encouraged to cover all objectives and content areas. For each objective, a variety of activities and discussion points are provided from which teachers can select those most appropriate for their students. The materials for each lesson can be found in the Materials section beginning on page 75.

Information for teachers

To begin their study of world hunger, it is important that children understand the main functions of food and the importance of food for good health, growth and development. They should know that all countries and regions have people who are hungry, some more than others, and that we are working together to solve the problem of hunger in the world. The topic of hunger should be presented in a manner that encourages hope for a better future where we all have the food we need for an active and healthy life.

Objective 1 provides an overview of the importance of getting the food we need. Nutrition is presented simply, as providing energy and nutrients to maintain health and life and to help us develop and grow, without going into detail on specific nutrients, which would be too difficult for small children to understand. Additional lessons on nutrients, specific requirements and local food guides may be added for older children. For a more thorough overview of basic nutrition concepts, teachers may refer to Lesson 1 of the Intermediate and Secondary Levels.

Objective 2 introduces the importance of getting a variety of foods to meet our nutritional needs. A simple picture is presented to show the different kinds of foods we need and to illustrate a typical meal pattern that is followed in many parts of the world and provides variety. If time permits, each section can be presented in more detail and the handouts and pictures given to the children to colour and discuss.

Objective 3 presents the magnitude of the problem of hunger in the world and identifies those people who are most at risk from hunger. For a more detailed overview of the current world situation, teachers may refer to “Hunger and Malnutrition in the World” in the Introduction.
Objective 1
To understand why we need food

Materials

Picture: We All Need Food
Fact Sheet: Food Gives Us...

Concept
We all need food

Content
The food chain starts with plants and the smallest of animal life and moves up to larger and larger animals and people. As the word "chain" implies, all forms of life depend on each other and all are connected in their need for nutrients. We must all have nutrients to live.

Activities
Ask if the children can think of any animal that does not need food.
Pass out or hold up the picture We All Need Food and ask students to write or call out the foods eaten by the people and animals in the picture. They can also colour the picture.
Discuss how the animals and people in the picture We All Need Food eat different foods and need different nutrients, but all share the need for nutrients that keep them healthy.
Discuss the concept of the food chain with the children – i.e. that all plants and animals, including people, are connected. Plants provide the food for many animals; animals, in turn, provide food for other animals; and many animals eat both plants and animals. This can be thought of as a cycle, as well as a chain, because sometimes animals provide fertilizer that gives nutrients to plants.
The food chain can be represented by having the children draw a small picture of a plant, fish, small animal, larger animal or person and attach it to their clothing, or hold it in one hand. The children can then form a chain (linking arms or hands) with the plants, fish and small animals at one end and, moving up the food chain, those species that depend on these for food at the other end. To show the interdependence, the children can join hands (or arms) and form a circle to represent the connection that all species have with one another. An important concept is that if one of the links is broken, it affects the entire chain or circle. All are important and all depend on one another. This is the concept of a system. Another system (the food supply system) is introduced in the next lesson.
Food gives us the energy and nutrients we need to keep our bodies functioning, to grow and develop and to move, work, play, think and learn.

Tell the students that there are special things called nutrients in food. Nutrients are contained in the foods we eat and include vitamins, minerals, carbohydrates, proteins, fats and water. These nutrients keep our bodies functioning, breathing and thinking, keep our blood circulating, give us energy and are the building blocks that help us to develop, move, work, play, think and learn. Several important nutrients are explained in more detail in the fact sheet Food Gives Us. The concepts can be introduced and discussed in the detail appropriate for the grade level. More advanced nutrition concepts are provided in the Intermediate and Secondary Levels.

Pass out or hold up the fact sheet Food Gives Us. Hold up food samples, or pictures of local foods, and discuss their functions in the body. For example, to illustrate protein, state what it does in the body (from the fact sheet), hold up a small handful of beans (or some other local food rich in protein) and explain that beans are rich sources of protein.

Alternative activities can be developed into games. For instance, hold up a food or picture of a food or call out the name of a local food and ask which nutrients (from the fact sheet) are found in that food. An example would be to hold up, or draw, wheat and ask what wheat gives us (carbohydrates, fibre, vitamins and minerals).

Too little or too much food is not healthy

To be healthy, we must have the right amounts and the right kinds of foods. Not enough food, not enough different kinds of food, and even too much food can make us unhealthy. How much is just enough food? People need different kinds and amounts of food. We need more food when we are in a stage of growth, such as infants, children and pregnant and breastfeeding mothers are. We need more food if we work and play hard. And we may need more food if we are sick.

If we eat too much food we can be unhealthy as well. Too much food causes our body to store too much fat and can contribute to the risk of diseases such as heart problems and diabetes.

Hold up the picture We All Need Food. Ask the children to imagine what would happen if the different animals and people in the picture ate each other’s food supply for a day. For instance, what if the chicken ate the mother’s food for a day; or what if the child ate the chicken’s food supply for a day? Explain that everyone in the family also has different needs for food. We need more
food when we are working and playing hard, when we are growing, or when we are sick. Pregnant women and mothers nursing babies also need more food. All of the family members must have enough food to be healthy. Each animal and person in the picture has special needs for enough food and for specific nutrients in foods. If there is time available, the children can draw a picture of a meal for each of the animals and people in the picture and talk about the types of foods, and the amounts of the foods, for all family members.

**Objective 2**

**To know that we need many different foods**

**Materials**

- **Picture:** We Need Many Different Foods

**Concept**

People need many different foods to be healthy and to grow

**Content**

Even if we get enough food to meet our energy needs, we can be unhealthy if we do not get the kinds of different foods that we need. Because different nutrients are found in different foods, we need to eat many kinds of foods to get all of the things we need.

Most regions have a traditional or local pattern of eating that provides the variety needed for health and growth. For instance, a staple food such as rice, wheat, maize, cassava or potatoes will provide the main food, to which smaller amounts of vegetables, meat, fish or poultry and sauces are typically added. When the accompanying foods provide a variety of vegetables, meats or legumes (beans, peas and nuts), as well as sauces with fat, sugar and fruits, the traditional, local diet is rich in nutrients for health and growth.

**Activities**

- Tell children that people all over the world have very different ways of eating. Pass out or hold up the picture *We Need Many Different Foods* and describe the meal that is being served to this family. It is made up of a large staple food. Ask the children what it looks like (rice, cassava and potato). Ask them what else they see in smaller amounts (fruit, meats, vegetables and sauces).
- Tell the children that this is how most people in the world eat. They have a staple food, then add smaller amounts of accompanying foods. Discuss how staple foods around the world are typically starchy foods such as rice and other cereals, potato and cassava. Discuss how the accompanying foods may be vegetables, beans, peas, nuts, meats, fish, egg or sauces made from these foods.
- Tell the children that the accompanying foods provide the different kinds of foods that we need to be healthy. And that we should try to eat different ones every day. We should also try to eat fruits after meals or for snacks.
- Ask the children what their meals are like and ask if they also have a staple food with smaller amounts of accompanying foods like the family in the picture.
Using the picture as a guide, ask the children to create a list of their own local staple foods and the accompanying foods they add. Ask them to count how many different accompanying foods they can list and explain how having many different kinds of foods helps them to grow and be healthy. Your own version of the picture can be created by drawing or cutting out pictures of local staple foods and accompanying foods.

Objective 3
To know who is hungry in the world

Materials

Picture: Map of World Hunger

Concepts

- Hunger is not getting enough of the right kinds of foods to meet our needs
- All countries and regions have some people who are hungry

Content

Hunger is not having enough food and not having the variety of foods to meet nutritional needs. Hunger is a problem all over the world. Every country and every region has some people who do not get enough to eat. While hunger is present in every country, some countries and regions have a greater problem feeding their people. In the year 2001, 800 million people are hungry and never get enough to eat all year long. The goal of the new millennium is to make sure that everyone has enough food and the right kinds of food to eat.

Hunger exists for many reasons (presented in Lesson 2), and it will take much work to solve the problems it causes. Many people are working together in all parts of the world to identify causes and search for solutions to the hunger problem. All people, including children, can be a part of this effort by learning as much as they can about hunger and how to prevent it.

Activities

Hold up the picture Map of World Hunger, which indicates areas with serious hunger and malnutrition problems. Explain how the map shows the areas where many people do not get all of the foods that they need. Point out the areas with the largest numbers of hungry people. Explain that all countries have some hungry people.

Discuss that the people within each area who are most likely to be hungry are the people without jobs or without education, the poor, people without land on which to grow food and other socially disadvantaged people. People who may also be
hungry are those with special nutritional needs, such as children (who need to grow) and pregnant and nursing women. Wars, civil disturbances, climate and environmental changes and other emergencies such as floods and earthquakes often cause both short- and long-term hunger in an area. Identify your area/region of the world and discuss its problem with hunger.

Ask children to think about a world where all people have enough food to eat. Ask them to create a picture in their minds of that world and share that picture with the class. Share your mental picture of that world with no hungry people. Where resources are available, have children draw their “mind’s-eye” picture of a world or place where food is plentiful and no one is hungry and display these picture in school buildings as well as public buildings in the community.

Discuss how people can become hungry for many reasons, how it takes much work to solve the problem, and how many people are working to learn why people are hungry and to find ways to ensure that there is good food, all year long, for everyone.

Discuss how the people in the world can work together so that everyone will have enough and the right kinds of food to eat.

Summary

Lesson 1 presented material to answer the questions What is Hunger and Who are the Hungry? After completion of Lesson 1 children should be able to state that:

- We all need food.
- Food gives us the energy and nutrients we need to grow and develop; to move, work, play, think and learn; and to maintain life and health.
- Too little or too much food is not healthy.
- Hunger is not getting enough of the right kinds of foods to meet our needs.
- All regions have some people who are hungry.
- Some people have special nutrition needs, including children, pregnant and nursing mothers, people who work hard and people who are sick.

Tell students that in our next lesson we are going to learn where food comes from and some of the reasons people are hungry in our world.
The lesson has been designed to be covered in 45 minutes, but it can be covered in greater or less detail to fit the needs of the class. Teachers are encouraged to cover all objectives and content areas. For each objective, a variety of activities and discussion points are provided from which teachers can select those most appropriate for their students. The materials for each lesson can be found in the Materials section beginning on page 75.

**Lesson 2**

**Why are People Hungry?**

**Information for teachers**

Lesson 1 presented simple information on the importance of food for life and health and explained that hunger exists in most areas of the world. In Lesson 2, students can examine food systems as a factor in world hunger. Students will then be introduced to the concept of food security, using the example of the three pillars of food security.

**Objective 1** helps students to understand that hunger exists, in part, because the process of getting food is complex and the system can break down at any point. Before we can solve the problem of hunger, we must understand where food originates, and the processes that some foods go through before we eat them. The food system is presented using a story to illustrate basic concepts, with discussion questions included.

**Objective 2** builds on this, introducing the concepts of food security – having access at all times to the food we need to lead an active and healthy life – and its three pillars: availability, accessibility, and use of food. It emphasizes that the food system must work to help ensure food security.
Objective 1
To understand the food system that feeds people

Materials
- Picture: Steps in the Food System
- Story: The Story of Miguel’s Tomatoes

Concept
The system that provides us with food involves many steps

Content
Steps involved in the food system include:
- Getting ready to grow food
- Growing the food
- Moving food from the field
- Processing, selling or storing the food
- Preparing and eating the food.

Each of these steps involves many processes and considerations. And each process may involve many people, such as bankers, agriculture suppliers, extension workers, farmers and farm workers, truck drivers, food handlers, millers and bakers, as well as different conditions, such as weather, roads and economic and political stability. It is this complexity that makes our food supply vulnerable.

The number of steps involved and the processes in each step depend on the specific situation for each community and family.

Local food systems, including home gardening and small farms, may decrease the complexity of the processes involved, or even eliminate steps such as moving, processing or selling. Home gardens can increase family security by providing sufficient food for the family, as well as income from garden surplus.

However, even a home garden may depend on other people to supply certain needs such as seeds, tools, fertilizer, milling of grain or rental of land and farm equipment. And all farms are vulnerable to weather conditions.

The Story of Miguel’s Tomatoes is designed to trigger discussions about each of the steps in the food system. It can be read to younger children to illustrate how food is grown, transported and processed.

Older children can read the story alone or in groups. The discussion can be more detailed for older children, and include asking them to imagine all of the additional processes involved with each step in the journey of the tomatoes and what would happen if things went wrong (no rain, Miguel got sick and could not care for the plants, the truck to the city broke down and the tomatoes spoiled, etc). The teacher can lead a discussion about the ultimate effects of a breakdown at any stage of the food system on the food supply of a community.

Activities
- Ask the children where we get our food. (If they say a market or the grocery store ask them where do the markets and grocery stores get the food?) Tell them that food starts with the farmer.
- Now tell the children that you are going to read a story about a farmer and his tomatoes. Ask them to think about all of the things that might happen to the food before it is eaten. Read The Story of Miguel’s Tomatoes out loud to the children.
Discussion
Hold up the picture *Steps in the Food System*. Tell the children that there are five major steps that must happen for food to be available:

- Getting ready to grow food
- Growing the food
- Moving food from the field
- Processing, selling or storing the food
- Preparing and eating the food.

*The Story of Miguel's Tomatoes*
Ask the children to think about these food system steps in the story about Miguel and his tomatoes.

**Getting ready to grow food:**
- What did Miguel need to begin growing his tomatoes? Seeds, fertilizer, a plough and land.
- What would happen if these were not available? Could Miguel grow tomatoes without these supplies?

**Growing the food:**
- What did Miguel need for the tomatoes to grow? Sunshine, rain, his hands to work, weed and care for the tomatoes (labour), understanding of growing food, the land and agriculture (education/knowledge).
- Could Miguel's tomatoes have grown if these were not available?

**Moving food from the field:**
- Where were Miguel's tomatoes moved to after he and Ana picked them?
  - Some were taken to Miguel and Ana's house to be eaten for dinner or to be put into jars to store.
  - The rest were taken to the village market by Miguel in a cart.
At the village market they were loaded into a truck and taken to the city. Some were taken to the city market. The rest were taken to the food processing factory.

- How far did the tomatoes travel for Miguel and Ana’s dinner?
- How far did the tomatoes travel to get to the city? How did they make this journey? (Miguel’s cart, Pedro’s truck).
- What would happen to the tomatoes if the cart or truck broke down on the way?

**Processing or selling the food:**

- How did Ana process the tomatoes?
- How did Miguel sell his tomatoes?
- How did Pedro re-sell the tomatoes?
- What happened to the tomatoes at the food processing factory?

**Eating the food:**

- Discuss how people need money to buy food unless they grow their own as Miguel and Ana do.
- Discuss how people must understand how to use the food safely and choose foods that keep them healthy.
- Discuss the problems that could arise with each of the above steps and how the food would then not be available for people to eat.
- Discuss the difference between the tomatoes that were eaten directly by Miguel and Ana from their field and the tomatoes that came back in a can.

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**Objective 2**

To understand what it means to be food-secure

**Concepts**

- To be food-secure means that we must always be able to get the food we need for an active and healthy life.
- The three pillars of food security are: availability, accessibility and use of food.

**Content**

To have food security depends on three pillars, or legs of support. Enough food must be Available, it must be Accessible for all and we must understand how to make the best Use of the food that we have.

- Food must be Available, meaning that adequate amounts of good-quality, safe food must be produced or imported at the national and local levels.
- Food must be Accessible, meaning that it must be distributed and available locally, and it must be affordable to all people.
- Food must be Used in the best way possible for each person to be healthy and well nourished (sufficient in quantity, quality and variety for each individual’s needs).
To achieve national food security, a country must be able to produce or import the food it needs, and be able to store it, distribute it and ensure equitable access to it.

For families to achieve food security, they must have the means, safety and security to produce or purchase the food that they need; and they must have the time and knowledge to ensure that the nutritional needs of all family members are met throughout the year.

