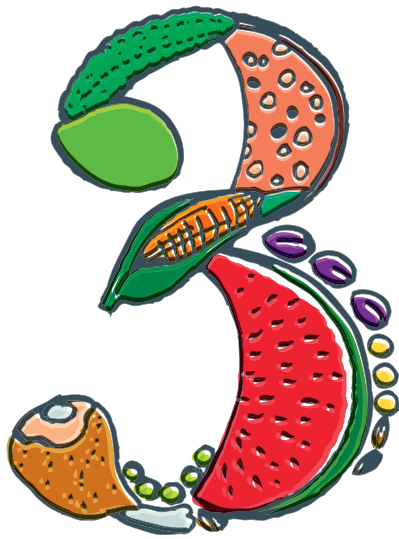


How to eat well for good health



How to eat well for good health is about how to make good food choices for a healthy balanced diet throughout life. It describes the different nutritional needs at different stages of life and discusses the importance of developing good dietary practices and eating habits. It includes practical advice on how to choose clean, fresh and nutritious foods and how to store and prepare them safely at home.



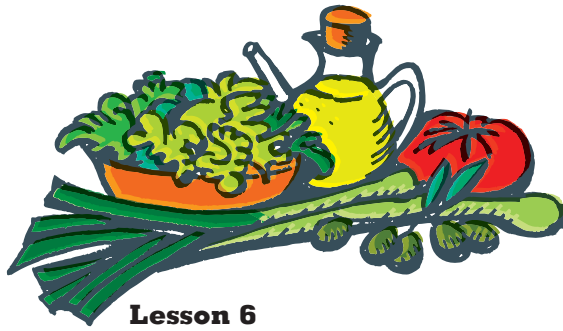
Lesson 6
Meeting nutritional needs throughout life



Lesson 7
Making good food choices and healthy meals



Lesson 8
Keeping foods safe and nutritious



LEARNING OBJECTIVES



*By the end of
the lesson, you
will be able to:*

- understand how our nutritional needs vary with age, sex, health status and activity level;
- describe our special nutritional needs at different ages and in different stages of life;
- recognize and describe good diets for babies, children, adolescents, pregnant and breastfeeding women, in older age and during illness.

Lesson 6

Meeting nutritional needs throughout life

LESSON OVERVIEW



This lesson is about our nutritional needs at different ages and in different stages of life. It shows how nutritional needs vary with age, sex, health status and activity level and highlights how important it is to meet our different food and nutrient needs in each of these life stages. It explains that people need more food if they are growing or helping others to grow (infants, children and pregnant and breastfeeding women); they need more food if they work and play hard and they may need more food if they are sick.

The lesson is divided into six separate sections describing the special nutritional needs during pregnancy and breastfeeding, the nutritional needs of babies and infants (0–24 months), children (2–10 years), adolescents (11–17 years), older people and people during illness. It suggests some good foods to eat and good eating habits that can help meet the special needs of each of the different age groups and life stages.



Part 1

Nutritional needs in pregnancy and breastfeeding



READING

All pregnant women need to eat a good, balanced diet and gain additional weight to support a healthy pregnancy and childbirth. A diet that provides the increased energy (calories) and nutrients needed during pregnancy is necessary for the health of both mother and baby. If the nutritional needs of the mother and baby are not met, the health effects can be serious. The mother's own stores of nutrients may be reduced, putting her at increased risk of illness. A baby deprived of adequate nutrition before birth is likely to have poor development in childhood and health problems throughout life.

A mother's weight gain in pregnancy directly affects the baby's development, weight and health at birth. All pregnant women need to gain some weight during pregnancy, no matter what they weigh before pregnancy. The amount of weight to gain depends on the women's height and weight when she becomes pregnant. This weight gain is needed for the proper development of the growing baby and for the added growth of the uterus, breasts and blood and other fluids and tissues needed to support the growing baby. Women at a healthy weight when they become pregnant should gain between 11.5 kg and 16.0 kg during pregnancy.

Underweight women have a greater risk of low birthweight and pre-term babies (born before 38 weeks of pregnancy). Babies with a low weight at birth (2.5 kg or less) have more health problems early in life. Severely underweight babies are more likely to die in infancy. Women who are underweight can improve their chances of having a healthy infant by gaining extra weight both before and during pregnancy. Women who are underweight at the time of pregnancy should gain between 12.5 kg to 18.0 kg during pregnancy.

