MINISTRY OF EDUCATION AND SPORTS

MARIAM & MOSES
CHAMPIONS OF NUTRITION

Teachers’ GUIDE
ON THE NUTRITION COMIC BOOK
Maria and Moses are ten year old twins who are champions of nutrition.

They are both in primary five at Kapeyo Primary School.

They enjoy going to school, never miss any lessons and always share what they learn at school with their parents, friends and other people.
# TABLE OF CONTENTS

## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
</tr>
<tr>
<td>II</td>
</tr>
<tr>
<td>III</td>
</tr>
<tr>
<td>V</td>
</tr>
<tr>
<td>VI</td>
</tr>
</tbody>
</table>

## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
</tr>
</tbody>
</table>

## FOREWORD

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>III</td>
</tr>
</tbody>
</table>

## ACKNOWLEDGEMENTS

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
</tr>
</tbody>
</table>

## NUTRITION - AN OVERVIEW

<table>
<thead>
<tr>
<th>Theme</th>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1: Introduction to food and nutrition</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2: Basics of nutrients and their functions in the body.</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>3: Grouping of foods into energy giving, body building and protective foods</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>4: Value of water and roughage in the body</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>5: Balanced diet</td>
<td>9</td>
</tr>
</tbody>
</table>

## THEME 1: ESSENTIALS OF FOOD & NUTRITION

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nutrition needs during pre-conception and pregnancy</td>
</tr>
<tr>
<td>2</td>
<td>Nutrition needs for children 0-23 months</td>
</tr>
<tr>
<td>3</td>
<td>Nutrition for children 3 to 12 years</td>
</tr>
<tr>
<td>4</td>
<td>Nutrition needs for adolescents</td>
</tr>
</tbody>
</table>

## THEME 2: NUTRITION NEEDS IN HUMAN GROWTH AND DEVELOPMENT

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Basics of the interrelationship between diseases and nutrition</td>
</tr>
<tr>
<td>2</td>
<td>Basics of good and poor nutrition</td>
</tr>
<tr>
<td>3</td>
<td>The concept of malnutrition</td>
</tr>
<tr>
<td>4</td>
<td>Types of malnutrition</td>
</tr>
<tr>
<td>5</td>
<td>Causes of malnutrition</td>
</tr>
<tr>
<td>6</td>
<td>Socio-economic consequences of malnutrition</td>
</tr>
<tr>
<td>7</td>
<td>Prevention of malnutrition</td>
</tr>
</tbody>
</table>

## THEME 3: MALNUTRITION

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Food beliefs and taboos</td>
</tr>
<tr>
<td>2</td>
<td>Junk foods</td>
</tr>
<tr>
<td>3</td>
<td>Sedentary life style</td>
</tr>
<tr>
<td>4</td>
<td>Other social norms that affect nutritional status</td>
</tr>
</tbody>
</table>