Activities

Discuss with the children the concept of having enough of many different kinds of good, safe foods to eat and how we must all know that we will always have the foods we need to be healthy and grow. This is food security. For older children the definition of food security above can be written out and explained.

Availability: Looking at the picture of Steps in the Food System (Lesson 2, Objective 1), discuss with the children how all steps in the food system affect the availability of food: getting ready to grow food; growing enough food; transporting foods; and processing, selling or storing foods.

Do we grow enough food? for our families? for our area? for our world? Do we grow the kinds of food we need? or do we need to buy additional foods? What if we do not grow enough food or all of the foods that we need? What things influence availability? The concepts already introduced in discussing food systems can be explored in as much detail as desired here. For example, increasing productivity through crop selection, fertilizer and other agricultural techniques; more home gardens, small animal, livestock and fish production; drying and other storage; and increasing the ease of getting foods into and out of the area will all improve the availability of food.

Accessibility: Accessibility is important because, even if there is enough food available, all individuals, families or households need physical and economic access to that food. All steps in the food system affect accessibility, but the ones that affect it most directly include moving foods and processing or selling foods, as well as eating foods. Things that influence accessibility include the money that is available for people to buy food, seeds, other agricultural supplies and animals; land ownership; transportation to markets; and food prices. In addition, poor safety in a region can decrease accessibility, as people may be afraid to move in and out of or around certain areas or communities because of wars, gangs or other threats to safety. Accessibility can be increased through improved earning power of all people, as well as improved government services (roads, transportation systems) and international trade agreements.
Food use: Are people eating a variety of foods in the right amounts and at the right times to get adequate energy and nutrients to be healthy and grow? Discuss with the children how people need to understand about their food systems and know what foods to eat and how they can be prepared and stored to last until more are available. Discuss with the children how we learn about food systems and what we eat. Discuss how parents and grandparents help children to learn, but teachers, government workers and health care workers can help both children and parents to know more about using foods to be healthy and grow.

Summary
Our goal is to be sure that all people feel secure about their food. Getting our food involves many steps. We must understand where our food comes from to make the right decisions about how to feed everyone in the world. Lesson 2 illustrated the complexity of food systems in order to explain the many reasons that people may be hungry. After completion of Lesson 2, children should be able to state that:

- Food security means that all people must always be able to get the food they need to be healthy and active.
- To have food security, food must be available, it must be accessible and it must be used in the best way possible for each person to be healthy and well nourished.
- The system that provides us with food involves many steps.

Tell students that we can work together to reduce hunger. Our next lesson will show us what we can do to help fight hunger.
The lesson has been designed to be covered in 45 minutes, but it can be covered in greater or less detail to fit the needs of the class. Teachers are encouraged to cover all objectives and content areas. For each objective, a variety of activities and discussion points are provided from which teachers can select those most appropriate for their students. The materials for each lesson can be found in the Materials section beginning on page 75.

lesson 3
What can We Do to Help End Hunger?

Information for Teachers
In the last lesson we learned that global and local food systems are complex and that all regions have problems with ensuring food security for all people. This lesson gives the basis for understanding what we can do individually and collectively to reduce hunger in our world.

Objective 1 uses the concept of real or mythical heroes to illustrate how courageous people can work to make the world a better place for all of us and encourages the children to think about local "heroes" who have made a difference in their communities and the world. The idea presented is that we all have a contribution to make in ending hunger and that each one of us, even in small ways, can be a hero to someone else.

Objective 2 suggests specific actions that can be taken by the children to help fight hunger for themselves, their families and their communities. Using case studies as a basis for generating ideas, students are encouraged to apply what they have learned to their own communities.
Objective 1
To know that we all can and should act to fight hunger

Materials

Statements:
- About World Food Day
- Feeding Minds, Fighting Hunger

Concept
Every person can be a hero in fighting hunger

Content
Great heroes have existed throughout time. Legends exist in every culture about great heroes who have fought against poverty and hunger for poor people. Many of the legends are based on fact and many have to do with the religious beliefs of the people. Although some legends are based on conquest, the enduring heroes are those who helped to free people from poverty and hunger.

In addition to legends, real people have changed the course of history and fought human suffering and hunger in all countries of the world. Many of these people made tremendous personal sacrifices in their efforts to help their fellow humans.

The qualities of a real hero are moral strength, courage and the willingness to help others.

Organizational/governmental heroes: Many people are also working to make a difference to hunger in organizations and governments. Organizations and governmental agencies have resources to help us. Hundreds of organizations have been set up to work on various aspects of the hunger problem. Organizations include private groups, governmental agencies, international organizations and regional coalitions. The scope of their missions includes relief, research and advocacy. Some groups concentrate on specific countries; some groups concentrate on specific areas, such as education or agriculture.

Activities
Who are our heroes? Ask the children to list three of their heroes, living or dead, real or mythical. Discuss what personal qualities these heroes have in common. Discuss what personal qualities we value as people.

From this list, select several heroes and leaders who have worked against poverty, hunger or injustice and briefly describe their contributions. Ask the children if these heroes are very different from the rest of us, or whether we can all find the qualities within ourselves to work for change.
Ask the children if they know people in their community who are caring and have the courage to help others in emergency and day-to-day situations. Do they think that they are heroes? Why or why not? Have the children describe the contributions of some of the local people who are helping others.

Ask the children what they themselves would like to do to help their families, their community or their world. Ask them to write a story about, or draw a picture of, what they would like to do to end hunger.

Discuss how their class is part of thousands of classes all over the world participating in World Food Day lessons. World Food Day is an annual, global activity with the objective of raising awareness of hunger and malnutrition in the world and encouraging people worldwide to take action against hunger. Children around the world are learning together about how they can work together to be a part of ending hunger. Read or paraphrase the statement About World Food Day to students to let them know about some of the worldwide efforts to fight hunger.

The lessons that the classes have all been using are Feeding Minds, Fighting Hunger, and were developed to provide education to help end hunger. Read or paraphrase the statement describing the project goals and ideals. Discuss how the children could benefit from exchanging the information they have gathered on hunger with other classes in their country or around the world. Send these suggestions to the Partners in Feeding Minds, Fighting Hunger listed in the Introduction.

Contact, or have the children contact, the international organizations that are Partners in Feeding Minds, Fighting Hunger. Some of these organizations have country representatives or local project officers who could be contacted and invited to the school to talk about their work. Ask the organizations to send information on their projects or on their activities to end hunger that could be shared with the class.

Have the class contact others involved in hunger organizations and local, national, regional or international leaders and ask what is being done about each of the pillars of support for food security (discussed in previous lessons). In addition, have the children look up or request information indicating how much hunger exists in their area.
Contact local civil authorities and invite them into the classroom to talk about what local actions are being taken to prevent hunger and malnutrition. Have the children interview a variety of public officials about local hunger projects or actions. Each child or group of children could then write a small summary report and present it to the class.

Invite the "local heroes" who the children identified to come into the classroom and talk about what they do to help others within the community.

Discuss the importance of education in fighting hunger. Much hunger is related to poverty resulting from a lack of education. Children should be encouraged to stay in school and learn as much as they can about agriculture and nutrition in addition to basic skills.

Discuss the benefits of a career in social services and fighting hunger and how students can learn to help in this area. Invite local health and extension agents into the classroom to discuss how many people are needed in careers related to fighting hunger.

**Objective 2**

To identify how we can fight hunger and malnutrition in our own communities

**Materials**

- Project Case Studies

**Concept**

We can all take action to help end hunger

**Content**

Steps can be taken to solve the problems of hunger and malnutrition at the community, national and international levels. Sometimes the steps are small and sometimes they are great. But the important thing is to think about the problem and be aware of working towards solutions.
Young people have the creativity and energy to tackle great problems such as hunger. Case studies provide examples of what has actually been done by young people around the world. Using case studies is a way of providing hope to the children, as well as acting as a guide to how they, too, can make changes in their world.

**Activities**

Assign a case study to each child or group of children (or read several case studies to younger children). Have the children summarize the case study to the class and make suggestions for how a similar project could work in their community.

Ask the children for their ideas on actions that they, and others, can take in their communities and in the world to help solve the problems of hunger and malnutrition. List those actions and identify who could carry them out. A list of some actions that are being taken around the world is provided below. Pick one or two examples from the list created by the children or from the list provided, and explore how these actions could be carried out and the ways in which these actions could help fight hunger in the local area or in the world.

**Examples of actions:**

- **Help improve food supplies by increasing the quantity and variety of foods available:**
  - plant home, community and school gardens
  - find ways to raise poultry, small animals or fish to eat and/or sell
  - re-discover forgotten foods that grow in the area
  - grow the best crops for sale and use
  - match crops to soil and water conditions
  - use the best tools available for farming in the region
  - find the best balance between sale and home use of crops
  - become involved in co-operative efforts to grow and sell foods
  - support local farmers; buy locally grown foods
  - establish centers or food banks to share food.

- **Help keep food safe to eat:**
  - keep food clean
  - keep food preparation areas and utensils clean
  - keep stored food dry and away from insects and animals.
• Help all people meet their needs for food and nutrients:
  - know your own needs for food and nutrients
  - know the different needs for different people (life stages)
  - seek the most nourishing foods available
  - volunteer to work for hunger issues
  - volunteer to work in food or meal distribution centres
  - establish food centers or food banks to share extra food
  - work with the food industry to redistribute surplus food
  - invite commercial food growers and producers to be part of the solution for community hunger problems.

• Learn about foods, nutrition and hunger and share knowledge and ideas with others:
  - learn about the food system in your area
  - know who in the community is working to fight hunger, listen to them, and share ideas with them
  - know who in the community has knowledge about health and farming, listen to them, and share ideas with them
  - take information home to families and neighbours
  - share school projects and reports in community spaces
  - share ideas with leaders in the community and nation
  - urge community leaders and service providers (doctors/nurses/hospital workers/librarians) to become involved with school projects around issues of hunger and nutrition.

Summary
We have been talking about the problems of hunger in the world. Our world has made progress in feeding its people, but many people still do not have enough to eat. There is a need to increase food supplies and expand the variety of foods in many countries. Although many problems exist in fighting world hunger, we have heroes who are working on ways to feed everyone. Each of us can be a hero and take action against hunger. If we learn the causes of hunger and work on a personal and a community level to identify and solve these problems we can end hunger.

end of primary level
What are Hunger and Malnutrition and Who are the Hungry?

Total lesson time: 45-60 minutes

Objective 1
To understand the consequences of hunger and malnutrition

Concepts
- Adequate food is essential for an active and healthy life
- Hunger affects the well-being of people, nations and the world

Objective 2
To know that we need many different foods

Concept
- People need many different foods to be healthy and to grow

Objective 3
To know who is hungry and malnourished in the world

Concepts
- Hunger is not getting enough or the right kinds of foods to meet nutritional needs
- All countries and regions have some people who are hungry
- Hunger and malnutrition exist in some form in every country among certain vulnerable groups
Objective 1
To understand the food system that feeds people

Concept
• The system that provides food involves many steps

Objective 2
To understand what it means to be food-secure

Concepts
• To be food-secure means to have access at all times to the food we need for an active and healthy life
• The three pillars of food security are availability, accessibility and use of food

Objective 1
To know that we all can and should act to fight hunger

Concept
• Every person can be a hero in fighting hunger

Objective 2
To identify how we can fight hunger and malnutrition in our own communities and in the world

Concept
• We can all take action to help end hunger
The lesson has been designed to be covered in 45 – 60 minutes, but it can be covered in greater or less detail to fit the needs of the class. Teachers are encouraged to cover all objectives and content areas. For each objective, a variety of activities and discussion points are provided from which teachers can select those most appropriate for their students. The materials for each lesson can be found in the Materials section beginning on page 75.

**Information for teachers**

To begin their study of world hunger, it is important that students understand the main functions of food and the importance of food for good health, growth and development. They should know that all countries and regions have people who are hungry, some more than others, and that we are working together to solve the problem of hunger in the world. The topic of hunger should be presented in a manner that encourages hope for a better future where we all have the food we need for an active and healthy life.

**Objective 1** provides an overview of the importance of getting the nutrients we need. Nutrition is presented simply, as providing energy and nutrients to maintain health and life and to help us develop and grow. If a more advanced study of vitamins and minerals is appropriate, more detail can be found in Lesson 1 of the Secondary Level.

**Objective 2** introduces the importance of getting a variety of foods to meet our nutritional needs. A simple picture is presented to show the different kinds of foods we need and to illustrate a typical meal pattern that is followed in many parts of the world and provides variety.

**Objective 3** presents the scope of the problem of hunger and identifies those most at risk of hunger. It is important for students to understand the magnitude of the problem, without feeling hopeless about it. One way of achieving this is to emphasize that all countries and regions have hunger, to some degree, and that we are working together to solve the problem of hunger. Additional information providing an overview of the current world situation is available in "Hunger and Malnutrition in the World" in the Introduction.
Objective 1
To understand the consequences of hunger and malnutrition

Materials
Fact Sheet: Food Gives Us...

Concept
Adequate food is essential for an active and healthy life

Content
Food is essential for life. To be healthy and well nourished, we must have adequate amounts of a variety of good-quality, safe foods. Without adequate nutrition, children and young people cannot develop their potential to the fullest and adults will experience difficulty in maintaining or expanding theirs.

Food provides us with the energy we need for growth, physical activity and the basic body functions (breathing, thinking, temperature control, blood circulation and digestion). Food also supplies us with the materials to build and maintain the body and to promote resistance to disease.

These different functions are made possible by the nutrients contained in food. The types of nutrients in food are carbohydrates, proteins, fats, vitamins, minerals and water. All foods contain one or more of these nutrients in varying amounts. Each type of nutrient serves particular functions. This is why diversity in our diets is important for good health. We need all of the nutrients, provided by a variety of foods, for all of our body processes.

Too much food or an improper balance of food can contribute to poor health and the risk of chronic diseases such as obesity, cardiovascular disease and diabetes.

Good nutrition also depends on keeping food safe to eat and preserving its nutritional quality.

Activities
Discuss the above, points listed as time allows and according to the students' background and needs. Tell students that food contains substances that are essential for life. Some of these are in quantities that are so tiny that we cannot see them, but without them our body systems will not work. These substances are all found in food, but in many different foods, so we must eat a variety of foods to make sure that we get all of them in our diets.
The fact sheet *Food Gives Us...* provides general information on nutrition, including the functions of the energy nutrients: proteins, carbohydrates and fats. Food sources are listed for these three energy nutrients, as well as for four vitamins and minerals: vitamin A, B vitamins, vitamin C, vitamin D and iodine. Pass out or hold up the fact sheet and discuss the nutrients listed. Ask students to make a list of the foods they eat in a typical day, to see if their foods provide the variety needed to obtain the nutrients listed. For instance, do their lists contain foods rich in protein, vitamin A, iron? If they do not contain foods rich in one or more of the listed nutrients, discuss with students what foods could be added to their diets to provide the needed nutrients.

**Concept**

*Hunger affects the well-being of people, nations and the world*

- The strength of a nation depends on the strength of its people. When people are healthy, strong and well nourished, they have the energy, creativity, security and courage to solve problems, create great works of art and music, contribute to scientific advances and live their daily lives with dignity and joy, ultimately advancing civilization to new heights. Well-fed citizens are productive citizens who contribute to their society. People who are not well nourished do not have the energy to work or to learn and often need constant medical care. The costs in lost potential, as well as the costs of the health care system, can be staggering for a society.

**Activity**

Discuss the issues listed above with students. Ask them to name great people in their community, their country or the world, from either the past or the present. List the names of other people, whom the students might recognize, who have changed the course of their nation or world. Ask students to imagine the difference in the world if these people had been too malnourished, hungry or ill to do the work that they did. Tell the students how important it is to all of us that each person in the world be able to function at their full potential. Lost potential hurts us all.
Objective 2
To know that we need many different foods

Materials

Picture: We Need Many Different Foods

Concept

People need many different foods to be healthy and to grow

Content

Even if we get enough food to meet our energy needs, we can still be unhealthy if we do not get the right kinds of different foods that we need. Because different nutrients are found in different foods, we have to eat many kinds of foods to get all of the things that we need.