Overweight and obese women are at high risk of health complications for themselves and their baby. The health complications for women who are overweight and obese when they become pregnant include high blood pressure, diabetes during pregnancy, infections at birth and complications of labour and birth. Their infants are more likely to be born post-term (born after 42 weeks of pregnancy) and to be very large. Babies who are very large at birth increase the likelihood of difficulties at birth. Babies born to obese mothers are at greater risk of heart defects and serious defects of the spine and brain. Overweight and obese women should try to be at a healthy weight before becoming pregnant; they should

TO THINK ABOUT WHILE READING



Why are there special nutritional needs in pregnancy?

What can happen if a woman does not eat well when she is pregnant?

What is a good diet for pregnant and breastfeeding women?



avoid gaining too much weight during pregnancy but should not try to lose weight until after the baby is born. Women who are overweight or obese at the time of pregnancy should gain between 7.0 kg to 11.5kg.

A good diet during pregnancy is very important to meet the higher nutritional requirements of both the mother and baby. All nutrients need to be included in the diet during pregnancy and additional calories are needed to provide the energy required by the mother for the extra demands of pregnancy and by the baby for growth and development. Protein is especially important, as it provides the “building blocks” (amino acids) to create new tissue, such as increasing blood supply, cell and bone growth. Other nutrients that are especially important are iodine, iron, zinc, folate, vitamin A and vitamin C. Pregnant women need to eat about 280 extra calories a day.

To meet these needs for additional calories and nutrients, pregnant women should eat one or more additional servings of food either at meals or for snacks in between meals. Some suggestions as to how to meet those needs are:

- additional portions of protein foods, which include meat, fish or poultry; legumes, such as soybeans or tofu, lentils and other dried beans, nuts, such as groundnuts;
- large portions of green leafy vegetables; red or orange vegetables, such as sweet potatoes, yams, pumpkin; fruits including both citrus and other fruits;
- additional portions of milk and milk products, such as cheese and yoghurt.

Adequate iodine during pregnancy will help prevent serious birth defects, such as brain damage and mental retardation related to iodine deficiency. This need can be met through using iodized salt and eating seafoods that are rich in iodine.



See [Fact sheet on Iodine](#) in Lesson 3.

High amounts of iron are needed to prevent anaemia in both the mother and baby. Having adequate iron at this time will help reduce the risk of birth defects and deaths in pregnancy and childbirth. Additional servings of foods containing high amounts of iron, such as red meats, fish, poultry and legumes should be eaten. Women who are not able to meet their need for iron through their diet are advised, under the guidance of a doctor or other health professional, to take iron supplements during pregnancy, in addition to eating as many iron-rich foods as they can.



See [Fact sheet on Iron](#) in Lesson 3.



Very high levels of folate (a form of vitamin B) are needed to prevent severe birth defects during the first few weeks of pregnancy and to prevent anaemia in the mother and baby. The need for folate in preparation for and during pregnancy can be met by consuming at least 5 servings a day of vegetables and fruits rich in folate, especially leafy green vegetables, beans, peas and other legumes, and liver. Because of the high levels of folate needed during this time, and the severity of the birth defects resulting from lack of folate early in pregnancy, women who are not able to meet their need for folate through their diet are advised to eat foods fortified with folic acid (the synthetic form of folate) or take folic acid supplements, in addition to eating folate-rich foods. Women should consult a doctor or health professional for advice before taking supplements.



See Lesson 5 for more information on essential vitamins and minerals and good food sources.

A good diet by the mother during breastfeeding increases the success of breastfeeding and improves the health of mother and baby. Breastfeeding requires additional nutrients and energy, as the mother needs to replace the nutrients and energy that are passed on to the baby through the milk. The nutrients that are important for a good supply of breastmilk are the same as those that are important for a healthy pregnancy. These include protein, zinc, calcium, vitamins A and C, iron and folate. Even more nutrients and an additional 450 calories every day are required to keep both mother and baby healthy during breastfeeding. Additional servings of milk and high protein snacks between meals or an additional small meal every day are good ways to meet the additional needs of breastfeeding. In addition to extra food, the mother needs to drink extra water and other liquids because of the fluid breastmilk that is provided to the baby. Insufficient food or water can decrease the amount of milk the mother is able to provide, putting the baby at risk.






Pregnant and breastfeeding women have such high nutritional demands that it may take two to three years after stopping breastfeeding for all of the mother's nutritional stores to be replaced. For this reason, good spacing between pregnancies can help improve the health of the mother and her future babies.