## REFERENCES

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>74</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>School children having a lunch meal</td>
<td>viii</td>
</tr>
<tr>
<td>2</td>
<td>Food sources for carbohydrates, proteins, vitamins, minerals and oil</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Body building, energy giving and protective foods</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>A diet full of fruits and vegetables is good for adolescents</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>A meal containing go, grow and glow foods</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>A pregnant mother</td>
<td>11</td>
</tr>
<tr>
<td>7</td>
<td>A breastfeeding mother</td>
<td>13</td>
</tr>
<tr>
<td>8</td>
<td>Giving a child complementary feeds</td>
<td>13</td>
</tr>
<tr>
<td>9</td>
<td>Porridge is a good common source of energy</td>
<td>16</td>
</tr>
<tr>
<td>10</td>
<td>A diet full of fruits and vegetables is good for adolescents</td>
<td>19</td>
</tr>
<tr>
<td>11</td>
<td>A malnourished child</td>
<td>21</td>
</tr>
<tr>
<td>12</td>
<td>Bread with moulds</td>
<td>33</td>
</tr>
<tr>
<td>13</td>
<td>Granaries are traditional storage facilities in homes that keep cereals and grains safe</td>
<td>37</td>
</tr>
<tr>
<td>14</td>
<td>Sun drying is a popular form of preserving fish</td>
<td>37</td>
</tr>
<tr>
<td>15</td>
<td>Different methods of preserving food</td>
<td>38</td>
</tr>
<tr>
<td>16</td>
<td>School children are advised to keep all utensils clean and stored in clean places</td>
<td>38</td>
</tr>
<tr>
<td>17</td>
<td>School children are encouraged to keep their water safe from contamination</td>
<td>40</td>
</tr>
<tr>
<td>18</td>
<td>School children are encouraged to wash hands with soap to protect them from diseases such as Diarrhea, Typhoid, Cholera and Dysentery</td>
<td>45</td>
</tr>
<tr>
<td>19</td>
<td>School children are encouraged to washing their hands with soap and running water</td>
<td>46</td>
</tr>
<tr>
<td>20</td>
<td>School children are encouraged to construct and use tippy taps for washing hands</td>
<td>47</td>
</tr>
<tr>
<td>21</td>
<td>Learners clearing a bush around school</td>
<td>48</td>
</tr>
<tr>
<td>22</td>
<td>A learner sweeping a compound</td>
<td>48</td>
</tr>
<tr>
<td>23</td>
<td>Pupils avoid littering the compound</td>
<td>50</td>
</tr>
<tr>
<td>24</td>
<td>Physical exercise makes children more confident</td>
<td>53</td>
</tr>
<tr>
<td>25</td>
<td>Learners participating in athletics</td>
<td>55</td>
</tr>
<tr>
<td>26</td>
<td>Word search puzzles</td>
<td>56</td>
</tr>
<tr>
<td>27</td>
<td>Crossword puzzles</td>
<td>57</td>
</tr>
<tr>
<td>28</td>
<td>Colouring maize</td>
<td>58</td>
</tr>
<tr>
<td>29</td>
<td>Colouring pumpkin</td>
<td>59</td>
</tr>
<tr>
<td>30</td>
<td>School children at Lukodi Primary School, Gulu attending to a school garden of orange fleshed sweetpotatoes</td>
<td>60</td>
</tr>
<tr>
<td>31</td>
<td>A community member serving porridge to learners</td>
<td>62</td>
</tr>
<tr>
<td>32</td>
<td>Some tribes in Africa don’t eat insects such as grasshoppers</td>
<td>66</td>
</tr>
<tr>
<td>33</td>
<td>Quail eggs are claimed to heal certain diseases</td>
<td>66</td>
</tr>
<tr>
<td>34</td>
<td>In some areas, men do not eat vegetables claiming that they are food for women and children</td>
<td>67</td>
</tr>
<tr>
<td>35</td>
<td>Soft drinks</td>
<td>69</td>
</tr>
<tr>
<td>36</td>
<td>Rolex</td>
<td>70</td>
</tr>
<tr>
<td>37</td>
<td>Chips and chicken</td>
<td>70</td>
</tr>
</tbody>
</table>
The vision of the Ministry of Education and Sports (MoES) is the provision of “Quality Education for All”, a critical factor for socio-economic development and prosperity Uganda looks forward to. This noble aspiration can however, not effectively be attained without the concerted effort and commitment of other stakeholders in Education.

Poor nutrition status, especially among the young children and women of reproductive age, the age group into which our adolescent girls in Basic and Post Primary Education and Training schools fall, is one of the major bottlenecks to the achievement of the education sector vision and other national goals and aspirations for development. School hunger caused by parents’ failure to provide food for their children while at school, worsens this situation and compromises the benefits of the investments in education.

The proven and widely acknowledged linkage of nutrition, education outcome and socio-economic development justifies the education sector’s being a signatory and key implementer of the Uganda Nutrition Action Plan (UNAP); our national framework for concerted actions and partnerships for effective and broadened nutrition interventions for better results.

It is in this context and for this reason, that MoES coordinated a multi-stakeholder development of a comic book with support from UNICEF to provide nutrition information for primary school pupils and through them to their parents and the community as a strategy for promoting nutrition. The friendly, attractive, entertaining and educative way of providing nutrition information comically was targeted as an important strategy for enhancing easy reading by pupils aimed at developing their knowledge, attitudes, skills and practices for nutrition promotion for themselves, peers and also as channels of this to their parents and the community. Provisions for enabling teachers to read and utilise the comic book was not addressed.

The Teachers’ Guide for the Nutrition Comic Book is a big step in this endeavour. It is aimed at enabling primary school teachers to enhance pupils’ capacity to utilise the comic book. The theme and topic flow provide guidance and enrich concepts and exploration of the subject matter to reinforce understanding, knowledge transfer and application.
I am confident that the illustrative, pictorial and action oriented methodology provided in this guide will stimulate, reinforce and create learner-centred environment for practical learning of nutrition, promotion of better education outcomes and improved wellbeing of our society.

I urge the teachers to cherish the effort put into the development of this guide and accord it the priority it deserves by ensuring its effective use in linkage with the pupils’ comic book.

The other duty bearers; the head teachers, Centre Coordinating Tutors (CCTs), School inspectors and Education officers are equally called upon to play their respective roles in supporting this effort in the promotion of nutrition information uptake and behavioural change.

For God and my Country

Janet Kataaha Museveni
Minister of Education and Sports
ACKNOWLEDGEMENTS

The development of this teachers’ guide has been the contribution of various stakeholders in line with the multi-sectoral approach to nutrition programming enshrined in the Uganda Nutrition Action Plan.

The Ministry pays tribute to UNICEF Uganda for providing technical, and logistical support to the development of this teachers’ manual. Ms Nelly Birungi and Ms Paska Aluba are particularly acknowledged for coordinating the support from UNICEF.

The Ministry of Education and Sports greatly appreciates the different stakeholders that were instrumental in the development of this teachers’ guide. The Ministry is particularly indebted to: Ministry of Health (MoH), Ministry of Agriculture, Animal Industry and fisheries (MAAIF), Ministry of Gender, Labour and Social Development (MGLSD) and the Office of the Prime Minister (OPM). We also thank representatives of the Department of Human Nutrition and Home Economics of Kyambogo University as well as those from the School of Food Technology, Nutrition and Bioengineering, Makerere University for their input in the development of this teachers’ guide.