Most regions have a traditional or local pattern of eating that provides the variety needed for health and growth. For instance, a staple food such as rice, wheat, maize, cassava or potatoes will provide the main food, to which smaller amounts of vegetables, meat, fish or poultry and sauces are typically added. When the accompanying foods provide a variety of vegetables, meats or legumes (beans, peas and nuts), as well as sauces containing fat and sugar, the traditional, local diet will provide the nutrients needed for health and growth.

Activities

Tell students that people all over the world have very different ways of eating. Pass out or hold up the picture We Need Many Different Foods and describe the meal that is being served to this family. It is made up of a large portion of a staple food such as a starchy vegetable or grain. Ask students what it looks like (rice, cassava and potato). Ask the students what else they see in smaller amounts (fruit, meats, vegetable slices and sauces).

Tell students that this is how most people in the world eat. They have a staple food, then add smaller amounts of accompanying foods. Discuss how staple foods around the world are typically starchy foods such as rice and other cereals, potato and cassava. Discuss how the accompanying foods may be vegetables, beans, peas, nuts, meats, fish, egg or sauces made from these foods.

Tell students that the accompanying foods provide the different kinds of nutrients that we need to be healthy. And that we should try to eat different ones every day. We should also try to eat fruits after meals or for snacks.

Ask the students what their meals are like and ask if they also have a staple food with smaller amounts of accompanying foods like the family in the picture.

Using the picture as a guide, ask students to create a list of their own local staple foods and the accompanying foods they add. This activity can be combined...
with the last activity and use the list of foods previously created, if appropriate. Ask students to count how many different accompanying foods they can list and explain how having many different kinds of foods provides the variety of many different nutrients that they need to grow and to be healthy.

**Objective 3**

*To know who is hungry and malnourished in the world*

**Materials**
- Picture: Map of World Hunger
- Fact Sheet: Who is Vulnerable?

**Concepts**
- Hunger is not getting enough of the right kinds of foods to meet nutritional needs
- All countries and regions have some people who are hungry

**Content**
- Hunger is not having enough food and not having the variety of foods needed to meet nutritional needs. Hunger is a problem all over the world. Every country and every region has some people who do not get enough to eat. While hunger is present in every country, some countries and regions have a greater problem feeding their people.
- In the year 2001, 800 million people are hungry and do not get enough to eat all year long. The goal of the new millennium is to make sure that everyone has enough food and the right kinds of food to eat.
- Hunger exists for many reasons, and it will take much work to solve the problems it causes. Many people are working together in all parts of the world to identify causes and search for solutions to the hunger problem.
- All people, including students, can be a part of this effort by learning as much as they can about hunger and how to prevent it.

**Activities**
- Hold up the picture *Map of World Hunger*, which indicates areas with serious hunger and malnutrition problems. Explain how the map shows the areas where many people do not get all of the foods that they need. Point out the areas with the largest numbers of hungry people. Explain that all countries have some hungry people.
- Identify your area/region of the world and discuss your own area's problem with hunger. Ask students if they know who might be hungry in their area.
Discuss how hunger occurs for many reasons, how it takes much work to solve the problem, and how many people are working to learn why people are hungry and to find ways to ensure that there is good food, all year long, for everyone.

Discuss that the people in the world can work together so that everyone will have enough and the right kinds of food to eat.

**Concept**

**Hunger and malnutrition exist in some form in every country among certain vulnerable groups**

**Content**

Although some countries have more hungry people – both in terms of total numbers and as a percentage of the population – no country is free from hunger and malnutrition. To work toward solutions to the problem of hunger, we must know who the hungry are.

The fact sheet *Who is Vulnerable?* provides a list of vulnerable groups throughout the world. Discuss how, within each area, the people who are most likely to be hungry are the poor, people without education or a secure job, people without land on which to grow food and people with special nutritional needs, such as children (who need to grow) and pregnant and nursing women. Wars, civil disturbances, climate and environmental changes and other emergencies such as floods and earthquakes often cause both short- and long-term hunger in an area.

**Activities**

1. Review the list of vulnerable groups given in the fact sheet *Who is Vulnerable?* As time permits, ask students why each group is vulnerable to hunger and malnutrition.
2. Relate the hunger problems in your area to the vulnerable groups. How many of the hungry people are from the vulnerable groups listed? For instance, is your local problem with hunger more related to victims of conflict, to those who are socially disadvantaged or to migrant populations? Ask students if they can think of other groups in their area who might be vulnerable to hunger, and why.

**Summary**

Lesson 1 introduced students to the importance of food for growth and body functioning, in order to provide a context for the discussion of hunger. The scope and global perspective of hunger were presented, as well as an overview of the groups who are vulnerable to hunger throughout the world. After completion of Lesson 1 students should be able to state that:

- Food and the nutrients it contains are essential to life.
- We need a variety of foods for good health.
- Many of the traditional diets that are healthful contain a starchy staple food and smaller amounts of accompanying foods.
- All countries have problems with hunger and malnutrition.
- Certain groups are more vulnerable to hunger.
- Hunger in the world affects everyone.
The lesson has been designed to be covered in 45 minutes, but it can be covered in greater or less detail to fit the needs of the class. Teachers are encouraged to cover all objectives and content areas. For each objective, a variety of activities and discussion points are provided from which teachers can select those most appropriate for their students. The materials for each lesson can be found in the Materials section beginning on page 75.

Lesson 2
Why are People Hungry and Malnourished?

Information for teachers
Lesson 1 presented information on the importance of food for life and health and explained that hunger exists in most areas of the world. Students should understand that hunger and malnutrition are caused and perpetuated by a number of factors, all of which need to be addressed to ensure that all people get the food they need for an active and healthy life. In Lesson 2, students can examine food systems as a factor in world hunger. Students will then be introduced to the concept of food security, using the example of the three pillars of food security.

Objective 1 helps students to understand that hunger exists, in part, because the process of getting food is complex and the system can break down at any point. Before we can solve the problem of hunger, we must understand where food originates and the processes that some foods go through before we eat them. The food system is presented using a story to illustrate basic concepts, with discussion questions included.

Objective 2 builds on the concepts provided in Objective 1 relating to the food systems that feed people and introduces the concept of food security – having access at all times to the food we need to lead an active and healthy life. It emphasizes the need to ensure that all people are well nourished and food-secure. The three pillars of food security – availability, accessibility and use of food – are introduced to provide a basis for action against threats to the food supply.
Objective 1
To understand the food system that feeds people

Materials
- Story: The Story of Miguel's Tomatoes
- Picture: Steps in the Food System
- Table: Food System Chart

Concept
The system that provides food involves many steps

Content
Steps involved in the food system include:
- Getting ready to grow the food
- Growing the food
- Moving food from the field
- Processing, selling or storing the food
- Preparing and eating the food.

Each of these steps involves many processes and considerations. And each process may involve many people, such as bankers, agriculture suppliers, farmers and farm workers, truck drivers, food handlers, millers and bakers, as well as different conditions, such as weather, roads and economic and political stability. It is this complexity that makes our food supply vulnerable.

The number of steps involved and the processes in each step depend on the specific situation for each community and family. Local food systems, including home gardening and small farms, may decrease the complexity of the processes involved, or even eliminate steps such as moving, processing or selling.

Raising small animals and growing crops can increase family security by providing sufficient food for the family, as well as income from selling the surplus.

However, even a home garden may depend on other people to supply certain needs such as seeds, tools, fertilizer, milling of grain or rental of land and farm machinery. And all farms, large and small, are vulnerable to weather conditions. See the table Food System Chart for the factors involved in each of the steps in the food system and a comparison of some of the differences between local and commercial food systems.

The Story of Miguel's Tomatoes is designed to trigger discussions about each of the steps in the food system. It can be read to younger students to illustrate how food is grown, transported and processed.

Older students can read the story alone or in groups. The discussion can be more detailed for older students, and include asking them to imagine all of the additional processes involved with each step in the journey of the tomatoes and what would happen if things went wrong (no rain, Miguel got sick and could not care for the plants, the truck to
the city broke down and the tomatoes spoiled, etc). The teacher can lead a discussion about the ultimate effects of a breakdown at any stage of the food system on the food supply of a community.

If *The Story of Miguel's Tomatoes* is not appropriate for the age group, an alternative activity is included which traces local foods through the food system.

**Activities**

Ask students where we get our food. (If they say the grocery store or market, ask them where the grocery stores and markets get the food.) Tell them that food starts with the farmer.

Now tell them that you are going to read a story about a farmer and his tomatoes (or assign students to read the story and fill in the *Food System Chart* table). Ask them to think about all of the steps that the tomatoes go through in the story. Either as a group or individually have students discuss and add more factors to the *Food System Chart* as the story is read. Read *The Story of Miguel's Tomatoes* out loud to the students, or have them read in groups or individually.

**Discussion of *The Story of Miguel's Tomatoes***:

- Hold up the picture *Steps in the Food System*. Tell the students that there are five major steps that must happen for food to be available:
  - Getting ready to grow the food
  - Growing the food
  - Moving food from the field
  - Processing, selling or storing the food
  - Preparing and eating the food.

Ask students to think about these food system steps in the story about Miguel and his tomatoes.

**Getting ready to grow the food**:

- What did Miguel need for his tomatoes? Seeds, fertilizer, plough and land. Anything else?
- What would happen if these were not available? Could Miguel grow tomatoes without these supplies?

**Growing the food**:

- What did Miguel need for the tomatoes to grow? Sunshine, rain and his hands to work, weed and care for the tomatoes (labour). What else?
- Could Miguel's tomatoes have grown if these were not available?

**Moving food from the field**:

- Where were Miguel's tomatoes moved to after he and Ana picked them?
  - Some were taken to Miguel and Ana's house to be eaten for dinner or to be put into jars to store.
  - The rest were taken to the village market by Miguel in a cart.
  - At the village market they were loaded into a truck and taken to the city.
  - Some were taken to the city market.
  - The rest were taken to the food processing factory.
- How far did the tomatoes travel for Miguel and Ana's dinner?
- How far did the tomatoes travel to get to the city? How did they make this journey? (Miguel's cart, Pedro's truck).
- What would happen to the tomatoes if the cart or truck broke down on the way?

**Processing or selling the food:**
- How did Ana process the tomatoes?
- How did Miguel sell his tomatoes?
- How did Pedro re-sell the tomatoes?
- What happened to the tomatoes at the food processing factory?
- Why are these steps important in a food supply? What would happen if foods could not be processed to be available later?

**Eating the food:**
- Discuss how people need money to buy food unless they grow their own as Miguel and Ana do.
- Discuss how people must understand how to use the food safely and choose foods that keep them healthy.
- Discuss the problems that could arise with each of the above steps and how the food would then not be available for people to eat.
- Discuss the difference between the tomatoes that were eaten directly by Miguel and Ana from their field and the tomatoes that came back in a can.

**Storing the food:**
An important concept to consider is the waste of food that happens because of pests and spoilage at the commercial and home levels. Protecting the food supply from insects, rodents, moulds and spoilage can greatly increase the amount of food that is available for people. Every year, poor post-harvest handling and contamination ruin millions of tonnes of food. Discuss how important it is to protect food from pests and spoilage and how both Ana and the food processors consider food spoilage.

**Alternative activity**
Using the table Food System Chart as a model, develop a table in which students list the processes and considerations of each of the steps involved in the food system that they depend on for food in their community. Pick one or more commonly eaten foods and trace these from their origin as an example of how the local food system works. Discuss where the food system is vulnerable. For instance, if the food system depends heavily on commercial agriculture, what would happen if farm labour were not available, if a severe drought happened, if suddenly all of the roads leading into the city were closed, etc?
Objective 2
To understand what it means to be food-secure

Concepts
- To be food-secure means to have access at all times to the food we need for an active and healthy life
- The three pillars of food security are availability, accessibility and use of food

Content
- Food security is defined as access by all people at all times to enough nutritionally adequate and safe food (quality, quantity and variety) for an active and healthy life.
- We must create the conditions in which all people can secure the food they need and be well nourished in a dignified and sustainable way.
- Food security is affected by a number of factors including, primarily, the food supply and access to jobs and such basic services as education, health facilities, sanitation, clean water and safe housing.
- Poverty, social inequality and lack of education are primary causes of hunger and malnutrition and are major obstacles to obtaining food security.
- Food security cannot be ensured only by producing more food. If, for example, people cannot afford the food that is available, if their diets lack essential vitamins and minerals or if poor handling during processing and distribution makes their food unsafe to eat, they will not have food security.
- To have food security depends on three pillars, or legs of support.
  - Food must be Available, meaning that adequate amounts of good-quality, safe food must be produced or imported at the national and local levels.
  - Food must be Accessible, meaning that it must be distributed and available locally, and it must be affordable to all people.
  - Food must be Used in the best way possible for each person to be healthy and well nourished (sufficient in quantity, quality and variety for each individual's needs).
- To achieve national food security, a country must be able to produce or import the food it needs, and be able to store it, distribute it and ensure equitable access to it.
- Building on an understanding of the complexity of the food system, students can analyse specific situations faced by countries in order to determine if hunger issues relate to Availability, Accessibility or Use of food. Understanding the associated factors is a first step in developing solutions.
- Valuable lessons can be learned by looking at countries that have been able to reduce hunger and by contrasting their situations with those of countries that have declined in nutritional status. Contrasting the situations and looking for patterns can illustrate the factors that contribute to the problems and solutions of hunger around the world. Case studies of countries with problems with hunger are provided.
Activities

Discuss how conditions are vastly different from one place to another, and how certain combinations of situations create problems of food security. By analysing countries with varying degrees of change in their food security situations, and comparing the situations that exist in each country, trends can be identified that indicate the future of food security in each country.

Country case studies are provided that contrast past and present conditions in selected countries where changes in hunger and food security patterns have taken place over the past few decades. The case studies are presented in pairs, by region, contrasting a country that has made an impact on hunger with a country that has faced setbacks in feeding its people. Assign individual students or groups of students to read one pair of case studies each, or discuss selected cases in class as a group discussion. With input from the teacher, as appropriate, students should discuss the factors causing the current situation related to hunger in each country. Have students discuss the conditions related to hunger in terms of Availability, Accessibility and Use of food.

Building on the discussion of the food system, discuss how a similar case study would apply to their local situation.

Summary

The goal we are striving towards is to ensure that all people in the world are food-secure. Getting our food involves many steps. We must understand where our food originates in order to make the right decisions about how to feed everyone. Lesson 2 illustrated the complexity of food systems to explain the many reasons that people may be hungry, and introduced the concept of food security. After completion of Lesson 2, students should be able to state that:

- Food security means having access at all times to the food we need for an active and healthy life.
- Having food security depends on three pillars: food must be available, it must be accessible and it must be used in the best way possible for each person to be healthy and well nourished.
- The system that provides us with food involves many steps. As the complexity of the food supply increases, the possibilities of breakdowns in the food supply may become more likely.

We can work together to reduce hunger. Lesson 3 will explore what we can each do to help reduce hunger in our world.
What Can We Do to Help End Hunger?

The lesson has been designed to be covered in 45 minutes, but it can be covered in greater or less detail to fit the needs of the class. Teachers are encouraged to cover all objectives and content areas. For each objective, a variety of activities and discussion points are provided from which teachers can select those most appropriate for their students. The materials for each lesson can be found in the Materials section beginning on page 75.