See Lesson 4 for more information on the macronutrients, their functions and good food sources.




MATERIALS

-  Fact sheet *Nutrition during pregnancy and breastfeeding (mother)*
-  Fact sheet *Weight gain during pregnancy*
-  Match it work sheet *Maternal health*
-  Work sheet *Good foods to eat during pregnancy*
-  Work sheet *Eating well during pregnancy*



ACTIVITIES

Maternal health

-  Take a quick matching exercise to check your understanding of a healthy diet during pregnancy and breastfeeding.

Good foods to eat during pregnancy

What nutrients are especially important for pregnant women and unborn babies? What foods are good sources of these nutrients? Fill in the *Good foods to eat during pregnancy* work sheet with the names of locally available foods rich in these nutrients.



Prepare a snack for a pregnant woman

List all the snacks that you think can meet the special dietary needs of pregnant women in your community.

If working as a class, you can divide into groups to prepare some of the snacks on your lists. Invite your friends and families to taste the food and select the winner. Take pictures of every snack and create a snack recipe book for pregnant women in your community.

Eating well during pregnancy



Read about Sara, Fatima and Elena and help these three pregnant women choose the best foods for themselves and their babies.

If you are working as a class, split into three groups and create a 3-day menu for the mothers-to-be. If you are working individually, choose one woman and create a 3-day menu for her.



KEY POINTS

Review these three key points to remember about a healthy diet during pregnancy and breastfeeding. See if your knowledge has improved and share it with pregnant and nursing women in your family.

A healthy diet during pregnancy and breastfeeding

- A pregnant woman must meet the nutritional needs of both the rapidly growing baby and her own body changes. Poor diets and poor nutrition during pregnancy can lead to serious health problems for both mother and baby.
- A mother's weight gain in pregnancy directly affects the baby's development, weight and health at birth. Underweight women have a greater risk of low birthweight and pre-term babies; they need to gain extra weight. Overweight and obese women are at risk of health complications for themselves and their babies; they need to gain less weight but should not try to lose weight in pregnancy.
- A good diet during pregnancy and breastfeeding should include additional calories and a variety of foods to ensure that mothers get all the nutrients they need, especially protein, iodine, zinc, vitamins A and C, and high amounts of folate and iron.



Part 2

Nutritional needs of babies and infants (0–24 months)



READING

Nutritional needs of babies 0–6 months

Breastmilk is the natural food for babies. It is safe, inexpensive and provides all of the nutrients babies need for the first 6 months of life. It has the very important added advantage of increasing the baby's resistance to disease, as the mother is able to pass her own immune factors for certain diseases through her milk to protect her baby. This ability of breastmilk to provide protection against many diseases is an important reason that breastmilk is so healthy for babies; during the first six months of life, babies depend on their mother's milk while their digestive and immune systems are developing and maturing. Colostrum, the first milk right after birth, is an essential food for newborn babies. It contains high levels of vitamin A and substances that protect newborns from infections and disease. Babies who are breastfed have many health advantages over babies fed other milks. Mother's milk contains the perfect amount of protein, fat, carbohydrate and other nutrients for the new baby's growth and development.

Because breastmilk is so perfect for babies, it is recommended that they be fed only breastmilk for the first six months of life and that mothers breastfeed for as long as they can. Giving only breastmilk (exclusive breastfeeding) means not giving other foods or liquids to the infant for the first six months after birth, with the exception of vitamin and mineral supplements or medicines. Giving the baby other foods, liquids or water too early can introduce bacteria and increase the risk of infections and illness. Babies who are breastfed exclusively for the first six months and who continue partial breastfeeding for up to two years have lower rates of illness and death.

Mothers who cannot breastfeed should consult a health care professional to plan appropriate replacement milk. Giving cow, goat or any other animal milk to a baby under one year of age is not an adequate replacement for breastmilk, as the nutrients in those milks are those needed to support the growth of a baby cow or goat and are different from the nutrients needed by a human baby. Infant formulas available commercially can be a breastmilk substitute when necessary, but formula does not provide protection to the baby's immune system. Formula is usually expensive and requires clean water and sanitary conditions for proper preparation, cleaning of bottles and feeding.

TO THINK ABOUT WHILE READING



What is the best food for babies from birth to 6 months of age?

What should babies this age eat if breastmilk is not available?

What foods do babies 6–24 months need?