We would like to extend our appreciation to the DEOs, teachers and pupils from the districts of Soroti, Moroto, Gulu, Otuke, Iganga, Tororo, Mukono, Kabarole, Hoima Yumbe, Masaka and Kampala that participated in the rapid assessment that informed the content of the comic book and teachers’ guide.

We highly appreciate the team from the various departments and directorates of the Ministry of Education and Sports. In a special way, we thank Ms Susan Oketcho for her guidance in the development of this teachers guide. For God and my Country

Alex Kakooza

Permanent Secretary, Ministry of Education and Sports
NUTRITION - AN OVERVIEW

Among children below five years in Uganda, three out of ten are short for their age (stunted), one out of ten have a low weight for their age (underweight), five out of ten do not have enough blood (anaemic), one out of ten have vitamin A deficiency (VAD) while one in every 25 are overweight (UDHS, 2016).

A child with the conditions above, is malnourished. The consequences of poor nutrition for school going children include: delay in enrollment, absenteeism, lack of concentration and poor performance in class, increased school dropouts, bad temper, other bad behaviours and other negative consequences.

For a child to be healthy and learn well, he/she must have good nutrition. Nutrition is the science of food and how the body uses this food to perform its functions. The food can be obtained from the garden, bought or received as a donation and has to be well prepared and eaten for the body to utilise it properly.

It is therefore important for all children and older people to eat a variety of foods in the right amounts, live and practice healthy lifestyles as well as get timely treatment from a health facility when sick.
In Uganda, three out of ten children under the age of five are short for their age (stunted) and one out of ten has a low weight for his or her age (underweight). Five out of ten children do not have enough blood (anaemic), while four out of ten have vitamin A deficiency (VAD). A child with the conditions above is malnourished. Malnutrition is caused by poor feeding practices in combination with illness and diseases. The consequences of poor nutrition for school-going children are delay in enrollment, absenteeism, lack of concentration and poor performance in class, bad temper and increased school dropouts.

For a child to be healthy and learn well, he/she must have a good nutrition. Nutrition is the science of food and how the body uses this food to perform its functions. The food can be obtained from the garden or the market and has to be prepared, cooked well, and eaten for the body to utilise it.

It is therefore important for all children, and other people, to eat a variety of foods in the right amount, live and play in a clean environment and when sick, get timely treatment from a nearby health facility.

(UDHS, 2016)

Figure 1: School children having a lunch meal
THEME 1: ESSENTIALS OF FOOD & NUTRITION

SUMMARY OF THE CONTENTS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction to food and nutrition</td>
</tr>
<tr>
<td>2</td>
<td>Basics of nutrients and their functions in the body</td>
</tr>
<tr>
<td>3</td>
<td>Grouping of foods into energy giving, body building and protective foods</td>
</tr>
<tr>
<td>4</td>
<td>Value of water and roughage in the body</td>
</tr>
<tr>
<td>5</td>
<td>Balanced diet</td>
</tr>
</tbody>
</table>

TOPIC 1: Introduction to food and nutrition

Duration: 45 minutes

Topic competence

Analyse the basics and importance of feeding well

Learning outcomes

By the end of the topic, a learner should be able to:

1. Give the meaning of food
2. State the various forms of food with examples of each
3. Identify the three major roles played by the body so as to keep one alive
4. State the meaning of nutrition

Materials

- Examples of unprocessed and processed foods.
- Figure 1 of the teachers’ guide, charts and posters.

Methods/techniques

- Question and answer.
- Guided discussion.

Activity

- Discussing the meaning of food and nutrition as well as major functions/activities of the body.
Key Notes

1. Food is any liquid, semi-solid or solid substance that contains substances required by the body to live, function and/or perform its activities well.

2. Food exists in three forms:
   a. Solid foods such as matooke, posho, whole beans, yellow bananas, pineapples, chicken, meat, maize, groundnuts, sugar cane etc.
   b. Semi-solid foods include: porridge, yoghurt, purees, custards; sauces such as groundnuts, green pea or tomato sauce.
   c. Liquid foods include milk, fruit/vegetable juices, soups and other drinks such as tea, coffee, soda etc.

3. The three major roles played by the body are:
   a. Growth (becoming bigger e.g. from being a baby to a child and then to an adult; body parts like nails, hair etc).
   b. Working/doing physical activities (like walking, running, playing etc).
   c. Maintenance/keeping healthy or well (protection from diseases, blooming and being at ease or happy).

4. Nutrition is the process of supplying the body with substances needed to keep alive, be healthy and carryout all the body activities with ease and well. Nutrition therefore refers to the food we eat and how the body uses it to live, function and perform its activities or functions.