**Information for teachers**

Students should understand that hunger anywhere affects all people, everywhere, that we are all involved in the problems of hunger and malnutrition, and that there are specific actions that can be taken by each of us to achieve a world free from hunger. The lesson should instil in students a sense of caring and commitment towards their fellow human beings and it should show them that they have an important role to play in fighting hunger for themselves, for their families, for their communities and for the world. The method used to present these messages is through the exploration of legends and stories to illustrate the moral, ethical, spiritual and practical reasons for the unacceptability of hunger and how we can all be heroes to help end hunger.

**Many legendary figures**, real and mythological, are heroes because of their work against poverty and hunger. Drawing from the wealth of local stories, teachers can use their own or students’ favourite legends, myths or real people to introduce the concept of heroes and discuss the qualities of a hero relative to ending hunger.

**Objective 1** asks students to identify courageous people throughout history who have worked to make the world a better place for all of us and encourages students to think about local “heroes” who have made a difference in their communities and countries. It presents the idea that we all have a contribution to make in ending hunger and malnutrition and that each one of us, even in small ways, can be a hero to someone else.

**Objective 2** suggests specific actions that can be taken by students to help fight hunger for themselves, their families and their communities. Using case studies as a basis for generating ideas, students are encouraged to apply what they have learned to their own communities.
Objective 1
To know that we all can and should act to fight hunger

Materials

Statements:
• About World Food Day
• Feeding Minds, Fighting Hunger

Concept

Every person can be a hero in fighting hunger

Content

Great heroes have existed throughout time. Legends exist in most cultures about great heroes who have fought against poverty and hunger for poor people. Many of the legends are based on fact and many have to do with the religious beliefs of the people. Although some legends are based on conquest, the enduring heroes are those who helped to free people from poverty and hunger.

In addition to legends, real people have changed the course of history and fought human suffering and hunger in all countries of the world. Many of these people made tremendous personal sacrifices in their efforts to help their fellow humans.

The qualities of a real hero are moral strength, courage and the willingness to help others.

Organizational/governmental heroes: Many people are also working to make a difference to hunger in organizations and governments. Organizations and governmental agencies have resources to help us. Hundreds of organizations have been set up to work on various aspects of the hunger problem. Organizations include private groups, governmental agencies, international organizations and regional
Coalitions. The scope of their missions includes relief, research and advocacy. Some groups concentrate on specific countries; some groups concentrate on specific areas, such as education or agriculture.

Activities

- **Who are our heroes?** Ask students to list three of their heroes, living or dead, real or mythical. Discuss what personal qualities these heroes have in common. Discuss what personal qualities we value as people.

- **From the list the students and teacher generated, select several heroes and leaders who have worked against poverty, hunger or injustice and briefly describe their contributions.** Ask students if these heroes are very different from the rest of us, or can we all find the qualities within ourselves to work for change?

- **Ask students if they know people in their community who are caring and have courage to help others in emergency and day-to-day situations.** Have students describe the contributions of these local people who are helping others.

- **Ask students what they themselves would like to do to help their families, their community or their world.** Ask students to write a poem or story about, or draw a picture of, a hunger-related issue, or ask them to describe what they would like to do to end hunger. These pictures and stories can be displayed in the school area or in community spaces. Stories can be sent to local or regional newspapers or read on radio stations.

- **Discuss how their class is one of thousands of classes all over the world participating in World Food Day lessons.** World Food Day is an annual, global activity with the objective of raising awareness of hunger and malnutrition in the world and encouraging people worldwide to take action against hunger. Students around the world are learning together about how they can work together to be a part of ending hunger. Read or paraphrase the statement About World Food Day to students to let them know about some of the worldwide efforts to fight hunger.
The lessons that the classes have all been using are Feeding Minds, Fighting Hunger, developed to help end hunger through education and information, with the goal of encouraging each and every one of us to participate in activities to create a world free from hunger. Read or paraphrase the statement describing the project goals and ideals. Discuss how the students could benefit from exchanging the information they have gathered on hunger with other classes in their country or around the world. Send these suggestions to the Partners in Feeding Minds, Fighting Hunger listed in the Introduction.

Contact, or have students contact, the international organizations that are Partners in Feeding Minds, Fighting Hunger. Some of these organizations have country representatives or local project officers who could be contacted and invited to the school to talk about their work. Ask the organizations to send information on their projects or on their activities to end hunger that could be shared with the class.

Have the class contact others involved in hunger organizations and local, national, regional or international leaders and ask what is being done about each of the pillars of support for food security (discussed in previous lessons). In addition, have students look up or request information indicating how much hunger exists in their area.

Contact local civil authorities and invite them into the classroom to talk about what local actions are being taken to prevent hunger and malnutrition. Have students interview a variety of public officials about local hunger projects or actions. Each student or group of students could then write a small summary report and present it to the class.

Invite the “local heroes” who the students identified to come into the classroom and talk about what they do within the community to help others.

Students can write a short report on their local hunger projects and submit it for consideration to be included in next year's World Food Day curriculum to be shared with other students around the world.

Objective 2
To identify how we can fight hunger and malnutrition in our own communities and in the world

Materials Project Case Studies

Concept We can all take action to help end hunger

Content Steps can be taken to solve the problems of hunger and malnutrition at the community, national and international levels. Sometimes the steps are small and sometimes they are great. But the important thing is to think about the problem and be aware of working towards solutions.

The World Food Summit. In 1996, more than 180 nations participated in a World Food Summit and committed to decreasing the number of undernourished
people to half their present level no later than the year 2015. Two documents were adopted: the *Rome Declaration on World Food Security*, listing seven commitments that the participating governments would make to increase food security; and the accompanying *World Food Summit Plan of Action*, listing specific objectives to accomplish the goals stated in the *Declaration*. All nations involved agreed and signed the statements, including “We emphasize the urgency of taking action now to fulfil our responsibility to achieve food security for present and future generations”.

Individuals can take community-level action to help end hunger. These actions involve education about local state and national policies and issues relating to hunger, a variety of steps leading to personal statements and ways of raising community awareness about hunger. Teachers can help by gathering information about local problems with hunger and asking students how these problems could be improved.

Young people have the creativity and energy to tackle great problems such as hunger. The case studies included in this lesson provide examples of what has actually been done by young people around the world. Using case studies is a way of providing hope to students, as well as acting as a guide to how they, too, can make changes in their world.

**Activities**

- Assign a case study to each student or group of students (or read several case studies to younger students). Have students summarize the case study to the class and make suggestions for how a similar project could work in their community.

- Hunger is a global problem, but part of the solution involves many small steps at the local level. Some examples of cooperative projects that have increased food security for families and communities follow. Read these project descriptions to students and discuss how these and similar projects might be implemented locally. Also discuss how projects such as these could be funded.

- Women fish vendors in Burkina Faso bought insulated boxes to mount on the backs of their bicycles. Packed with ice, they keep 10 to 15 kg of fish fresh, ensuring that the catch receives a top price at the local market.

- Beekeepers in the Islamic Republic of Iran were able to purchase a bee
colony and hive with a small amount of donated money. Besides producing 15 kg of honey each year, the bees pollinate nearby fruit trees.

- In Nicaragua, farmers obtained a small grant to purchase metal silos to protect harvested maize from humidity and pests. Each silo holds 550 kg of grain, enough to feed ten people for a year.
- With a small amount of funding, 40 women farmers from Ghana bought the materials to make 50 1-square-metre covers to protect their banana seedlings from the harsh African sun.
- A group of Senegalese farmers cooperated to purchase a treadle pump capable of irrigating up to 2,500 square metres of vegetables from a hand-dug shallow well.
- A farmers’ cooperative invested in high-quality seed to plant 20 hectares of cabbages, onions, cauliflowers and potatoes plus enough forage seeds to grow food to feed their animals.

We can get information on hunger in our communities and in the world from many sources. We can write letters, make visits to people or calls to offices and libraries. (Where accessible, searching on the Internet.)

Discuss the importance of education in fighting hunger. Much hunger is related to poverty resulting from a lack of education. Students should be encouraged to stay in school and learn as much as they can about agriculture and nutrition in addition to basic skills.

Discuss the benefits of a career in social services and fighting hunger and how students can learn to help in this area. Invite local health and extension agents into the classroom to discuss how many people are needed in careers related to fighting hunger.

Ask the students for their ideas on actions that they, and others, can take in their communities and in the world to help solve the problems of hunger and malnutrition. List those actions and identify who could carry them out. A list of some actions that are being taken around the world is provided below.

Pick one or two examples from the list created by the students or from the list.
provided, and explore how these actions could be carried out and the ways in which these actions could help fight hunger in the local area or in the world.

**Examples of actions:**

- **Help improve food supplies by increasing the quantity and variety of foods available:**
  - plant home, community and school gardens
  - find ways to raise poultry, small animals or fish to eat and/or sell
  - re-discover forgotten foods that grow in the area
  - grow the best crops for sale and use
  - match crops to soil and water conditions
  - use the best tools available for farming in the region
  - find the best balance between sale and home use of crops
  - become involved in co-operative efforts to grow and sell foods
  - support local farmers; buy locally grown foods
  - establish centers or food banks to share food.

- **Help keep food safe to eat:**
  - keep food clean
  - keep food preparation areas and utensils clean
  - keep stored food dry and away from insects and animals.

- **Help all people meet their needs for food and nutrients:**
  - know your own needs for food and nutrients
  - know the different needs for different people (life stages)
  - seek the most nourishing foods available
  - volunteer to work for hunger issues
  - volunteer to work in food or meal distribution centres
  - establish food centers or food banks to share extra food
- work with the food industry to redistribute surplus food
- invite commercial food growers and producers to be part of the solution for community hunger problems.

**Learn about foods, nutrition and hunger and share knowledge and ideas with others:**
- learn about the food system in your area
- know who in the community is working to fight hunger, listen to them, and share ideas with them
- know who in the community has knowledge about health and farming, listen to them, and share ideas with them
- take information home to families and neighbours
- share school projects and reports in community spaces
- share ideas with leaders in the community and nation
- urge community leaders and service providers (doctors/nurses/hospital workers/librarians) to become involved with school projects around issues of hunger and nutrition.

**Summary**
In the three lessons in this curriculum, originally developed for World Food Day, 16 October 2000, we have focused on the problems of hunger in the world. The goal of World Food Day is to create a world free from hunger as soon as possible in the new millennium. Many millions of us today still do not have enough to eat every day. We must all try to understand why this is. Young people have the creativity and energy to tackle great problems such as hunger. When we can all share the vision of a world without hunger, the confidence that we can make a change, the knowledge of the steps to take and the will to take action, we can solve the immense challenge of feeding all of the people of the world. And our young people, who have inherited the problem of hunger in our world, will be the key to finding the solutions.

**End of Intermediate Level**
What are Hunger and Malnutrition and Who are the Hungry?

Total lesson time: 45-60 minutes

Objective 1
To understand the consequences of hunger and malnutrition

Concepts
- Adequate food is essential for an active and healthy life
- Poor health, growth and development can result from hunger and poor nutrition
- Hunger affects the well-being of people, nations and the world

Objective 2
To know the magnitude of hunger in the world today

Concept
- Despite significant improvements, many millions of people today are hungry and malnourished

Objective 3
To know who is hungry and malnourished in the world

Concept
- Hunger and malnutrition exist in some form in every country
Why are People Hungry and Malnourished?
Total lesson time: 45 minutes

Objective 1
To understand the food system that feeds people

Concept
- The system that provides food is complex

Objective 2
To understand what it means to be food-secure

Concept
- To be food-secure means to have access at all times to the food we need for an active and healthy life
- Food security has three fundamental pillars: availability, accessibility and use of food

What Can We Do to Help End Hunger?
Total lesson time: 45 minutes

Objective 1:
To identify the responsibility and ability of individuals to act to fight hunger and malnutrition and to ensure food security for all

Concept
- We can all do our part to help end hunger and malnutrition and each one of us, even in small ways, can be a hero to someone else.

Objective 2:
To identify specific actions that we can take to help end hunger and malnutrition

Concept
- We can take action as individuals, communities and nations to reduce hunger
The lesson has been designed to be covered in 45 - 60 minutes, but it can be covered in greater or less detail to fit the needs of the class. Teachers are encouraged to cover all objectives and content areas. For each objective, a variety of activities and discussion points are provided from which teachers can select those most appropriate for their students. The materials for each lesson can be found in the Materials section beginning on page 75.

**Information for teachers**
Students should understand that nutritionally adequate food is fundamental for good health, growth and development and that hunger and malnutrition are serious problems with long-term threats to the well-being of people, nations and the world.

**Objective 1** provides an overview of basic nutrition concepts and their relationships to hunger and malnutrition. Students may or may not have studied nutrition previously. This is an opportunity either to review or to introduce basic nutrition concepts and discuss the role of food in the body. Food is presented as essential for life, growth and development and such basic body functions as breathing and blood circulation. Food also provides the energy to work, learn and play. The contributions of nutrients are presented in simple, non-technical form; more advanced nutrition concepts can be introduced as appropriate. Additional resources include nutrition education information and dietary guidelines developed by FAO, the World Health Organization (WHO) and individual countries.

**Objective 2** provides data on hunger throughout the world and helps students to identify those areas in greatest need.

**Objective 3** identifies special groups that experience the most difficulty with hunger and malnutrition, and identifies those most at risk of health consequences. Additional information providing an overview of the current world situation is available in “Hunger and Malnutrition in the World” in the Introduction.
Objective 1
To understand the consequences of hunger and malnutrition

Materials
Fact Sheets:
- Food Gives Us...
- Vitamins and Minerals

Concept
Adequate food is essential for an active and healthy life

Content
Food is essential for life. To be healthy and well nourished, we must have adequate amounts of a variety of good-quality, safe foods. Without adequate nutrition, children cannot develop their potential to the fullest and adults will experience difficulty in maintaining or expanding theirs.

Food provides us with the energy we need for growth, physical activity and the basic body functions (breathing, thinking, temperature control, blood circulation and digestion). Food also supplies us with the materials to build and maintain the body and to promote resistance to disease.

These different functions are made possible by the nutrients contained in food. The types of nutrients in food are carbohydrates, proteins, fats, vitamins, minerals and water. All foods contain one or more of these nutrients in varying amounts. Each type of nutrient serves particular functions. This is why diversity in our diets is important for good health. We need all of the nutrients, provided by a variety of foods, for all of our body processes.

Too much food or an improper balance of food can contribute to poor health and the risk of chronic diseases such as obesity, heart disease and diabetes.

Good nutrition also depends on keeping food safe to eat and preserving its nutritional quality.

Activities
Discuss the points listed above, as time allows, according to the students' background and needs. Tell students that food contains substances that are essential for life. Some of these are in quantities that are so tiny that we cannot see them, but without them our body systems will not work. These substances are all found in food, but in many different foods, so we must eat a variety of foods to make sure that we get all of them in our diets.

The fact sheet Food Gives Us... provides general information on nutrition, including the functions of the energy nutrients:
proteins, carbohydrates and fats. Food sources are listed for these three energy nutrients, as well as for four vitamins and minerals: vitamin A, B vitamins, vitamin C and iron. Ask students to make a list of the foods eaten in a typical day, to see if they provide the variety needed to obtain the nutrients listed. For instance, do their lists contain foods rich in protein, vitamin A, iron? If they do not contain foods rich in one or more of the listed nutrients, discuss with students what foods could be added to their diets to provide the needed nutrients.

Concept Poor health, growth and development can result from hunger and poor nutrition

Content Major health and nutritional consequences of insufficient food and poor nutrition include:

- **Protein-energy malnutrition (PEM)** results in poor growth, fluid imbalances and lower resistance to infections because our food is not sufficient to meet body needs for energy and protein. Nearly 200 million children under the age of five suffer from acute or chronic PEM.

- **Vitamin A deficiency** can lead to poor night vision, eye lesions and, in severe cases, permanent blindness. Vitamin A deficiency can also lead to increased illness and death from infections. More than 200 million children under the age of five are at risk of Vitamin A deficiency.
Iodine deficiency can cause goitre (swollen thyroid gland), mental retardation, brain damage and reproductive failure. Worldwide, 2 billion people are at risk of iodine deficiency.