While breastmilk is the very best food for most infants, when the mother is HIV-positive or taking certain drugs, breastfeeding may not be recommended. Both the HIV virus and most drugs enter into breastmilk and therefore get into the baby's system. HIV can be transmitted from an infected mother during pregnancy, birth and breastfeeding. To reduce the risk of the baby becoming infected with HIV, infected mothers who breastfeed their babies are advised to take a course of antiretroviral drugs throughout the breastfeeding period. Pregnant HIV women who take antiretroviral drugs through their pregnancy and breastfeeding can greatly reduce the chances of their baby being infected with HIV. When antiretroviral drugs are not available or are not taken, replacement (formula) feeding is advised if the formula is nutritionally adequate, affordable and safe (made with clean water and utensils). When formula feeding is not possible, exclusive breastfeeding for the first six months is still recommended. Mothers should be tested for HIV before or during pregnancy and all HIV-pregnant women and mothers should consult a health care worker or doctor to discuss the risks and benefits of the different ways to feed their babies.

Nutritional needs of children 6–24 months (2 years)

Breastmilk is the basic food of the young baby, but as the baby grows older, milk alone is not enough to meet increased nutritional needs. Because young children continue to grow very fast and may still have immature digestive and immune systems, continued breastfeeding is recommended until they are 18 months to two years of age, in addition to other foods. By six months, babies need to start to eat other foods, called “complementary foods” because they complement the breastmilk, to meet their needs for energy, protein, vitamins and minerals. Babies and young children 6–24 months old have very high energy and nutrient needs for their body size and are often at risk of being malnourished. Adequate care and feeding is essential for their normal growth, development, health and activity.

Frequent feeding (4–5 times a day) with appropriate foods, in addition to breastmilk, ensures that young children get sufficient energy and nutrients to grow normally and stay healthy. In the first 12 months of life a baby will triple its weight and increase its length by 50 per cent. Additional calories, protein and iron are especially important to meet the demands of the baby's rapid growth, in addition to other vitamins and minerals. Foods for children this age require special preparation to make sure that the foods are clean, soft and easy to eat and digest, as well as nutritious. To meet all of the baby's nutritional needs, foods high in energy and other nutrients, such as oil, fruit, vegetables, legumes and animal products, should be included in the baby's diet. When the baby is accustomed to liquid and soft foods, and as teeth appear, semi-solid and then solid foods can gradually be added to their diet.



New foods should be introduced to the child one at a time, allowing the child to get used to the food before another new food is introduced to their diet. Good first complementary foods include soft meat, vegetables and fruits, mashed or puréed to a thin consistency to prevent the baby from choking. Foods should be prepared without added salt, as babies cannot yet process salt in their systems. Starchy foods alone are not the best first foods for babies because they do not provide enough protein, calories and other nutrients to meet the needs of the rapidly growing baby. Babies who are fed too much starchy food that replaces more nourishing foods or breastmilk can become malnourished, ill, and stop growing properly. Starchy staple foods that are part of the local diet can be enriched to make good complementary foods by adding groundnuts, beans, shredded or pounded green leafy vegetables and other vegetables, fatty foods (groundnuts, meat or fatty fish) and a small amount of oil.



MATERIALS



Fact sheet *Breastfeeding babies (0–6 months)*



Work sheet *Personal childhood timeline*



Into the field work sheet *Community interview*



ACTIVITIES

Breastfed is best fed

Invite a specialist (a doctor, a nurse, a nutrition expert) to talk about the special health and nutritional benefits of breastmilk and the dietary needs of babies and infants from birth until the age of two years.

Personal childhood timeline

Talk to your mother or an older family member and try to find out as much as possible about:

1. **Your diet** – what you were fed as a baby until the age of two (breastmilk, infant formula, complementary local foods)
2. **Your health** – any illness episodes, vaccinations, first teeth, growth, weight gain.



Draw your personal childhood timeline on the Work sheet and fill it in with the facts on your feeding and health.



Community interview



Contact three women in your family or community who have babies under one year of age and ask them for an interview about breastfeeding. You can come up with your own questions or use the ready-made questionnaire on the Into the field work sheet.

Discuss the breastfeeding realities and traditions that exist in your community. Compare them with the experts' recommendations: *Exclusive breastfeeding is recommended up to 6 months of age, with the introduction of additional, complementary foods and continued breastfeeding up to two years of age or beyond.*



KEY POINTS

Review three key points to remember about a healthy diet for babies under 2 years of age. See if your knowledge has improved and share it with people who are responsible for feeding the babies in your family.