Topic flow

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
<th>Learner’s activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Use Figure 1 to facilitate a discussion on the meaning of food and giving examples of food shown in the figure and in the community.</td>
<td>Participate in defining food and mentioning examples of food.</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide a discussion on the major functions of the body and hence the definition of nutrition</td>
<td>Participate in the discussion.</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
<td>Ask and also answer questions</td>
</tr>
</tbody>
</table>
**TOPIC 2: Basics of nutrients and their functions in the body**

**Duration:** 45 minutes

**Topic competence**

Explain the basic concepts of nutrition and share it with peers, parents and community in the promotion of the best practices for improved wellbeing.

**Learning outcomes**

By the end of the topic, a learner should be able to:

1. Define nutrients
2. Give a list of the major nutrients
3. State the functions of nutrients in the body
4. Give the major sources of each of the nutrients

**Materials**

- Various food sources of carbohydrates, fats, proteins, mineral salts and vitamins
- Figure 2 of the teachers’ guide

**Methods/techniques**

- Question and answer
- Practicals

**Activities**

1. Discussing the meaning of nutrients and their functions in the body
2. Practical on relating foods to nutrients

**Key Notes**

1. Nutrients are chemical substances in food that the body needs to carry out its functions and keep healthy.
2. Different foods contain different amounts and types of nutrients. The availability of nutrients is therefore not the same in all foods. Some foods contain one while others contain more nutrients.
3. The nutrients in food determine the value of food to the body because it is the nutrients that enable the body to carry out its various activities/functions.
4. The major nutrients needed by the body are classified as carbohydrates, fats, proteins, mineral salts and vitamins.
5. The nutrients are classified according to the functions they perform in the body.
   a. Carbohydrates and fats provide energy used by the body for physical activities and/or all forms of work.
They enable the body to move, flex, dance and carry out any work.

b. Proteins are for growth and development

c. Mineral salts and vitamins are for body maintenance. They protect the body against disease by providing immunity.

6. Proteins are mainly from animal foods (beef, game, pork, mutton, poultry, organ meats, milk, eggs) and plants (usually legumes and pulses like beans, peas, ground nuts, soya bean, etc).

7. Carbohydrates are mainly from cereals (maize, sorghum, millet, rice etc) and tubers (potatoes, cassava yams, etc).

8. Mineral salts and vitamins are mainly from animal foods, fruits, vegetables and orange-fleshed sweet potatoes.

### Topic flow

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
<th>Learner’s activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory phase</td>
<td>Facilitate a recap on the meaning of food and nutrition</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td>Development phase</td>
<td>Guide a discussion on the meaning of nutrients and mentioning of the five basic examples of nutrients</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide a discussion on the three major functions of nutrients in the body and the food sources of each of the five basic nutrients with reference to Figure 2 of the teachers’ guide</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td>Conclusion and evaluation phase</td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions.</td>
<td>Ask and also answer questions</td>
</tr>
</tbody>
</table>

Figure 2: Food sources for carbohydrates, proteins, vitamins, mineral salts and oil
TOPIC 3: Grouping of foods into energy giving, body building and protective foods

Duration: 60 minutes

Topic competence

Apply the knowledge of nutrients, their functions and sources to categorise foods into energy giving, body building and protective foods

Learning outcomes

By the end of the topic, a learner should be able to:

1. Relate nutrients to their functions in the body
2. Name and classify various foods in their surroundings under; vegetables, fruits, staples, cereals, bananas, animal foods, legumes, pulses, fats and oils
3. Link nutrients to their functions as either energy giving, body building or giving protection to the body
4. Recognise:
   a. Fruits and vegetables as rich sources of vitamins and mineral salts
   b. Animal foods, pulses and legumes as rich sources of proteins
   c. Staple foods, fats, oils, sugar, honey, etc. as rich sources of carbohydrates
5. Group foods into energy giving, body building and protective foods

Materials

- Foods
- Figure 3 of the teachers’ guide
- Pupils and teachers

Methods/techniques

- Question and answer
- Guided discussion
- Practicals

Activity

- Grouping foods into into energy giving, body building and protective foods

Figure 3: Body building, energy giving and protective foods
Key Notes

1. a) Carbohydrates and fats provide energy for the body to do work/physical activities.
   b) Proteins enable the body to grow.
   c) Vitamins and mineral salts help in maintaining the body and providing immunity.

2. a) Fruits are often juicy and they include pawpaws, pineapples, mangoes, apples, etc.
   b) Vegetables are leafy as dodo, spinach or root, pod, flower, etc.
   c) Animal foods and products include meats, eggs, milk, fish, etc.
   d) Staples, cereals, bananas, sugar, honey, tubers etc.
   e) Legumes, pulses such as beans, peas and the fats and oils such as ghee, butter, simsim oil, etc.

3. a) Fruits and vegetables provide vitamins and mineral salts; they protect the body.
   b) Staples, cereals, plantains, sugar, honey, tubers etc provide mainly carbohydrates, together with fats they provide energy to the body to do work.
   c) Animal foods, legumes and pulses provide proteins required for growth.