Iron deficiency can cause nutritional anaemias, problem pregnancies, stunted growth and lower resistance to infections, as well as long-term impairment in mental and motor development. Worldwide, 3.5 billion people suffer from iron deficiency.

Low-birth-weight babies (less than 2.5 kg) who survive being born too small are likely to remain underweight and sickly throughout childhood and adolescence. About 30 million infants are born each year in developing countries with impaired growth caused by poor nutrition in the womb.

Major health risks associated with the dietary excesses of overnutrition include cardiovascular disease, strokes, obesity and diabetes. The problems are on the rise in both developing and developed countries.

Food contamination is a serious obstacle to nutritional well-being. Children are especially vulnerable to food-borne diseases, which rob them of crucial nutrients through diarrhoea.

Activity
The fact sheet Vitamins and Minerals provides information about each of the eight major nutrients or nutrient groups, their role in the body, deficiency symptoms and food sources. Pick one or two (or as many as time will allow) of the nutrients that might be a problem in your area, discuss the nutrient and health symptoms listed in the fact sheet and ask students to identify local food sources of the nutrient. Ask students to suggest ways in which people might receive more of the nutrients through their diets. To determine specific nutrient problems in your area, contact your local health care or extension worker or the Department of Health.

Concept
Hunger affects the well-being of people, nations and the world

Content
The strength of a nation depends on the strength of its people. When people are healthy, strong and well nourished, they have the energy, creativity, security and courage to work and learn, solve problems and live their daily lives with dignity and joy, ultimately advancing civilization to new heights. Well-fed citizens are productive citizens who contribute to their society. People who are not well nourished do not have the energy to work or to learn and often need constant medical care. The costs of hunger in term of lost potential, health care and possible civil unrest can be staggering for a society.

Activity
Discuss the issues listed above with students. With the students, create a list of great people in their community, their country, or the world, from either the past or the present, who have helped to create a better world. Their contributions could be social or humanitarian, or through scientific or artistic creations. Ask students to imagine the difference in the world if these people had been too malnourished, hungry or ill to do the work that they did. Tell them how important it is to all of us that each person in the world be able to function at their full potential. Lost potential hurts us all.
Objective 2
To know the magnitude of hunger in the world today

Concept
Despite significant improvements, many millions of people today are hungry and malnourished

Content
The world population continues to grow at a rapid pace. In 1999, the official United Nations estimate for the number of people in the world exceeded 6 billion. We will see an additional 2 billion in the next 25 years, mostly from the countries that currently have the most difficulty feeding their populations.

Although the world's population increased dramatically (by more than 70 percent) over the last 30 years, great progress has been made in increasing the quantity and quality of the global food supply and in improving the nutritional status of populations.

In the developing world, where the population has nearly doubled during this period, the proportion living in a chronic state of undernourishment has been reduced by half (from 36 to 18 percent in 1995-97).

Nevertheless, 790 million people - one out of five in the developing countries - still do not have enough food to meet their basic daily nutritional needs. Development has not benefited all people; while some countries have made great progress, hunger has increased in others, especially in those that already have the most difficulty feeding their people.

Access to sufficient supplies of a variety of good-quality, safe foods is a serious problem in many countries, even where food supplies are adequate at the national level.

Activities
Hold up the picture Map of World Hunger, which indicates areas with serious hunger and malnutrition problems. Explain how the map shows the areas where many people do not get all of the foods that they need to eat. Point out the areas with the largest number of hungry people. Explain that all countries have some hungry people.

Identify your area/region of the world, and discuss the degree of your own area's problem with hunger compared with surrounding areas and the world as a whole.
Objective 3
To know who is hungry and malnourished in the world

Material  
Fact Sheet: Who is Vulnerable?

Concept  
Hunger and malnutrition exist in some form in every country

Content  
Although some countries have more hungry people – both in terms of total numbers and as a percentage of the population – no country is free from hunger and malnutrition. To work toward solutions to the problem of hunger, we must know who the hungry are.

The fact sheet Who Is Vulnerable? provides a list of vulnerable groups throughout the world.

Activities  
Review the list of vulnerable groups given in the fact sheet. As time permits, ask students why each group is vulnerable to hunger and malnutrition.

Relate the hunger problems in your area to the vulnerable groups. How many of the hungry people are from the vulnerable groups listed? For instance, is your local problem with hunger related more to victims of conflict, to those who are socially disadvantaged or to migrant populations? Ask students if they can think of other groups in their area who might be vulnerable to hunger, and why.

Summary  
Lesson 1 introduced students to the importance of food for growth and body functioning, in order to provide a context for the discussion of hunger. An overview of basic nutrition concepts was presented along with their relationships to hunger and malnutrition. The scope and global perspective of hunger were presented, as well as an overview of the groups who are vulnerable to hunger throughout the world. After completion of Lesson 1, students should be able to list:

- Food sources for major nutrients listed in the lesson.
- Problem nutrients in the local diet in their region.
- The health consequences of insufficient protein and energy, vitamin A, iodine and iron.
- Health consequences of dietary excesses.
- The countries with the greatest problems with hunger.
- The groups that are more vulnerable to hunger.
Why are People Hungry and Malnourished?

The lesson has been designed to be covered in 45 minutes, but it can be covered in greater or less detail to fit the needs of the class. Teachers are encouraged to cover all objectives and content areas. For each objective, a variety of activities and discussion points are provided from which teachers can select those most appropriate for their students. The materials for each lesson can be found in the Materials section beginning on page 75.

Information for teachers

Students should understand that hunger and malnutrition are caused and perpetuated by a number of factors, all of which need to be addressed to ensure that all people get the food they need for an active and healthy life. Poverty, social inequality and lack of education are primary among these causes and are major obstacles to ending hunger and malnutrition in the world.

Objective 1 provides an overview of the food supply system in order to help students understand where food comes from and how any breakdown in this complex process can affect the food supply, creating hunger in an area or among certain populations.

Objective 2 introduces the concept of food security - having access at all times to the food we need to lead an active and healthy life - and emphasizes the need to ensure that all people are well nourished and food-secure. The three fundamental pillars of food security - availability, accessibility, and use of food - are discussed, using case studies to learn from actual country experiences in fighting hunger and malnutrition. If time permits, these case studies can be presented in detail and studied for several class periods; if not, teachers can provide brief summaries of the major points of each case study for use in class discussions.
Objective 1
To understand the food system that feeds people

Materials
   Table: Food System Chart

Concept
The system that provides food is complex

Content
Steps involved in the food system include:
- Getting ready to grow the food
- Growing the food
- Moving food from the field
- Processing, selling or storing the food
- Preparing and eating the food.

Each of these steps involves many processes and considerations (table Food System Chart). And each process may involve many people such as bankers, agriculture suppliers, farmers, farm workers, truck drivers, food handlers, millers and bakers, as well as different conditions, such as weather, roads and economic and political stability. It is this complexity that makes our food supply vulnerable.

The number of steps involved and the processes in each step depend on the specific situation for each community and family. The Food System Chart outlines steps and processes that may be involved in local and commercial food systems.

An important concept to consider is the waste of food that happens because of pests and spoilage at the commercial and home levels. Protecting the food supply from insects, rodents, moulds and spoilage can greatly increase the amount of food available for people. Every year, poor post-harvest handling and contamination ruin millions of tonnes of food.

Activity
Using the Food System Chart have students develop and complete the listing of the processes and considerations of each of the steps involved in the food system that they depend on for food in their community. Pick one or more commonly eaten foods and trace these from their origin, as an example of how the local food system works. Discuss where the food system is vulnerable. For instance, if the food system depends heavily on commercial agriculture, what would happen if farm labour were not available, if a severe drought happened, if suddenly all of the roads leading into the city were closed, etc.? If the local food system depends heavily on family gardens, discuss what would happen if conditions (floods, droughts) interrupted the crops.
Objective 2
To understand what it means to be food-secure

Materials
Fact Sheets: Country Case Studies

Concept
To be food-secure means to have access at all times to the food we need for an active and healthy life

Content
- Food security is defined as access by all people at all times to enough nutritionally adequate and safe food (quality, quantity and variety) for an active and healthy life.
- We must create the conditions in which all people can secure the food they need and be well nourished in a dignified and sustainable way.
- Food security is affected by a number of factors including, primarily, the food supply and access to jobs and such basic services as education, health facilities, sanitation, clean water and safe housing.
- Poverty, social inequality and lack of education are primary causes of hunger and malnutrition and are major obstacles to obtaining food security.

Concept
Food security has three fundamental pillars: availability, accessibility and use of food

Content
- Although the global supply of food has increased, the global population continues to grow at a rapid rate. To keep pace, food security for all can only be achieved by producing more food.
- Food security, however, cannot be ensured solely by producing more food. If, for example, people cannot afford the food that is available, if their diets lack essential vitamins and minerals or if poor handling during processing and distribution makes their food unsafe to eat, they will not have food security.
- To have food security depends on three pillars, or legs of support:
  - Food must be Available, meaning that adequate amounts of good-quality, safe food must be produced or imported at the national and local levels.
  - Food must be Accessible, meaning that it must be distributed and available locally, and it must be affordable to all people.
  - Food must be Used in the best way possible for each person to be healthy and well nourished (sufficient in quantity, quality and variety for each individual's needs).
- To achieve national food security, a country must be able to produce or import the food it needs, and be able to store it, distribute it and ensure equitable access to it.
- For families to achieve food security, they must have the means to produce or purchase the food that they need and they must have the time and knowledge to ensure that the nutritional needs of all family members are met.
- Building on an understanding of the complexity of the food system, students can analyse specific situations faced by countries in order to determine whether
existing hunger issues relate to availability, accessibility or use of food. Understanding the associated factors is a first step in developing solutions. Valuable lessons can be learned by looking at countries that have been able to reduce hunger and by contrasting their situations with those of countries that have declined in nutritional status. Contrasting the situations and looking for patterns can illustrate the factors that contribute to the problems and solutions of hunger around the world. Case studies of countries with declining and increasing problems with hunger are given in the fact sheets.

**Activities**

Discuss how conditions are vastly different from one place to another, and how certain combinations of situations create problems of food security. By analysing countries with varying degrees of change in their food security status, and comparing the situations that exist in each country, trends can be identified that indicate the future of food security in each country.

Case studies are provided that contrast past and present conditions in selected countries where changes in hunger and food security have taken place over the past few decades. The case studies are presented in pairs, by region, contrasting a country that has made an impact on hunger with a country that has faced setbacks in feeding its people. Assign individual students or groups of students to read one pair of case studies each, or discuss selected cases in class as a group discussion. With input from the teacher, as appropriate, have students consider the factors causing the current situation related to hunger in each country. Have students discuss the conditions related to hunger in terms of availability, accessibility and use of food.

Building on the discussion of the food system, discuss how a similar case study would apply to their local situation.

**Summary**

Our goal is to be sure that all people are food secure. Getting our food involves many steps. We must understand where our food originates in order to make the right decisions about how to feed everyone in the world. Lesson 2 illustrated the complexity of food systems to explain the many reasons that people may be hungry, and explored the pillars of food security. After completion of Lesson 2, students should be able to list:

- The steps in the food supply system.
- For each step in the food supply system, factors that can put people at risk of hunger and food insecurity.
- The three pillars of food security.
- Factors that lead to either an improvement or a worsening of food security, as shown in the case studies.

We can work together to reduce hunger. Lesson 3 will explore what we can each do to help reduce hunger in our world.
The lesson has been designed to be covered in 45 minutes, but it can be covered in greater or less detail to fit the needs of the class. Teachers are encouraged to cover all objectives and content areas.

For each objective, a variety of activities and discussion points are provided, from which teachers can select those most appropriate for their students. The materials for each lesson can be found in the Materials section beginning on page 75.

Information for teachers

Students should understand that hunger anywhere affects all people, everywhere, that we are all involved in the problems of hunger and malnutrition, and that there are specific actions that can be taken by each of us to achieve a world free from hunger. The lesson should instil in students a sense of caring and commitment towards their fellow human beings and it should show them that they have an important role to play in fighting hunger for themselves, for their families, for their communities and for the world. The method used to present these messages is through the exploration of legends and stories to illustrate the moral, ethical, spiritual and practical reasons for the unacceptability of hunger and how we can all be heroes to help end hunger.

Many legendary figures, real and mythological, are heroes because of their work against poverty and hunger. Drawing from the wealth of local stories, teachers can use their own or students’ favourite legends, myths or actual people to introduce the concept of heroes and discuss the qualities of a hero relative to ending hunger.

Objective 1 identifies some courageous people throughout history who have worked to make the world a better place for all of us and encourages students to think about local “heroes” who have made a difference in their communities and countries. It presents the idea that we all have a contribution to make in ending hunger and malnutrition and that each one of us, even in small ways, can be a hero to someone else.

Objective 2 suggests actions that can be taken by students to help fight hunger and malnutrition for themselves, their families and their communities. It presents the Rome Declaration on World Food Security, signed by the heads of state of over 180 countries, as a basis for discussion of the commitments and strategies adopted by world leaders to ensure food security for all. Teachers can select from the many questions provided for structuring classroom discussions appropriate for their situation, as time allows.
Objective 1
To identify the responsibility and ability of individuals to act to fight hunger and malnutrition and ensure food security

Concept
We can all do our part to help end hunger and malnutrition and each one of us, even in small ways, can be a hero to someone else.

Content
Great heroes have existed throughout time. Legends about the struggle against poverty and hunger tell the stories of courageous people who have changed our world.

Activities
Who are our heroes? Ask students to list three of their heroes, living or dead, real or mythical. Discuss what personal qualities these heroes have in common. Discuss what personal qualities we value as people.
From the list the students and teacher generated, select several heroes and leaders who have worked against poverty, hunger or injustice and briefly describe their contributions. Ask students if these heroes are very different from the rest of us, or can we all find the qualities within ourselves to work for change?
Ask students if they know people in their community who are caring and have courage to help others in emergency and day-to-day situations. Do they think they are heroes? Why or why not? Have students describe the contributions of some of the local people who are helping others.
Ask students what they themselves would like to do to help their families, their community or their world. Ask students to write a story about, or draw a picture of, what they would like to do to end hunger.

Objective 2
To identify specific actions that we can take to help end hunger

Materials
Fact Sheet: Rome Declaration on World Food Security
Statements:
• About World Food Day
• Feeding Minds, Fighting Hunger

Concept
We can take action to reduce hunger and malnutrition

Content
World governments have committed to work together on the problem of hunger. Students should become familiar with the commitments their government, along with other nations, has made to end hunger.
The International Conference on Nutrition. In 1992, 159 states and the European Economic Community released a World Declaration on Nutrition. All nations involved at the conference agreed that "hunger and malnutrition are unacceptable... and that access to nutritionally adequate and safe food is a right of each individual". An action plan was developed to fight hunger and increase food security.

The World Food Summit. In 1996, more than 180 nations participated in a World Food Summit and committed to decreasing the number of undernourished people to half their present level no later than the year 2015. Two documents were adopted: the Rome Declaration on World Food Security, listing seven commitments that the participating governments would make to increase food security; and the accompanying World Food Summit Plan of Action, listing specific objectives to accomplish the goals stated in the Declaration. All nations involved agreed and signed the statements, including "We emphasize the urgency of taking action now to fulfill our responsibility to achieve food security for present and future generations".

We can learn about hunger in many ways. Organizations and agencies have resources to help us. Hundreds of organizations have been set up to work on various aspects of the problems of hunger and malnutrition. Organizations include private groups, governmental agencies, international organizations and regional coalitions. The scope of their missions includes relief, research and advocacy. Some groups concentrate on specific countries; some groups concentrate on specific areas, such as education or agriculture.