Nutrition of babies and infants from birth to 24 months

- Breastmilk is the healthiest food for babies. It provides protection against diseases and contains the nutrients the baby needs for healthy growth and development.
- Babies should be fed only breastmilk for the first six months, and should continue breastfeeding until 18–24 months. At the age of six months, babies need to start eating other “complementary” foods in addition to breastmilk.
- Complementary foods for children this age require special preparation to make sure that the foods are clean, soft and easy to eat and digest, and should be introduced gradually. Good first foods are mashed, pounded or shredded soft meats, vegetables, legumes and fruits together with a small amount of oil.



Part 3

Nutritional needs of children 2–10 years



READING

Children have a high need for energy and nutrients but they have small stomachs and cannot eat large portions of food at one time. For this reason, they need to eat foods rich in protein and other nutrients often: at least 3 times a day, with 2-3 snacks during the day. Although the child is still growing rapidly, the rate of growth is slower than in the first 12 months of life. At the end of the third year of age, girls and boys will have achieved about 50 per cent of their adult height. Both girls and boys grow at approximately the same rate until they reach puberty and they need the same amount of food and have the same nutrient needs. Very active children of either sex may need slightly more food to meet their energy needs than less active children.

TO THINK ABOUT WHILE READING



What are the special nutritional needs of children 2 to 10 years old?

How often do children this age need to eat?

School aged children who are hungry or have poor diets are likely to grow slowly, have little energy to study, play or do physical work; they do not concentrate or perform as well in school as they could. Because hungry children cannot learn well, they should all have three good meals each day and nutritious snacks, at school and at home, in between meals. It is important for children to have a nutritious meal before going to school, especially if they have to walk long distances to get there. A meal and nutrient-rich snacks while at school help keep up their energy. If schools do not provide meals or snacks, children should take food from home to eat at school. Whether these meals and snacks are provided by the family or by the school, it is important to include a variety of the different foods necessary for children's nutritional needs. Early food experiences may have important effects on food likes and dislikes and eating patterns in later life.



MATERIALS



Fact sheet *Nutrition of children 6 months – 2 years*



Work sheet *Start the day right*



Work sheet *Colourful lunch bags*



ACTIVITIES

Start the day right

Discuss why it is important for children to have a nutritious meal before going to school.

How can families make sure children eat a good breakfast in the morning?

What breakfast foods are served to children in your community?

Are they nutritious, quick and easy to eat in the morning?

Prepare a sheet of paper with the word 'BREAKFAST' written in a vertical column or print out the work sheet *Start the day right*. List the foods that are good breakfast foods for children in your area and write them down next to the corresponding letter.



Colourful lunch bags

Print out or draw a chart with five columns and the headings as shown on the Work sheet *Colourful lunch bags*. Fill in each column with nutritious and healthy foods and snacks that can be taken to school and eaten during the break. If you have younger brothers, sisters or friends, choose the foods to write in the chart together with them. Tell them that each day they should try to pack for school one item from at least three different colour groups. Remind them that they helped make the selection and will be eating foods they chose themselves!



KEY POINTS

Review these four key points to remember about a healthy diet for children under ten. See if your knowledge has improved and share it with people who are responsible for preparing foods, meals and snacks for children in your family

Nutritional needs of children 2–10 years old

- Children have high energy needs but small stomachs and need to eat at least three good meals a day with healthy snacks in between.
- Girls and boys this age need the same amount of food and have the same nutrient needs.
- Schoolchildren who are hungry cannot concentrate and learn well. Their day should start with a nutritious meal before going to school.
- It is very important to include a variety of different foods in children's meals in order to meet all of their nutritional needs.



Part 4

Nutritional needs of adolescents (11–17 years old)



READING

The period of adolescence is a time of very rapid growth and high demands for nutrients and energy. The rapid growth period starts at the age of 10 or 11 for girls and at the age of 12 or 13 for boys and continues for about 2.5 years. Adolescents need high intakes of calories, vitamins and minerals, especially iron, calcium, vitamins A, C and D. During this time, boys and girls begin to reach puberty (gaining sex characteristics to mature into men and women) and nutritional needs start to differ, although good nutrition is essential for both sexes to grow into healthy adults.