4. Learners should practically group foods into energy giving, body building and protective foods.

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Topic Flow

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
<th>Learner’s activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on basics of good and bad nutrition</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide pupils to relate nutrients to their functions in the body</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to name and classify various foods in their surroundings under; vegetables, fruits, staples, cereals, plantains, animal foods, legumes, pulses, fats and oils.</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to link nutrients to their functions as energy giving, body building and protective foods with reference to Figure 3 of the teachers’ guide.</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to recognise that fruits and vegetables as rich sources of vitamins and mineral salts; animal foods, pulses and legumes as rich sources of proteins; staple foods, fats, oils, sugar, honey, etc. as rich sources of carbohydrates</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to group foods into energy giving, body building and protective foods.</td>
<td>Assemble foods into their respective groups</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
<td>Ask and also answer questions</td>
</tr>
</tbody>
</table>
TOPIC 4: Value of water and roughage in the body

Duration: 45 minutes

Topic competence
Recognise and appreciate the value of water and roughage to the body

Learning outcomes
By the end of the topic, a learner should be able to:

1. Outline the value/importance of water to the body
2. Give the meaning of dietary fibre
3. Identify the sources of water and fibre to the body
4. State the functions of fibre to the body

Key Notes
1. In addition to nutrients, water and roughage are also essential for the body to carry out its functions well.

2. Water constitutes a big percentage of the adult human body. The percentage of water in the body varies by age and sex. It is more in the young children compared to adults and in females compared to males.

3. Functions of water in the body include:
   a. Part and parcel of the body; water is a

Methods/techniques

- Question and answer
- Practicals

Activities

1. Discussing functions of water and roughage in the body
2. Practical on identifying roughage in the foods locally consumed.

Materials

- Container of water
- Examples of leafy vegetables
- Pulses and legumes like beans, roasted ground nuts
- Fruits such as’ mangoes, pineapples
- Tubers like potatoes
constituent of body cells and tissues that make up the body such as bones, blood and body juices such as saliva.

b. It is a carrier of most of the food materials to all parts of the body.

c. It carries wastes out of the body such as urine and sweat.

d. Water regulates body temperature through sweating, breathing etc.

e. It helps in digestion and absorption of food in the body.

4. Dietary fibres/roughages are parts of the foods we eat but remain undigested and not absorbed into the body.

5. Sources of water to the body include:
   a. Water drunk directly.
   b. Drinks of all types such as milk, tea, juices etc.
   c. Fruits such as mangoes, pawpaws, pineapples, water melon, apples, oranges, bananas etc.
   d. Vegetables most especially those eaten raw such as tomatoes, cabbages, carrots.
   e. All solid and semi-solid foods also supply some water to the body.

6. Sources of roughage/fibre in the body include:
   a. Foods rich in fibre such as whole meal cereals and legumes (maize, sorghum, millet and beans, peas etc.); vegetables and fruits.

7. Functions of fibre in the body include:
   a. Helps in satisfying hunger and so keeps one satisfied for a longer time.
   b. Improves the digestion of food in the body.
   c. Helps in bowel movement, including easy release of faeces/preventing constipation.

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Introductory phase</td>
<td>Facilitate a recap on grouping foods into energy giving, body building and protective foods.</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td>Development phase</td>
<td>Guide learners through a discussion on the functions of water to the body</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to practically identify roughage in roasted groundnuts, beans, mangoes etc. and later derive the meaning of dietary fibre</td>
<td>Engage in a practical session and a discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners through a discussion of identifying the sources of water and fibre to the body</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to mention the functions of dietary fibre to the body</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td>Conclusion and evaluation phase</td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
<td>Ask and also answer questions</td>
</tr>
</tbody>
</table>
TOPIC 5: Balanced diet

Duration: 60 minutes

Topic competence

Use the knowledge of grouping into energy giving, body building and protective foods to make a balanced meal and explain the need for a balanced diet.

Learning outcomes

By the end of the topic, a learner should be able to

1. Define the terms meal, diet, feeding pattern and serving
2. Describe the meaning of a balanced diet
3. Distinguish between food variety and dietary diversity
4. Explain the importance of eating a balanced diet.
5. Select and assemble foods that constitute a balanced diet

Materials

- Championing Nutrition, Maria & Moses, Comic book (Figure 51 to Figure 53) and/or animated cartoons.
- Various food items (potatoes, meat, maize flour, beans, eggs, milk etc.)
- Figures 3, 4 and 5 of the teachers’ guide

Methods/techniques

- Question and answer

Activity

Selecting a variety of foods from the three food groupings to make a balanced meal.

Key Notes

1. a) A meal is a combination of foods prepared, served and eaten at a point in time or a single sitting.
   b. Diet is the pattern of food type (s) fed on or supplied to the body routinely.
   c. Feeding pattern involves the foods eaten and how they are prepared, served and eaten.
   d. A serving is the specific amount of each of the foods that make a meal.

2. A balanced diet is a daily eating plan that provides a correct serving from each of the food groups that meets the nutritional requirements of the body. A balanced diet is achieved when one eats a variety of food types from each of the energy giving, body building and protective foods in their correct number of servings for each of the main meals daily.