**Activities**

- Either provide as handouts to each student, or to small groups of students, or read aloud to students, the fact sheet Rome Declaration on World Food Security. Discuss their government's participation in the World Food Summit in 1996.
- Discuss the major points outlined in the Declaration, as time permits, using the discussion questions provided.
- This project – Feeding Minds, Fighting Hunger – has been developed to provide education to help end hunger. Read or paraphrase the statement describing the project goals and ideals. Discuss how the students could benefit from exchanging the information that they have gathered on hunger, malnutrition and food security with other classes in their country or around the world. Send these suggestions to the
Partners in Feeding Minds, Fighting Hunger listed in the introduction.

World Food Day is an annual, global activity with the objective of raising awareness of hunger and malnutrition in the world and encouraging people worldwide to take action against hunger. Discuss how the students' classroom is one of thousands of classrooms all over the world participating in World Food Day lessons. Students around the world are learning how they can work together, to be a part of ending hunger. Read or paraphrase the statement About World Food Day, 16 October, to students to let them know some of the efforts being made worldwide to fight hunger.

Hunger is a global problem, but part of the solution involves many small steps at the local level. Some examples of cooperative projects that have increased food security for families and communities are listed below. Read these project descriptions to students and discuss how these and similar projects might be implemented locally to help others. Also discuss how projects such as these could be funded.

- Women fish vendors in Burkina Faso bought insulated boxes to mount on the backs of their bicycles. Packed with ice, they keep 10 to 15 kg of fish fresh, ensuring that the catch receives a top price at the local market.
- Beekeepers in the Islamic Republic of Iran were able to purchase a bee colony and hive with a small amount of donated money. Besides producing 15 kg of honey each year, the bees pollinate nearby fruit trees.
- In Nicaragua, farmers obtained a small grant to purchase metal silos to protect harvested maize from humidity and pests. Each silo holds 550 kg of grain, enough to feed ten people for a year.
- With a small amount of funding, 40 women farmers from Ghana bought the materials to make 50 1-square-meter covers to protect their banana seedlings from the harsh African sun.
- A group of Senegalese farmers cooperated to purchase a treadle pump capable of irrigating up to 2 500 square metres of vegetables from a hand-dug shallow well.
- A farmers' cooperative invested in enough high-quality seed to plant 20 hectares of cabbages, onions, cauliflowers and potatoes plus forage seeds to grow food to feed their animals.

We can get information on hunger in our communities and in the world from many sources. We can write letters, make visits to people or calls to offices and libraries. (Where accessible, searching on the Internet.)

Contact, or have students contact, the international organizations that are Partners in Feeding Minds, Fighting Hunger. Some of these organizations have country representatives or local project officers who could be contacted and invited to the school to talk about their work. Ask the organizations to send information on their projects or on their activities to end hunger that could be shared with the class.

Have the class contact others involved in hunger organizations, and local, national, regional or international leaders and ask what is being done about each of
the pillars of support for food security (as discussed in previous lessons). In addition, have students look up or request information indicating how much hunger there is in their areas.

- Contact local civil authorities and invite them into the classroom to talk about what local actions are being taken to prevent hunger and malnutrition. Have students interview a variety of public officials about local hunger projects or actions. Each student or group of students could then write a small summary report and present it to the class.

- Gather information (or have students gather information) about what steps are being taken in the area to insure a consistent food supply. Invite members of the food and education system into the classroom to discuss how food security is protected in your area. Attempt to discover how much food is stored in your area in case of an emergency. Do people know what to do in a food emergency? Building on the information about local problems with hunger from Lesson 1, ask students how local problems with hunger could be improved.

- Discuss the importance of education in fighting hunger. Much hunger is related to poverty resulting from a lack of education. Students should be encouraged to stay in school and learn as much as they can about agriculture and nutrition in addition to basic skills.

- Discuss the benefits of a career in social services and fighting hunger and how students can learn to help in this area. Invite local health and extension agents into the classroom to discuss how many people are needed in careers related to fighting hunger.

- Ask the students for their ideas on actions that they, and others, can take in their communities and in the world to help solve the problems of hunger and malnutrition. List those actions and identify who could carry them out. A list of some actions that are being taken around the world is provided below.

Pick one or two examples from the list created by the students or from the list provided, and explore how these actions could be carried out and the ways in which these actions could help fight hunger in the local area or in the world.

**Examples of actions:**

- **Help improve food supplies by increasing the quantity and variety of foods available:**
  - plant home, community and school gardens
  - find ways to raise poultry, small animals or fish to eat and/or sell
  - re-discover forgotten foods that grow in the area
  - grow the best crops for sale and use
  - match crops to soil and water conditions
  - use the best tools available for farming in the region
  - find the best balance between sale and home use of crops
  - become involved in co-operative efforts to grow and sell foods
  - support local farmers; buy locally grown foods
  - establish centers or food banks to share food.

- **Help keep food safe to eat:**
  - keep food clean
  - keep food preparation areas and utensils clean
  - keep stored food dry and away from insects and animals.

- **Help all people meet their needs for food and nutrients:**
  - know your own needs for food and nutrients
- know the different needs for different people (life stages)
- seek the most nourishing foods available
- volunteer to work for hunger issues
- volunteer to work in food or meal distribution centres
- establish food centers or food banks to share extra food
- work with the food industry to redistribute surplus food
- invite commercial food growers and producers to be part of the solution for community hunger problems.

**Learn about foods, nutrition and hunger and share knowledge and ideas with others:**
- learn about the food system in your area
- know who in the community is working to fight hunger, listen to them, and share ideas with them
- know who in the community has knowledge about health and farming, listen to them, and share ideas with them
- take information home to families and neighbours
- share school projects and reports in community spaces
- share ideas with leaders in the community and nation
- urge community leaders and service providers (doctors/nurses/hospital workers/librarians) to become involved with school projects around issues of hunger and nutrition.

**Summary**
In the three lessons in this curriculum, originally developed for World Food Day, 16 October 2000, we have focused on the problems of hunger in the world. The goal of World Food Day is to end hunger as soon as possible in the new millennium. Many millions of us today still do not have enough to eat every day. We must all try to understand why this is. Young people have the creativity and energy to tackle great problems such as hunger. When we can all share the vision of a world without hunger, the confidence that we can make a change, the knowledge of the steps to take and the will to take action, we can solve the immense challenge of feeding all of the people of the world. And our young people, who have inherited the problem of hunger in our world, will be the key to finding the solutions.

**End of Secondary Level**
Food gives us the energy and nutrients the body needs to maintain health and life, to grow and develop, to move, work, play, think and learn.

The body needs a variety of nutrients – proteins, carbohydrates, fats, vitamins and minerals – and these come from the foods we eat.

- **Proteins** are needed to build and maintain muscle, blood, skin and bones and other tissues and organs in the body.
- **Carbohydrates and fats** mainly provide energy, although some fats are also needed as building materials and to help the body use certain vitamins.
- **Vitamins and minerals** are needed in smaller amounts than protein, fat and carbohydrates, but they are essential for good nutrition. They help the body work properly and stay healthy. Some minerals also make up part of the body’s tissues, for example, calcium and fluoride are found in bones and teeth and iron is found in the blood.
- **Fibre** (or roughage) and **clean water** are also needed for a good diet.

All foods contain nutrients but different foods contain different amounts of various nutrients.

- **Foods rich in proteins** are all types of meat, poultry, fish, beans, peas, soybeans, groundnuts, milk, cheese, yoghurt and eggs.
- **Foods rich in carbohydrates** are rice, maize, wheat and other cereals, all types of potatoes, yams and starchy roots and sugars.
- **Foods rich in fats** are oils, some meat and meat products, lard, butter, ghee and some other milk products, margarine, some types of fish, nuts and soybeans.
- **Foods rich in vitamin A** are dark-green vegetables, carrots, dark-yellow sweet potato, pumpkin, mango, papaya, eggs and liver.
- **Foods rich in B vitamins** are dark-green vegetables, groundnuts, beans, peas, cereals, meat, fish and eggs.
- **Foods rich in vitamin C** are fruits and most vegetables, including potatoes.
- **Foods rich in iron** are meat, fish, groundnuts, beans, peas, dark-green leafy vegetables and dried fruits.
Fact Sheet: **Who is Vulnerable?**

**Victims of conflict**
- internally displaced people
- refugees
- landless returnees
- landmine disabled
- war invalids
- war widows and orphans

**Migrant workers and their families**
- migrant herders tending other people's herds
- migrant labourers seeking seasonal work
- female-headed households left behind by migrant male labourers

**Marginal populations in urban areas**
- school dropouts
- unemployed people
- rickshaw and motorcycle taxi drivers
- recently arrived migrants
- people living in slums on city outskirts
- dock workers and porters and construction workers
- workers in the informal sector
- homeless people
- orphans
- street children and people living alone on small fixed incomes or without support (elderly, pensioners, widows and widowers, divorcees, invalids, handicapped people)
- beggars

**People belonging to at-risk social groups**
- indigenous people
- ethnic minorities
- illiterate households

**Some or all members of low-income households within vulnerable livelihood systems**
- subsistence or small-scale farmers
- female-headed farming households
- landless peasants
- agricultural labourers
- fishers
- nomadic pastoralists
- sedentary herders, small-scale livestock producers and agropastoralists
- forest dwellers
- peri-urban small-scale agricultural producers and market gardeners
- day or contract labourers

**Dependent people living alone or in low-income households with large family size**
- elderly people
- women of childbearing age, especially pregnant and nursing mothers
- children under five years old, especially infants
- disabled and ill people
Vitamins and minerals are called micronutrients. They are needed in much smaller amounts than protein, fat and carbohydrate but are essential for good nutrition. They help the body to work properly and stay healthy. Some minerals also make up part of the body’s tissues, for example, calcium and fluoride are found in bones and teeth and iron is found in the blood.

- **Iron** is a major component of red blood cells and is necessary to keep all of the body’s cells working properly. Iron deficiency anaemia is the most widespread nutritional problem in the world. It can be very serious in children and women of childbearing age, especially during pregnancy, but it also affects men and older women. It leads to lethargy, low work capacity, learning difficulties, poor growth and development, and increased morbidity (illness) and maternal mortality, especially at childbirth.

The best sources of iron are meat, fish, poultry, liver and other organ meats. Iron is also found in legumes, dark green leafy vegetables and dried fruits, but this iron is not absorbed as well by the body as is the iron from animal products. Increasing the intake of vitamin C along with the vegetable sources of iron can help more of the iron to be absorbed and utilized.

- **Vitamin A** is needed for building and maintaining healthy tissues throughout the body, particularly eyes, skin, bones and tissues of the respiratory and digestive tracts. It is also very important for effective functioning of the immune system. Vitamin A deficiency can lead to poor night vision (night blindness), severe eye lesions and in severe cases permanent blindness. This occurs mainly in undernourished children, especially those with measles and other infections. Vitamin A deficiency can also lead to increased illness and death from infections.

Vitamin A is found naturally only in foods of animal origin, notably breast milk, liver, eggs and many dairy products. However, many dark-coloured fruits and vegetables contain pigments, called carotenes, that the body can convert to vitamin A. Foods rich in vitamin A include carrots, dark-yellow and orange sweet potatoes, mangoes and papaya.

- **Thiamin, riboflavin, niacin, vitamin B6, folate, pantothenic acid, vitamin B12 and biotin** belong to what is sometimes called the vitamin B complex. The B-vitamins are necessary for converting carbohydrates, fat and protein into energy and for using them to build and repair the body’s tissues. Deficiencies of these vitamins can lead to serious effects including muscular weakness, paralysis, mental confusion, nervous system disorders, digestive problems, cracked and scaly skin, severe anaemia and heart failure.

Folate (folic acid, folacin) is needed to make healthy blood cells and its lack is a common cause of anaemia among women and young children. Folate deficiency during pregnancy can lead to birth defects.

Adequate daily intake of the B-vitamins is important. Food rich in B-vitamins are dark-green vegetables, groundnuts, beans, peas, cereals, meat, fish and eggs.

- **Vitamin C** is needed to increase absorption of dietary iron, to make collagen (connective tissue) which binds the body’s cells together, and to serve as an antioxidant. Prolonged vitamin C deficiency can lead to scurvy. The signs of scurvy are bleeding gums and sore, swollen joints, and it can lead to death.

Most fruits, especially citrus and guava, and many vegetables, including potatoes, are good sources of vitamin C. Eating fresh fruit and vegetables is important for both adults and children.

- **Vitamin D** is particularly important in the use of calcium by the body. Vitamin D is found in fish oils, eggs and milk, and is also produced by the body when the skin is exposed to sunlight. Lack of vitamin D can lead to rickets, a disease that causes soft and deformed bones in young children.

- **Calcium and phosphorus** are important to body maintenance and to having strong healthy bones and teeth. Milk and dairy products are excellent sources of calcium and phosphorus.

- **Iodine** is important for proper growth and development. Lack of iodine in the diet can cause goitre (swollen thyroid gland) and mental retardation. Iodine is found in seafood and in foods grown on iodine-rich soils. In areas where soils are low in iodine, steps should be taken to add iodine, to the diet, usually through iodized salt.
We, the Heads of State and Government, or our representatives, gathered at the World Food Summit at the invitation of the Food and Agriculture Organization of the United Nations, reaffirm the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger.

Discussion: Do you agree that everyone has the right to have access to safe and nutritious food and to be free from hunger? Why or why not? What does it mean to have a "right"? How can we make this happen?

We pledge our political will and our common and national commitment to achieving food security for all and to an ongoing effort to eradicate hunger in all countries, with an immediate view to reducing the number of undernourished people to half their present level no later than 2015.

Discussion: While progress has been made, it now appears that this goal will not be met. Based on what we have studied in this lesson on hunger, when do you think the number of undernourished people in the world could be reduced to half their present level? Do you think this goal can be met? What needs to be done for this goal to be met?

We consider it intolerable that more than 800 million people throughout the world, and particularly in developing countries, do not have enough food to meet their basic nutritional needs. This situation is unacceptable. Food supplies have increased substantially, but constraints on access to food and continuing inadequacy of household and national incomes to purchase food, instability of supply and demand, as well as natural and man-made disasters, prevent basic food needs from being fulfilled. The problems of hunger and food insecurity have global dimensions and are likely to persist, and even increase dramatically in some regions, unless urgent, determined and concerted action is taken, given the anticipated increase in the world's population and the stress on natural resources.

Discussion: The above statement lists three major causes of food insecurity. What are these? 1. constraints on access to food and continuing inadequacy of household and national incomes to purchase food; 2. instability of supply and demand, natural; and, 3. human-made disasters. Discuss more specifically what is meant by each of these, the causes of and solutions to each. What can governments and individuals do to improve these situations?

We reaffirm that a peaceful, stable and enabling political, social and economic environment is the essential foundation which will enable States to give adequate priority to food security and poverty eradication. Democracy, promotion and protection of all human rights and fundamental freedoms, including the right to development, and the full and equal participation of men and women are essential for achieving sustainable food security for all.

Discussion: This section outlines changes related to social justice for all people; democracy, human rights protection and equal rights for men and women. Discuss how these issues affect food security in your region and how social and cultural changes can be initiated locally and across the globe.

Poverty is a major cause of food insecurity and sustainable progress in poverty eradication is critical to improve access to food. Conflict, terrorism, corruption and environmental degradation also contribute significantly to food insecurity. Increased food production, including staple food, must be undertaken. This should happen within the framework of sustainable management of natural resources, elimination of unsustainable patterns of consumption and production, particularly in industrialized countries, and early stabilization of the world population. We acknowledge the fundamental contribution to food security by women, particularly in rural areas of developing countries, and the need to ensure equality between men and women. Revitalization of rural areas must also be a priority to enhance social stability and help redress the excessive rate of rural-urban migration confronting many countries.
**Discussion:** This section targets major global issues such as poverty, war, terrorism, corruption and environmental degradation as critical in the fight against hunger. Solutions offered include increased food production, protection of natural resources and elimination of the wide gap between the richest and poorest nations and people. The need for equality between men and women is restated. The section ends with the crisis of rural-urban migration and suggests revitalization of rural areas as a priority. Discuss these broad critical issues with students. Ask them to think about how they would start to address the issues. As resources are always limited, what priority would they assign to each issue? What criteria would they use to assign a priority? The most urgent to address? The easiest to solve? What about the competition for resources between food relief for emergency situations and funds for development work on long-term problems? Which should get the highest priority and why?