It is important for adolescents to select their foods carefully to ensure that their nutrient and calorie needs are met. Sometimes the workload of adolescent girls and boys increases, as they begin to have greater responsibilities for carrying out household tasks and additional jobs to help the family. When this is the case, their needs for energy (calories) for the additional work they are doing, along with their needs for growth, will have to be met. Some adolescents, however, become less physically active and have to meet their nutrient needs without eating more calories than they need to maintain a healthy body weight.

Adolescence is a time to reinforce good food habits and establish regular meal patterns. Dietary habits and food preferences are developed in childhood and particularly in adolescence. As they become more independent, many adolescents begin to have more meals away from the family, often resulting in poor food choices, skipped meals, increased snacking instead of regular, balanced meals and lower vitamin and mineral intake at a time when good nutrition is especially important. Adolescents also tend to follow food fads and slimming diets which do not meet all of their nutritional needs. It is important at this age to eat a variety of foods, including carbohydrates, plentiful fruits and vegetables, daily protein and dairy foods or other foods containing calcium and to avoid excess fat and sugar.

TO THINK ABOUT WHILE READING



What
nutritional needs
do adolescents
have?

Why do
adolescent girls
have special
food and nutrition
needs?

What is
a good diet for
adolescent boys?



See Lesson 9 *Achieving good body size and weight* and
Lesson 10 *Keeping fit and active*.



Adolescent girls

Special attention should be given to adolescent girls, who need to be well-nourished for their own immediate development and for the future nutritional demands of childbearing. Adolescence is a critical time for young women, building the foundation for successful reproduction and a healthy adulthood and later life. Young women must enter adulthood with good nutritional stores to remain strong and healthy throughout their child-bearing years and into old age. Good nutrition is especially important for adolescent girls to meet future needs of pregnancy and breastfeeding.

Adolescence is also the time that the skeletal system builds its strong foundation of calcium stores. If the calcium stores in the bones are not sufficient entering into the reproductive years, bones can become weak with successive pregnancies, leading to broken bones and disability in later years (a condition called osteoporosis). Increasing calcium consumption by eating a diet rich in dairy foods and leafy green vegetables will help meet the increased needs of adolescents for calcium.

Because of the demands of growth, as well as blood loss with menstruation, the requirement for iron among adolescent girls is very high. It is important for girls to increase their consumption of iron-rich foods, such as red meats, fish, poultry and legumes, to help prevent anaemia resulting from iron deficiency. Adolescent girls who are anaemic and may not be eating a sufficient quantity of iron-rich foods to meet their needs may be advised, under the guidance of a doctor or other health professional, to take iron supplements.

Early pregnancies can be harmful to the health of girls who, themselves, are still growing. Young girls' bodies are still developing and usually are not ready to support the extra burden of pregnancy and childbirth. Special care must be taken during adolescent pregnancy to insure that the young mother receives sufficient food for her own increased needs, as well as for the needs of the unborn baby.

Adolescent boys

Adolescent boys have different needs from adolescent girls because their bodies are maturing differently and at a different rate. A growth spurt happens for both sexes during adolescence, but typically boys' rates of growth are more rapid. Much of the adult height and muscle mass is gained during adolescence. Increased growth and activity increases the need for certain nutrients and energy. Boys may need even more calories during this period to support this growth, especially if their physical activity level increases. Protein foods, such as meat, fish, poultry, eggs, dairy products, nuts or seeds and legumes



are all foods that supply high protein needed for additional growth in height and muscle mass during adolescence. While boys do not have the very high need for iron that adolescent girls have, the tissue growth and increased blood volume for boys does increase their need for iron which can be met by increased meat and other iron-rich foods. Calcium needs are also increased because of the rapid bone growth during adolescence and additional dairy products and green leafy vegetables can help meet these needs.



See the Fact sheets in Lessons 4 and Lesson 5 for more information on the macro and micronutrients, their functions and good food sources.



MATERIALS



Fact sheet *Nutrition for school-age children*



Work sheet *My food diary*



Ask yourself work sheet *How good is your diet?*



Work sheet *My meal analysis*



Work sheet *Help Andrew pack his lunch*



ACTIVITIES

My food diary



Keep track of what you eat and drink for three days by filling in the work sheet *My food diary*. When you have completed it, use the questions to analyse your diet and eating habits.

My meal analysis



Choose one typical midday or evening meal and analyse it in more detail. Make a list of all the ingredients that make up each dish of this meal (for example, potatoes, beans, beef, spinach, herbs, spices, fats, oils), write each of them on cards and stick the cards on the Work sheet in the place where you think it belongs.