3. Food variety refers to the number of different foods consumed from a food group in at least one day while dietary diversity is the number of food groups consumed in at least a day.

4. Diversifying foods is essential because different foods contain different nutrients in different proportions. So, eating different foods increases the supply of different nutrients required by the body.
Eating a balanced diet enables the body to function and carry out its activities well. A balanced diet helps us live long and maintain healthy life.

<table>
<thead>
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<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on the value of water and roughage in the body</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide learners to read Figures 1-19 of the comic book and/or watch animated cartons</td>
<td>Participate in reading and/or watching cartoons</td>
</tr>
<tr>
<td></td>
<td>Guide learners to give the meaning of a meal, diet, feeding pattern, serving and then a balanced diet</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to explain the importance of a balanced diet</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to select and assemble foods to constitute a balanced diet with reference to Figure 3, 4 and 5 of the teachers’ guide</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
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</tbody>
</table>
TOPIC 1: Nutrition needs during pre-conception and pregnancy

Duration: 45 minutes

Topic competence
Appreciate the role of good nutrition during preconception and pregnancy.

Learning outcomes
By the end of the topic, a learner should be able to:

1. State the nutritional requirements of a woman during preconception
2. State the nutritional requirements of a woman during pregnancy

Materials
- Championing Nutrition, Maria & Moses, Comic book (Figure 20 and Figure 29) and/or animated cartoons.

Methods/techniques
- Question and answer

Activities
- Discussing the nutritional requirements of a woman during preconception and pregnancy

Key notes
Preconceptionally, women should:
- Eat plenty of iron-rich foods such as yellow beans, meat, liver, dark green leafy vegetables to replace the blood they lose through menstruation.
- Limit intake of processed and sugary soft drinks that are high in sugar (e.g. fruit juices, juice concentrates, syrups and flavoured milk).

Figure 6: A pregnant mother
Drink a lot of fluids to keep hydrated, regulate body temperature, transport nutrients in blood and eradicate wastes.

Eat three meals a day and two snacks to provide adequate nutrients to the body.

Increase intake of fruits and vegetables to boost their body defence and also prevent constipation.

Avoid drinking alcohol and smoking as these affect the quality of their reproductive cells.

Eat moderate amounts of fats and oils (can eat vegetable oil) to prevent excessive weight gain.

Engage in 60 minutes of physical activity per day.

Pregnant women

They should:

Drink a lot of fluids to keep hydrated, regulate body temperature, transport nutrients in blood and eradicate wastes.

Eat adequate nutritious foods from all the food groups a day to keep healthy and for good growth of the baby.

Avoid drinking alcohol and smoking as these affect her health and that of the unborn baby.

Eat three meals a day and an extra snack to provide adequate nutrients to her and the unborn baby.

Increase intake of fruits and vegetables to boost their body defence and also prevent constipation.

Take iron and folic acid supplements daily as told by the health worker to keep healthy and for good growth of the baby.

Engage in 30 minutes of moderate physical activity per day.

Topic flow

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on a balanced diet</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide learners to discuss the nutritional requirements of a woman during pre-conception</td>
<td>Participate in reading and/or watching cartoons</td>
</tr>
<tr>
<td></td>
<td>Guide learners to discuss the nutritional requirements of a woman during pregnancy.</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
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</tbody>
</table>
**TOPIC 2: Nutrition needs for children 0-23 months**

Duration: 90 minutes

**Topic competence**

Appreciate the role of food in the growth and development of a child aged 0-23 months.

**Learning outcomes**

By the end of the topic, a learner should be able to:

1. State the two basic categories of children in this age group
2. Give reasons why exclusive breast-feeding is the only important food for children below 6 months.
3. List other advantages of breastfeeding a child
4. Give the meaning of weaning
5. Mention why it is necessary to give a child other foods starting at six months with continued breastfeeding at least until two years
6. List the factors to observe when weaning babies
7. List examples of suitable weaning meals
8. List other basic health care requirements for children in this age group
Materials:
- Championing Nutrition, Maria & Moses, Comic book (Figure 20 to figure 29) and/or animated cartoons.
- Figures 7 and 8 of the teachers’ guide.

Methods/techniques
- Question and answer
- Demonstration
- Guided discovery

Activity
Putting water into the bottles/ glasses.