We emphasize the urgency of taking action now to fulfill our responsibility to achieve food security for present and future generations. Attaining food security is a complex task for which the primary responsibility rests with individual governments. They have to develop an enabling environment and have policies that ensure peace, as well as social, political and economic stability and equity and gender equality. We express our deep concern over the persistence of hunger which, on such a scale, constitutes a threat both to national societies and, through a variety of ways, to the stability of the international community itself. Within the global framework, governments should also cooperate actively with one another and with United Nations organizations, financial institutions, intergovernmental and non-governmental organizations, and public and private sectors, on programmes directed toward the achievement of food security for all.

Food should not be used as an instrument for political and economic pressure. We reaffirm the importance of international cooperation and solidarity as well as the necessity of refraining from unilateral measures not in accordance with the international law and the Charter of the United Nations and that endanger food security.

We recognize the need to adopt policies conducive to investment in human resource development, research and infrastructure for achieving food security. We must encourage generation of employment and incomes, and promote equitable access to productive and financial resources. We agree that trade is a key element in achieving food security. We agree to pursue food trade and overall trade policies that will encourage our producers and consumers to utilize available resources in an economically sound and sustainable manner. We recognize the importance for food security of sustainable agriculture, fisheries, forestry and rural development in low as well as high potential areas. We acknowledge the fundamental role of farmers, fishers, foresters, indigenous people and their communities, and all other people involved in the food sector, and of their organizations, supported by effective research and extension, in attaining food security. Our sustainable development policies will promote full participation and empowerment of people, especially women, an equitable distribution of income, access to health care and education, and opportunities for youth. Particular attention should be given to those who cannot produce or procure enough food for an adequate diet, including those affected by war, civil strife, natural disaster or climate related ecological changes. We are conscious of the need for urgent action to combat pests, drought, and natural resource degradation including desertification, overfishing and erosion of biological diversity.

We are determined to make efforts to mobilize, and optimize the allocation and utilization of, technical and financial resources from all sources, including external debt relief for developing countries, to reinforce national actions to implement sustainable food security policies.

Convinced that the multifaceted character of food security necessitates concerted national action, and effective international efforts to supplement and reinforce national action, we make the following commitments:

- we will ensure an enabling political, social, and economic environment designed to create the best conditions for the
eradication of poverty and for durable peace, based on full and equal participation of women and men, which is most conducive to achieving sustainable food security for all;

- we will implement policies aimed at eradicating poverty and inequality and improving physical and economic access by all, at all times, to sufficient, nutritionally adequate and safe food and its effective utilization;

- we will pursue participatory and sustainable food, agriculture, fisheries, forestry and rural development policies and practices in high and low potential areas, which are essential to adequate and reliable food supplies at the household, national, regional and global levels, and combat pests, drought and desertification, considering the multifunctional character of agriculture;

- we will strive to ensure that food, agricultural trade and overall trade policies are conducive to fostering food security for all through a fair and market-oriented world trade system;

- we will endeavour to prevent and be prepared for natural disasters and man-made emergencies and to meet transitory and emergency food requirements in ways that encourage recovery, rehabilitation, development and a capacity to satisfy future needs;

- we will promote optimal allocation and use of public and private investments to foster human resources, sustainable food, agriculture, fisheries and forestry systems, and rural development, in high and low potential areas;

- we will implement, monitor, and follow-up this Plan of Action at all levels in cooperation with the international community.

We pledge our actions and support to implement the World Food Summit Plan of Action.

Rome, 13 November 1996
Picture: We All Need Food
Picture: We Need Many Different Foods
Map of World Hunger
Proportion of undernourished people (1996-98)
Proportion of undernourished people (1996-98)

Percentage of undernourished individuals

- More than 30.0
- 20.0 - 30.0
- 10.0 - 20.0
- 5.0 - 10.0
- Less than 5.0
- Unknown
- Unclassified

Source: ESN/WAICENT-KIMS, 2000
Picture: Map of World Hunger
Proportion of undernourished people (1996-98)
South America

Percentage of undernourished individuals

- More than 30.0
- 10.0 - 20.0
- 20.0 - 30.0
- Less than 5.0
- 5.0 - 10.0
- Unclassified
- Unknown

Source: ESN/WAICENT-KIMS, 2000
Picture: Map of World Hunger
Proportion of undernourished people (1996-98)
Central America
Map of World Hunger
Proportion of undernourished people (1996-98)
North America

Source: ESN/WAICENT-KIMS, 2000
Map of World Hunger
Proportion of undernourished people (1996-98)
Europe
Picture: Map of World Hunger
Proportion of undernourished people (1996-98)
Asia
Picture: Map of World Hunger
Proportion of undernourished people (1996-98)
Oceania
Getting Ready to Grow Food
Growing the Food
Moving Food From the Field
Processing, Selling, or Storing the Food
Preparing and Eating the Food
The Story of Miguel's Tomatoes

The Tomatoes Grow in the Fields

The sun was shining on the field beside a small wooden house. The earth was damp with rain and rich with manure from the animals. Miguel pushed his new plough slowly back and forth across the field, making long rows that looked like tiny mountains in the dark-brown soil. Satisfied that his little mountain rows were neat and straight, he gently planted small green tomato shoots that he had raised from seeds. Many days and nights went by. Rain came and went, and the plants grew tall and thick with leaves. Miguel walked up and down the rows, caring for the plants and adding more droppings from the animals to give nutrients to the soil. One day Miguel saw small yellow flowers peeping through the green leaves. Soon there were so many flowers that they looked like stars in the sky. And then, under each star-like flower, a tiny, round, green tomato appeared, as if by magic. The tomatoes grew and grew, and changed colour as the days went by. One by one, each tomato turned from dark green, to yellow and then to orange-red. When a tomato became large and red, Miguel knew it would be soft and juicy and ready to eat. He went up and down the rows and picked the tomatoes that were red and ready for his family to eat that day. Miguel brought a small bowl filled with tomatoes into his house. Ana, his wife was happy to see how large and red the tomatoes were and knew they would taste sweet and good. She washed the tomatoes carefully to remove the dirt, and cut them into small pieces to make a sauce for their dinner that evening.

After many days, the field was coloured with bright red tomatoes on the green plants as they stood in long, neat rows. Now many tomatoes were ready to be picked. Ana could not use all of the ripe tomatoes for dinner that night. Early the next morning Miguel and Ana came into the field carrying large flat boxes. They slowly went up and down the rows of tomato plants, gently picking the tomatoes and packing them into the boxes. Miguel and Ana loaded the boxes of ripe tomatoes into their rickety cart. Saying goodbye to Ana, Miguel slowly pushed the cart down the dusty path to the village market.

The Tomatoes go to the Village Market

The market square was busy with people unloading goods to sell. Clothing and jewellery, belts and shoes, as well as cakes and breads made early that morning, were spread out for display on tables and blankets under brightly coloured umbrellas. Eggs, meat and cheeses were being kept cool under wet cloths, and fruits and vegetables were carefully stacked into high piles. Some people, including Miguel, unloaded their boxes on one side of the market square. Here they waited for the people who came in trucks to buy foods and other items from the village and take them to the big cities.

Miguel stood by his boxes of tomatoes and watched as an old battered truck rumbled noisily into the little market square and sputtered to a stop. Pedro waved to the villagers in the market as he jumped out of the truck and slammed the door with a noisy bang. Pedro was happy to see many
people in the market with boxes piled high with fresh, ripe fruits and vegetables. Pedro and Miguel talked about the price and quality of Miguel’s tomatoes. When they agreed on a price, Pedro agreed to buy all of Miguel’s tomatoes. Miguel then helped Pedro load the boxes of tomatoes into the truck. Pedro visited other people in the market and bought many more fruits and vegetables. Soon the back of the old truck was crowded with fresh fruits and vegetables raised in the village gardens. Pedro knew it was time to start the long journey back to the city. He was satisfied that he would make a profit on the resale of the foods he had just purchased in Miguel’s village. Pedro climbed into his truck, carefully started the engine, and slowly pulled out of the market square, with a friendly wave to Miguel, who was pushing his cart back to his little house.

While Miguel was at the market, Ana picked more ripe tomatoes to be made into sauce. She carefully cleaned the jars with hot water and prepared the tomatoes for the sauce. When Miguel returned from the market, Ana had many beautiful red jars of tomato sauce to be eaten long after the summer sun was gone and their fields were covered with white snow. Ana was pleased that Miguel was able to sell all of their tomatoes. She knew that they would now have money to purchase other foods and supplies they needed for the family. After the long day, Miguel and Ana were tired and hungry and were glad to sit down to their evening meal of foods they had raised in their garden, including sauce made from their bright red tomatoes.

The Tomatoes go to the Big City

While Miguel and Ana were having their dinner, Miguel’s tomatoes continued their long journey to the big city. Carefully packed in their boxes, the fresh red tomatoes rumbled along dusty roads, over wooden bridges and through small towns. Many people in the city do not grow their own foods. They must buy everything they need from the great new downtown supermarket, or the market stalls that have been located along the city walls for as long as anyone can remember. For many years, Pedro has gone into villages in the countryside to buy vegetables to sell in the city. He sells his fresh vegetables to the produce manager at the new supermarket, to the people who have market stalls and to the food processing factories on the outside of the city walls.

Pedro’s truck came slowly to a stop at the loading dock of the new supermarket. The man from the supermarket was happy to see Miguel’s fresh red tomatoes and the other vegetables in Pedro’s big truck. Pedro unloaded several boxes of Miguel’s tomatoes and other fresh vegetables and fruits and stacked them in a cool dark room filled with other boxes of tomatoes and vegetables. The heavy wooden door slammed shut and the room became dark and quiet. In the morning, workers from the supermarket would stack the tomatoes high in the shiny cool display cases under bright lights in the great supermarket. Busy city people would put the plump red tomatoes into plastic bags and carry them home for dinner.
The Tomatoes go to the Food Processing Factory
The rest of Miguel's tomatoes continued their journey through the crowded city streets. All around Pedro's truck, horns were honking and traffic was rushing as a police officer directed Pedro on to the highway leading to the factory district outside the centre of the city. Pedro's truck rolled up to the loading dock of the food processing factory just as the sun was going down behind the city.

At the factory, strong men carried the boxes of tomatoes from Pedro's truck into the warehouse, talking and laughing as they worked. Long rows of boxes filled with tomatoes and other vegetables were crowded against each other, waiting to enter the factory to be turned into canned food. Boxes of tomatoes were emptied on to the conveyor belt that chugged its way through the factory to each of the processing steps. Miguel's tomatoes were now mixed up with tomatoes from all parts of the countryside. The conveyor belt slowly carried the shiny red tomatoes past the sorters. The sorters examined the tomatoes as they flowed by, looking like a flowing red river of tomatoes. Their hands, wearing plastic gloves, could be seen darting out quickly to remove any tomatoes that were damaged. The tomatoes slowly chugged to the next station, where they were squirted with hot water and tumbled to remove their skins. Next they were dropped into a large tub where they were cooked and spices and salt were added. Miguel's tomatoes were now bubbling in the large tub with all the other tomatoes, smooth and plump in the spicy red juice. They continued their journey to the canning area where they were dropped with a splash and a plop into rows and rows of shiny round cans. With a noisy bang, the cans were sealed. A bright red label with the picture of a tomato was glued on to each can. Workers quickly snatched up the cans and put them into strong brown cardboard boxes.

The Tomatoes go Home
Miguel's tomatoes, deep inside the round cans, packed into cardboard boxes, were piled on to an electric cart that took them to the big warehouse to be stored until they were sold. Miguel's tomatoes could spend many months waiting in the warehouse until they were ordered. They could be ordered by someone in the city, or they could travel around the world to a distant place, perhaps even a place where tomatoes have never grown. They could travel in a truck, a train, an aeroplane or a boat. They may be purchased and used for dinner at a hospital, a school, a restaurant, or by a family.

It is even possible that one day Miguel and Ana will go to the grocery store in their small village and buy a can of cooked tomatoes when their own supply of sauce made by Ana is gone. They will sit down to dinner with the canned tomatoes in a sauce. And Miguel will say these tomatoes are delicious, Ana, but not as good as ours. And Ana will reply, yes, not as good as ours, but they are very, very good, indeed. And they will not know that their tomatoes have come back home.
### Table: Food System Chart

<table>
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<th>Processes and Considerations:</th>
<th>Local Food System</th>
<th>Commercial Food Sector</th>
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<td>Growing the food</td>
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<td>Moving food from the field</td>
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<td>Preparing and eating the food</td>
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<td>Knowledge of food and nutrition</td>
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Young scientists cultivate communication

Each year, young scientists from agricultural research institutes in the developing world, sponsored by the World Bank, the Consultative Group on International Agricultural Research (CGIAR) and the Rodale Institute, are invited for a “Gardening for Food around the World” event at Epcot Center, a popular science-based tourist attraction in the United States. The purpose of the event is not to train the scientists in research skills – but rather in communication.

Part of the programme involves building replicas of the types of farms found in Latin America, Africa, Asia and the United States. The visiting scientists, with their newfound communication skills, explain the agricultural issues of their home countries to thousands of Epcot visitors each day, and demonstrate how research is helping overcome the problems. The young scientists thus get a chance to tell their stories to an audience in the developed world. And they are then able to go back home better equipped to further research in their own countries and more able to discuss the issues with policy-makers, other scientists and the farmers themselves. The wider their audience, the more impact their research will have in improving food production and food security.

International students help in Ghanaian villages

Students from four international organizations have joined forces with Ghanaian students to design a low-cost, interdisciplinary approach to rural community development. The project offers an excellent example of how young men and women can work together to improve health and nutrition in developing countries.

The project was initiated by the International Federation of Medical Students, which received support and participation from the International Association of Agricultural Students, the International Forestry Students Association and the International Pharmacy Students Federation.

The approach, "Village concept projects", recognizes the intimate relationship among health, food production and the management of natural resources. One of its important focuses is on ensuring local supplies of protein. The local and international agricultural students have therefore worked with villagers to plant demonstration plots of cowpeas and soybeans and introduce farmers to innovative and environmentally sound farming techniques. They have also established a model poultry farm.

These village concept projects could not have been carried out without the participation of Ghanaian students, who acted as local coordinators. The students also worked in close cooperation with the local Village Development Committee. Sixty-eight students from 15 countries worked together on the first village concept project. This was designed to serve as a model for similar international student development projects and proved so successful that a second project was launched almost immediately after the first had been concluded.

Food and hope on the hop

Less than five years ago, Ren Xuping, a young landless school teacher in China, received a gift of three rabbits from Heifer Project International (HPI), a non-governmental organization (NGO) that believes in the entrepreneurial spirit of youth. Ren Xuping was given the rabbits after his neighbours identified him as the neediest person in the village. His only obligation was a promise to pass on the same - in other words, to give the first offspring to another needy individual or family.

Ren Xuping has more than fulfilled his promise. He has successfully raised more than 21 generations of rabbits and has a thriving business of 200 000 rabbits. He has given away hundreds of rabbits to his neighbours and has also shared information on how to care for the animals.

In another part of China, HPI gave ducks to a young family. In three years, the young entrepreneurs built a duck farm with an annual production of 400 000 ducks. They are now supplying breeding ducks to other families and have started cottage industries to market duck meat, eggs and duck down.

HPI supplies food- and income-producing farm animals to youth and their families in 40 countries.