Discuss:

- Is the meal healthy and varied?
- Which different nutrients did you get from this meal?
- Does it provide a variety of fruit and vegetables?
- Are there too many foods rich in carbohydrates? protein? fats?
- Are there too few foods rich in carbohydrates? protein? fats?



Plan a cooking contest with your friends

Ask each of your friends to cook a healthy dish at home and to bring it to your *Healthy eating* contest. The participants should present the ingredients and the nutritional value of their dishes and set them out to be judged on taste, appearance and dietary value. Award the winner with a prize (a recipe book) and have a party.

Help Andrew pack his lunch

Teenagers are often very busy with school, sports and active social lives and are not always able to sit down for three meals a day. This student's school does not provide food for lunch, so he usually gets something high in energy and quick to eat. Go to the [Work sheet](#) and help Andrew start bringing a healthy lunch from home by planning his packed lunches for a week.



KEY POINTS

Review these four key points to remember about a healthy diet for adolescents. See if your knowledge has improved and share it with adolescent friends and family members.

Nutritional needs of adolescent boys and girls (11–17 years old)

- Adolescence is a time of very rapid growth and high demands for nutrients and energy as the body matures into adulthood.
- It is a time to reinforce good food choices and eating habits and establish regular meal patterns. It is important to choose foods rich in all the nutrients, and especially iron, calcium, vitamins A, C and D.
- Adolescent girls need to eat well for their own immediate development and for future motherhood. They especially need to eat foods rich in iron to meet their very high iron needs due to rapid growth and blood loss.
- Adolescent boys mature differently from girls and may need more calories and protein foods, such as meat, fish, poultry, eggs, dairy products, nuts and legumes.



Part 5

Nutritional needs during illness



READING

Eating well is especially important during illness to help the body recover and regain health. When people are ill, their need for certain nutrients is even greater to help them keep alive, fight infections and replace the nutrients lost through illness. Sick people often have little or no desire to eat, but eating is especially important, because of increased needs to fight infection and to replace nutrients that may be lost. During episodes of diarrhoea and vomiting, up to half the food taken in and much water can be lost. If sick people do not eat to meet their energy and nutrient needs, their body may start to use up their own body fat, muscles and other tissues; they will lose weight and become undernourished. People who are ill or recovering from illness need a diet that is appealing, particularly rich in micronutrients and protein and small, frequent meals.

Children and adults who are ill need to be encouraged to eat and drink, even if they have little desire to eat. They should be offered small amounts of a variety of foods frequently. Liquids, such as clean water (boiled, if necessary), fruit juices, coconut water, soups, broths and watery porridges are especially important to replace fluids lost in fever, diarrhoea and vomiting. Breastfed children who have diarrhoea need to be breastfed frequently. When recovering from being sick, people need to eat more to regain lost weight and they need to eat more nutrient-rich foods to replace lost vitamins and minerals.

It is especially important for people with HIV/AIDS to have well balanced diets. While good nutrition cannot cure AIDS or prevent HIV infection, it can help to maintain and improve the nutritional status of people with HIV/AIDS. Improved nutritional status will help them to remain more active, healthy and productive and improve their quality of life. In people infected with the HIV virus, the body's immune system has to work harder to fight infection and this increases the need for energy and nutrients. Other infections and fever also increase the body's demand for food and reduces the body's ability to absorb the nutrients in food. The amount of food that people with HIV eat is often affected by reduced appetite, sore mouth, nausea, vomiting, tiredness, depression and lack of money. However, it is particularly important for people with HIV to have a healthy and balanced diet in order to meet their increased protein and energy requirements and maintain their nutritional status. People who are infected with HIV have to eat more to meet these extra energy and nutrient needs, which will increase even more as the HIV/AIDS symptoms develop. Children with HIV/AIDS may need 50-100 percent more energy than non-infected children.

TO THINK ABOUT WHILE READING



Why is it important to eat well during illness?

What kinds of foods are especially good during illness?

How can people be helped to eat well during illness?



MATERIALS



Fact sheet *Good nutrition and HIV/AIDS*



Match it work sheet *Feeding sick people*



ACTIVITIES

Special needs during illness

Discuss the special nutritional needs during illness. Remember the last time that you were at home sick in bed.

- Did you feel like eating?
- Did someone encourage and help you to eat and drink?
- Were the foods you ate different from your usual diet?
- If yes, how were they different?
- What foods are especially good to eat during illness?
- What foods are more appealing to eat during illness?