Key Notes
1. 0-6 months and 6-24 months.
2. Breast milk provides all the food values and water a baby needs during the first 6 months of life with nutrients in their correct amounts and proportions.
3. a) Breast milk is free of germs.
   b) Breast milk offers protection to the child against illnesses.
   c) Breast milk is readily available and does not involve buying and hence is not costly to provide.
   d) Breast milk is easily digested.
   e) Breastfeeding strengthens the bond between the mother and the child.
4. Weaning is the process of customising babies to other foods and enabling the development of appetite and acceptance of these foods as they grow.
5. At six months and beyond, breast milk is not enough to meet the babies’ increased nutritional needs for proper growth and development. However, a mother is expected to continue breastfeeding alongside giving other foods because breast milk is rich in nutrients and other advantages of breastfeeding listed in (2) above.
6. Factors to observe when weaning babies include:
   a. Doing it gradually while increasing as they grow.
   b. Doing it many times a day/frequently (3 meals and 2 snacks a day).
   c. The amount should meet the need; starting with 2-3 table spoons per feed with gradual increment.
   d. The consistency/thickness should gradually increase from watery to semi-solid and light food.
   e. Offering a variety of foods following the 3G food classification for the selection of foods to prepare baby’s diet.
   f. Ensuring good hygiene through proper washing of hands before handling food, safe foods, clean water and utensils.
### Topic flow

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on the relationship between health and nutrition.</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide learners to read Figures 20-29 of the comic book and/or watch animated cartons.</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Using Figures 7 and 8, facilitate learners to explain why exclusive breast-feeding is the only important food for children below six months and give the advantages of breastfeeding.</td>
<td>Participate in the discussion.</td>
</tr>
<tr>
<td></td>
<td>Using Figures 7 and 8, guide learners to give the meaning of weaning and explain why it is necessary to give a child other foods starting at six months with continued breastfeeding atleast upto two years.</td>
<td>Participate in the discussion.</td>
</tr>
<tr>
<td></td>
<td>Guide learners to mention examples of suitable weaning meals.</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to list other basic health care requirements for this age group.</td>
<td>Take part in the discussion</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions.</td>
<td>Ask and also answer questions</td>
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</table>

#### 7. Examples of suitable weaning meals include:

- a. Cereal porridge mixed with milk or legume powders.
- b. Fruit and vegetable purees e.g. mashed carrots with green peas.
- c. Strained vegetables or meat with mashed potatoes.
- d. Milk/egg dishes.
- e. Finger foods as they learn to chew like fish finger, carrot cubes etc.

#### 8. Other basic health care requirements for children in this age group include:

- b. Giving a child the required immunisation.
- c. Giving a child the appropriate micronutrient supplementation.
- d. Hygienic care etc.
TOPIC 3: Nutrition for children
3 to 12 years

Duration: 60 minutes

Topic competence

Explain nutrition needs and adapt to nutrition practices required for children aged 3-12 years in the respective years

Learning outcomes

By the end of the topic, a learner should be able to

1. State the two basic categories of children in this age group
2. Describe the nutritional requirements for each of the two categories
3. List examples of diets suitable for each
4. State nutrition factors to be observed while choosing foods in this age group
5. Outline other basic healthcare requirements for this age group
6. Identify the problems associated with hunger in this age group

Materials:

- Plain charts or other similar materials
- Markers
- Cello tape

Methods/techniques

- Question and answer
- Demonstration
- Guided discovery

Activity

Discussing nutrition needs of children (3 to 12 years)
Key notes

1. Childhood includes the toddlers or pre-school (3-5 years) and the school age children (6-12 years). Part of these children comprise early childhood (0-8 years).

2. The different stages of life have different nutritional requirements because rates of mental and physical growth are different in the two groups and are affected by what one eats.

3. a) Toddlers are able to eat any food provided it is tasty and of the right consistency and texture; but need to eat often/many times because they have small stomachs.
   - Toddlers also grow fast, they need nutrients for growth, energy and maintenance of health. So, their diet needs to be high in nutrient dense foods such as yoghurt.
   - Food habits are shaped at this stage, requiring that all foods should be eaten from the variety of all the 3G food groups with restriction/controlled use of salt, spices and sweets.
   - Toddlers require 3 meals with at least 2 snacks a day.

b) School age children
   - School age children are very active, grow very fast and spend a lot of energy.
   - School age children require plenty of body building, protective and energy giving foods but with controlled intake of bulky foods (yams, cassava, white bread).
   - This age group requires more quantities of food than the toddlers.
   - All foods are satisfactory for this age group but meals should include a variety from each of the body building, energy giving and protective foods (see Comic book figures 49-58).
   - Like toddlers, school age children require 3 meals with 1-2 snacks a day.
   - They should avoid eating too much of fatty food/sugary food/fizzy drinks to avoid becoming overweight/obese.

4. Factors to be observed include:
   a) Achieving a balanced diet.
   b) Eating of “wholesome” foods.
   c) Observing personal, food and environmental hygiene in food preparation, service and eating.

5. Other basic health needs include:
   a) Regular deworming.
   b) Iron supplementation for girls in their menstruation period.
   c) Regular exercises; games and sprints.
   d) Other micronutrient supplementation especially of vitamin A for the toddlers.

6. Problems associated with hunger in the 3-12 year old children:
a) Slowed growth.

b) Having little energy to play, study or do physical work.

c) Can develop malnutrition especially anaemia, vitamin A deficiency and iodine deficiency.

d) Have short attention span and do not do well in school leading to repetition and finally dropping out.

e) Can develop bad habits like stealing, engaging in sexual relationships for food or money etc.