"Policies should include youth as agents, not just beneficiaries of development programmes."

Elizeu Chaves, 24, President, Brazilian Youth Committee

"We are experts on what it is like being young. We realize when our involvement is real and when we are just being used as wall-flowers, legitimizing decisions that have already been taken. We are knocking at the door; please let us in now."

Camilla Lindquist, National Council of Swedish Youth
Lighting a candle in Dominica

A seminar for unemployed rural youth on the Caribbean island of Dominica urged them to set up farm-related businesses such as processing fruit. However, ten young people saw a business opportunity to make and sell candles. Much of the island did not have electricity so there was great demand for candles which had to be imported from the United States and the United Kingdom.

The seminar organizers advised them to forget the idea, but the youngsters cheerfully ignored this advice. They elected three women to run the cooperative and learned how to make candles. Next they needed seed capital. No bank would lend them money but the United States Agency for International Development (USAID) finally came to the rescue with a grant of $4,000, with which they bought the raw materials - wax and string - and set to work. Local shops were happy to buy their candles and the cooperative reinvested the profits in the business. Members got a loan of $5,000, and after a year each began to draw a small wage.

Today Candle Industries Cooperative has 16 members and all are proud of their achievement in setting up a viable small business that gives them an income and shows what a group of young people can achieve on its own.

Bangladeshi youth give credit

Banks rarely lend money to poor rural people to improve food production methods, so in Bangladesh villagers often have to pay ruinous interest rates to moneylenders who seize their land if they default.

One village badly needed a machine for threshing rice. Previously this had been done by hand - a crude, slow process with a lot of spoilage. A group of young people set up a small business that gives them an income and shows what a group of young people can achieve on its own. Today Candle Industries Cooperative has 16 members and all are proud of their achievement in setting up a viable small business that gives them an income and shows what a group of young people can achieve on its own.

4-H youth take on new ideas

The American 4-H movement is proof that one of the fastest ways to spread new food and agriculture technology is through young people.

In 1898, Will Otwell, an agricultural trainer in Illinois, found that few adult farmers were interested in attending meetings to learn about new agricultural practices. He decided to forget parents and concentrate on their children. Otwell offered the farm youth improved maize seed, with the promise of a prize to whoever obtained the largest yield. In this way the young people would conduct an on-farm demonstration for their parents of the advantages of planting top-quality seed varieties. In the first year, over 500 young people requested maize seed. By 1901, their numbers had grown to 1,500, and by 1904 to 50,000.

Today the 4-H Programme has 5 million members in the United States and the concept has been copied around the world. The 4-Hs stand for head, hands, heart and health.
Country Case Study: Asia

A period of rapid economic growth has resulted in major gains in food security across most of Asia and the Pacific. Cambodia, where the proportion of undernourished dropped from 62 to 33 percent between 1980 and 1996, led the way. Many other countries in the region also showed strong reductions, including China, India, Indonesia, Myanmar, Nepal, Pakistan and Viet Nam. Undernourishment increased in only two countries – Mongolia and the Democratic People’s Republic of Korea. In the latter, it rose from 16 to 48 percent. The financial crisis may have blunted progress in some countries, but the overall trend remains positive.

Cambodia – reaping the dividends of peace

More land is being farmed, more food is being produced and far fewer people are going hungry in Cambodia, as the country rebounds from decades of conflict. Between 1980 and 1996, farmers almost doubled the area on which they were growing crops. Yields of rice, Cambodia’s main staple food, shot up by 64 percent. Pork, beef and poultry production expanded rapidly. Because of the gains in food production, Cambodians are eating substantially better, even though the population has continued to grow rapidly and food imports have declined.

Despite this recent progress, however, Cambodia remains a very poor country, and many of its people still suffer from food insecurity. Even after a 21 percent jump since 1980, Cambodians’ average food intake in 1996 is scarcely enough to meet the minimum daily requirement. More than one-third of all households fall below the poverty line. The country’s poverty is reflected in the lack of diversity in people’s diets. Almost 80 percent of the average daily calorie intake comes from rice.

Decades of war and civil strife left traditional irrigation systems in ruins. Many fields had been abandoned to landmines. The peace settlement in 1979 opened the door for recovery; an economic reform programme introduced in 1992 brought inflation under control. Farmers responded by increasing the area cultivated, expanding rice production and diversifying into crops and animal products for export.

Programmes to remove landmines and rehabilitate irrigation systems are continuing. A programme has also been put in place to reduce poverty by creating jobs for vulnerable groups.

DPR Korea – a bitter harvest

The Democratic People’s Republic of Korea has been hit hard during the 1990s by floods, drought and the collapse of its special trading relationships with China and the former Soviet Union. The impact has been devastating both to food production and to the nutritional status of the population. Total cereal production plummeted to less than half its 1980 level, while the proportion of undernourished people soared to almost half the population.

Rapid economic deterioration left the country without either the cash or the creditworthiness to finance needed food imports. Massive food aid was provided, but logistical problems made it difficult to reach all of the people in need. The crisis strained the national public distribution system to breaking point. The system sells fixed rations of rice and maize to city residents and to people who work on state-run farms and enterprises in the countryside. As crops failed and imports dwindled, reserve stocks held by the system proved far from sufficient to fill the gap. Rations were cut drastically and many people reduced consumption significantly.

The country’s collapse came on the heels of a period of rapid economic growth. With limited arable land and a short growing season, gains in food production had been achieved through high-input agriculture. When the country was suddenly cut off from access to spare parts, fertilizers, pesticides and pumped water, yields started to fall sharply. Then, starting in 1995, two years of heavy storms and flooding, followed by a severe drought, devastated large tracts of agricultural land.

The country is now trying to revive agricultural production by introducing improved seed varieties and double-cropping methods, rehabilitating irrigation systems and improving soil fertility.
Country Case Study: **Latin America and the Caribbean**

Both the levels and the trends of undernourishment vary considerably in Latin America and the Caribbean. In most South American countries, levels are already low or rapidly declining. In Central America, on the other hand, levels are increasing in several countries, although Honduras registered the strongest gains in the region by bringing its prevalence of undernourishment down from 31 percent to 21 percent. In the Caribbean, Cuba’s setback, with the share of undernourished rising from 3 to 19 percent, was in many ways typical of several of its island neighbours, which have experienced increases in undernourishment since 1980.

**Honduras - economic growth helps to reduce hunger**

Steady economic growth, coupled with an effective aid programme for its poorest citizens, has helped Honduras reduce by almost one-third the proportion of its population suffering from undernourishment. Increases in food production, imports and use of stocks all contributed to putting more food on Honduran tables. Maize production nearly doubled between 1980 and 1996. Much of the increase was consumed not by people but as feed for the booming cattle industry. Maize consumption by people actually declined slightly. Vegetable oils and sugar accounted for most of the increase in food intake, with consumption of meat and beans also increasing somewhat.

Since Honduras adopted a far-reaching structural adjustment programme in 1988, the country’s economy has been growing at an annual rate of 2.7 percent. The increased prosperity has helped bring safe water to 87 percent of the population and raise the literacy rate to 70 percent. Direct aid to the poor is provided through the Honduran Social Investment Fund, which has reached many of the most deprived. A ration programme supplies coupons to help schoolchildren, mothers and elderly people buy food and other necessities.

Despite its recent gains, Honduras faces difficult challenges. Economic growth has not eliminated wide disparities in wealth and income. Poverty and food insecurity remain relatively widespread. About half of the Honduran population is rural. And in the countryside, nearly 40 percent lives in extreme poverty, with many people working as agricultural labourers on large estates. Commercial agriculture offers good possibilities for growth, but the challenge of achieving a more equitable distribution of the benefits remains.

**Cuba - loss of trading partner erodes food security**

Cuba has seen its economy shrink and levels of undernourishment rise since losing its most important trading partner with the break-up of the former Soviet Union. With much of its agriculture geared to producing commodities for export (primarily sugar and tobacco), Cuba had succeeded in reducing undernourishment to very low levels while relying on trade for more than half of its food.

With the end of Cuba’s special trading relationship with the former Soviet Union, daily food intake dropped by more than 500 calories per person, mainly because of a steep decline in food imports. Yields for major food crops also dropped because of a lack of imported fertilizer, but Cuba managed to produce nearly comparable quantities by growing food on more land.

The economic decline has increased the number of people relying on subsidies while reducing productivity and food intake for many workers and their families. Continued restrictions on trade with the United States add to the country’s economic difficulties.

Despite its recent problems, Cuba remains relatively prosperous and well fed compared with other countries in the Caribbean and Central America. More than half the country’s roads are paved and 95 percent of the population have access to safe water.

Since 1993, the Cuban Government has given priority to increasing food production and restructuring industry. Signs have begun to emerge that the new economic model is taking hold and labour markets are recovering. But the transition process is far from complete.
Country Case Study: Near East and North Africa

Most countries in the Near East and North Africa have already achieved greatly reduced levels of undernourishment. Indeed, the region accounts for ten of the 14 developing countries where undernourishment affects less than 5 percent of the population. Morocco’s decline, from 10 to 5 percent undernourished, represented the best progress among this group of good performers. Significant increases occurred only in Afghanistan, where the proportion of people who are undernourished shot up from 33 percent in 1980 to 62 percent in 1996, and in Iraq, where the share rose from 4 to 15 percent over the same period.

Morocco - thriving economy boosts food security

With substantial mineral wealth and an established position as a centre for trade and commerce, Morocco has enjoyed steady economic growth that has reduced undernourishment to very low levels. Between 1980 and 1996, daily food intake increased from 2,723 to 3,186 calories, reaching levels comparable with those of some industrialized countries. The gains came almost equally from increases in food production and in trade. Production of cereals and potatoes more than doubled, spurred by substantial increases in both crop yields and the area under cultivation. Much of the increased production was used for feed, while imports grew to meet rising demand for food. With the economy growing at almost 4 percent per year, Morocco has become increasingly urban. Improvements in transportation, sanitation and education have been particularly marked in the cities. However, almost half the population remains in rural areas, where poverty and vulnerability persist, particularly among traditional small-scale farmers and herders. Barely half the population has access to safe water and 56 percent remain illiterate. Environmental problems also loom. Water for agriculture and grazing lands is scarce, and 61 percent of the land is severely degraded. To eradicate remaining pockets of hunger, action will need to be taken to introduce more sustainable agricultural practices and to generate jobs and income in urban areas.

Afghanistan - war leaves little ground for crops

Food production and food security have both fallen victim to decades of warfare in Afghanistan. Production of cereals fell slightly while returning refugees helped swell the population by 25 percent between 1980 and 1996. As a result, average daily food intake fell from 2,186 to 1,710 calories, significantly below minimum requirements. Two-thirds of the country’s provinces are now food-deficit areas; but the war-torn economy cannot generate imports to fill the gap. Afghanistan’s problems are unusual in a region where levels of undernourishment are generally low. But they are typical of many war-torn countries facing complex humanitarian emergencies. More than 40 percent of the country’s arable land is riddled with landmines and cannot be farmed. Thousands of people who used to make their living from farming have migrated to towns and cities, joining the ranks of a new, impoverished urban underclass. Only 15 percent of the population has access to safe water and some 70 percent are illiterate. Intermittent fighting and restrictions on movement continue to disrupt efforts to rebuild the country. One in every 50 Afghans has been a landmine casualty. Every day, mine blasts kill or maim another ten people, a third of whom are women and children. Many who have been disabled by war injuries or mines are no longer able to work. Their dependent status puts additional pressures on other family members who must feed and care for them. Large volumes of food aid remain far from sufficient to satisfy the minimum needs of such a large number of undernourished. Until peace is restored, there can be little hope of any lasting solutions.
Statement: About World Food Day

World Food Day is celebrated every year on 16 October to commemorate the founding of the Food and Agriculture Organization of the United Nations (FAO) in 1945. World Food Day aims to heighten public awareness of the plight of the world's hungry and malnourished and to encourage people worldwide to take action against hunger. More than 150 countries observe this event every year. In the United States, 450 national, private voluntary organizations sponsor World Food Day, and local groups are active in almost every community. First observed in 1981, each year World Food Day highlights a particular theme on which to focus activities. The theme for 2000 was "A Millennium Free From Hunger". Themes from the previous years are "Youth Against Hunger" (1999) and "Women Feed the World" (1998).

A related initiative is the TeleFood Campaign, in which television and radio broadcasts, concerts, celebrity appeals, sporting and other events pass on the message that it is time to do something about the problem of world hunger. The objective of TeleFood is to raise awareness and mobilize resources for microprojects on food security. Donations to TeleFood support hundreds of small projects in developing countries that help poor farmers grow more food or generate income to buy enough food to feed their families. Materials for recent World Food Day/TeleFood themes are available on the FAO Web site.
We gladly welcome your comments

We are very interested in knowing how these materials and lessons are being used. Your comments on any aspect of the materials – such as the format, graphics, content, language – would be very welcome. Send us your comments, ideas and suggestions, and the information we collect from teachers and students will be used to improve the lessons so that they better meet your needs and the needs of others around the world.

We would like to receive from you lessons, stories, and activities that you and your students have used on the topics of hunger, nutrition and food insecurity in the world. If you have used the model FMFH lessons, we would like to know what changes or additions you made to these materials.

We would also be happy to receive any stories or essays written by students themselves. Write up your own Feeding Minds, Fighting Hunger lessons and send them to us. We will assemble a collection to share with other teachers and students around the world.

In addition, you can use the form below to provide an evaluation of the Feeding Minds, Fighting Hunger materials. Please answer the questions for the one school level with which you are most familiar, or for the school level that you teach. Providing examples and suggestions will be most helpful as we continue to improve these materials.

Send your comments and your evaluation to:
Feeding Minds, Fighting Hunger, Food and Nutrition Division, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy.
By email: fmfh@fao.org

Please provide us with your full contact information.
Thank you.

1. What grade/s and ages do you teach?

2. Please describe your school/classroom:
   Where is it located?
   What is the size of the school and your class?
   What is the economic level of the community in which your school is located?
   Is your school rural, suburban or urban?

3. Which Feeding Minds, Fighting Hunger lessons did you teach?
   - Lesson One: What is Hunger and Who are the Hungry?
   - Lesson Two: Why are People Hungry and Malnourished?
   - Lesson Three: What Can We do to Help End Hunger?

What is the first language of the school and community?
Do you have access to computers and printers in your school?
4. Have you had the opportunity on other occasions to explore the issues of hunger and malnutrition with your students?

5. How much time did you spend in preparation?

6. What adaptations did you make before using each lesson?

7. How much time did you spend teaching each lesson? What do you think about the length of each lesson?

8. What do you see as the strengths of the lessons? Please list specific points from your use in the classroom.

9. What do you see as areas for improvement in the lessons? Please list specific points from your use of the materials in the classroom, as well as suggestions for improvement.

Please respond for each lesson for Questions 5 through 7 below.
10. Please list and describe any additional activities or materials that you used or would want to use to complement the lessons.

11. What specific portions of the lessons did your students find most interesting?

12. Did you have difficulty with any of the concepts or activities presented in the lessons? Please tell us what did not work in your situation and why.

13. What additional concepts would you like to see added to the lessons?

14. Overall, for your classroom circumstances, on a scale of 1 to 5, with 1 the lowest and 5 the highest rating, please rate the lessons in each of the areas below (circle the appropriate number):

   a. Usefulness  
   b. Clarity of messages  
   c. Clarity of language  
   d. Cultural appropriateness  
   e. Age appropriateness  
   f. Ease of use  
   g. Adaptability  
   h. Format  
   i. Graphics

15. In your opinion, are these lessons useful to teachers and students in various settings around the world? Explain why or why not.
16. Are you likely to incorporate these lessons into your teaching? Describe why or why not.

17. What recommendations do you have for improving the materials and lessons?

18. Are there any other comments you would like to make about the Feeding Minds, Fighting Hunger materials and model lessons?