Go to the hospital

Invite a dietician from a local hospital or clinic to talk about the special nutritional needs and diets of people who are sick or recovering or go to the hospital yourself to talk to the dietician.

Feeding sick people



Take a quick matching exercise to test your understanding of the special nutritional needs during illness.



KEY POINTS

Review these three key points to remember about how to eat well during illness. See if your knowledge has improved and try to apply it to yourself when you are sick and to other family members.

Eating well during illness

- People who are ill should eat well to help the body recover, fight infections, replace lost nutrients and regain lost weight.
- People who are ill or recovering from illness need a diet that is appealing, particularly rich in micronutrients and protein and small, frequent meals. Liquids are especially important to replace fluids lost in fever, diarrhoea and vomiting.
- Good nutrition can improve health and the quality of life of people with HIV/AIDS, helping them remain more active, healthy and productive.



Part 6

Nutritional needs of older people



READING

Good nutrition during older age can increase a person's ability to continue to be an active, healthy member of the community.

While older people tend to eat less, and may need to eat less (fewer calories) if their activity levels decrease, their vitamin and mineral needs may stay the same or even increase if the body absorbs them less efficiently. The need for vitamin D and calcium may actually increase during older age to help reduce the loss of calcium from the bones. Other nutrients, including especially protein, need to be provided in adequate amounts to promote growth and repair of tissue and protect against infection. For older people, eating foods high in fibre can help the digestive system, and maintaining adequate intake of liquids is important, as the skin loses its ability to keep in moisture and protect against dehydration. Foods should include a wide variety of grains, fruits, vegetables, legumes and milk products.

Food intake may be affected by some of the body changes that can accompany aging. Illness, loss of taste, smell and thirst sensation can reduce appetite; poor vision may make foods look different; swallowing may be difficult because of a decrease in saliva or because of decreased muscle tone; loss of teeth can make chewing difficult; stomach and intestinal disorders can lead to digestive problems. Eating may also decrease because of difficulty in purchasing, growing and preparing food, dependence on other people, giving food to other family members, and sometimes loneliness and depression. All of these factors, and any other health problems they may have, may affect the nutritional well-being of older people. Special efforts may need to be made to prepare foods that provide adequate energy, vitamins and minerals and are appealing, easy to eat and digest.

TO THINK ABOUT WHILE READING



What are the food and nutritional needs in older age?

What are good dietary habits in older age?

As in all of the life stages, in older age, dietary habits should match activity levels. Older people with limited food intake need to consume nutrient-dense, high energy foods. Older people who are unable to be active, or who decrease their activity, are at risk of becoming overweight if their food intake



remains unchanged. Less active older adults need to meet their nutrient needs, while eating fewer high energy-containing foods. Those who continue to be very active need to eat adequately to maintain their ideal body weight.



MATERIALS



Ask yourself work sheet *Keeping healthy in older age*



Answer work sheet *Keeping healthy in older age*



ACTIVITIES

Helping older people eat well



Read about Grandma Susan, Grandma Ana and Grandpa Jacob on the Ask yourself work sheet *Keeping healthy in older age*. Provide some good general nutrition advice and recommendations for them. If you are working as a class, you can split into three groups. Use the Answer work sheet to check your advice.



Helping an elderly friend

Group activity

Your elderly friend seems depressed, doesn't go out, and seems to be losing weight. What questions would you ask her to understand her health and nutritional status and determine if she needs additional help and support? Divide into pairs and role-play the situation. You can come up with your own questions or use the following questions:

- Are you eating enough?
- How many meals a day do you eat?
- How much milk, eggs or meat (protein foods) do you eat a day?
- How many fruits and vegetables do you eat a day?
- Why aren't you eating more?
- Are you having difficulty chewing foods?
- How are you getting your food shopping done?
- Can you participate in any food delivery programmes?
- Is there anybody who can help you cook and do some housework?



KEY POINTS

Review these three key points to remember about a healthy diet for the elderly. See if your knowledge has improved and try to apply it to elderly people you know.

Nutrition during older age

- Good nutrition during older age can increase a person's ability to continue to be an active, healthy member of the family and community.
- The vitamin and mineral needs during older age may stay the same or even increase, especially for vitamin D and calcium. A good diet for older people should provide all the necessary nutrients and be appealing, easy to eat and digest.
- The food intake of older people should match their activity levels. Less active older people should eat less high-energy food to avoid becoming overweight and those who are more active need to eat well to maintain a healthy body weight.