**TOPIC 4: Nutrition needs for adolescents**

**Duration: 60 minutes**

**Topic competence**
Appreciate, practice and advocate for good adolescent food habits.

**Learning outcomes**
By the end of the topic, a learner should be able to:

1. State who adolescents are
2. State the food requirements of adolescents and the reasons why
3. Make informed choices of food they eat
4. Explain the importance of physical fitness in adolescents
5. State nutrition factors to be observed while choosing foods in this age group

**Materials**
- Manila papers or other related materials
- Markers
- Cello tape
- Pupils themselves
- Figure 10 of the teachers’ guide
Key notes

1. Adolescents are the teenagers aged 13-19. It is a period of considerable change transiting to adulthood. It is a period of heightened physical growth in height, weight, body composition and sexual development.

2.a. A wide variety of foods is required during this period to meet the nutritional needs that are more than those of adults.

b. Adolescents need to use energy giving, body building and protective food grouping in planning and eating balanced diets and/or ensuring they get the nutrients their bodies need.

c. High energy to cover growth and physical activity taking place.

d. Protein for heightened/rapid growth.

e. Mineral salts for bone/skeletal development; increase in blood volume especially for girls.

f. On average adolescent males require more food than the females because of their bigger lean body mass.

g. They need to consume a variety of fruits and vegetables daily and plenty of whole grains to aid in movement of food along the alimentary canal/gut.

Methods/techniques

- Question and answer
- Demonstration
- Guided discovery

Activity

Discussing nutrition needs of adolescents
h. Adolescents need to select and eat foods low in fats; the main sources of energy should be whole grains with other foods and drinks that are low in sugar. They should avoid alcohol.

i. Aim at a balanced diet through planning for all meals inclusive of snacks and avoiding fast foods.

j. Ensure safety of the foods selected and consumed including reading labels of processed foods.

3. Physical fitness and keeping active every day (moderately intense physical activities at least for 30 minutes five times a week) is important for adolescents to avoid excessive accumulation of weight, keep healthy and for the body to function well.

4. Factors to be observed include

   a. Achieving a balanced diet.

   b. Eating of “wholesome” foods.

   c. Observing personal, food and environmental hygiene in food preparation, service and eating.
TOPIC 1: Basics of the interrelationship between diseases and nutrition

Duration: 45 minutes

Topic competence
Recognize the relationship between disease and nutrition and the importance of preventing disease in the promotion of nutrition.

Learning outcomes
By the end of the topic, a learner should be able to:

1. Define disease
2. Discuss the effect of disease on nutrition status and the effect of nutrition status on disease
3. State the interplay between disease and nutrition

SUMMARY OF THE CONTENTS
Topic 1: Basics of the interrelationship between disease and nutrition
Topic 2: Basics of good and poor nutrition
Topic 3: The concept of malnutrition
Topic 4: Types of malnutrition
Topic 5: Causes of malnutrition
Topic 6: Socio-economic consequences of malnutrition
Topic 7: Prevention of malnutrition

Figure 11: A malnourished child
on diseases. When the nutrition status is alright, the body will function well and protect itself from diseases, but when it is poor, it can cause nutrition related diseases or open the body to other diseases.

4. Diseases reduce the body’s ability to obtain the required nutrients by interfering with intake but also utilisation through reduced absorption.

5. Diseases can lead to poor nutrition and poor nutrition can also lead to diseases.

**Topic flow**

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
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</tr>
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<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on the value of water and roughage in the body</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide learners to read Figures 1-19 of the comic book and /or watch animated cartoons</td>
<td>Participate in reading and / or watching cartoons</td>
</tr>
<tr>
<td></td>
<td>Guide learners to give the meaning of the word “disease”</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Using Figure 11 of the teachers’ guide, facilitate learners to discuss the effects of disease on nutrition status and the effect of nutrition status on disease</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Finally guide them to arrive at an inter-play between disease and nutrition.</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
<td>Ask and also answer questions</td>
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</table>
**TOPIC 2: Basics of good and poor nutrition**

**Duration:** 45 minutes

**Topic competence**
Relate eating well with good nutrition

**Learning outcomes**
By the end of the topic, a learner should be able to:

1. Give the meaning of good nutrition
2. State the meaning of poor nutrition
3. State the major causes of poor nutrition
4. List the effects of poor nutrition on the body

**Materials:**
- Championing Nutrition, Maria & Moses, Comic book (Figure 44 to figure 50) and/or animated cartoons.
- Various foods
- Charts/pictures

**Methods/techniques**
- Question and answer
- Guided discussion

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### Activity
Discussing the relationship between feeding well and good nutrition.

### Key Notes

1. **Good nutrition** is when the food we eat is able to provide all the nutrients in the right proportions and amounts and the body is able to keep healthy and carry out its functions and activities well.

2. **Poor nutrition** is the failure to eat the foods in the right amounts and proportions to provide all the nutrients for the body to function well or when the body is unable to receive the required nutrients in the right quantities to function well.

3. The major causes of poor nutrition are therefore
   a. Eating either too little or more than the required food to supply the needed nutrients in their right proportion and amounts.
   b. Eating foods that supply only one category of nutrients such as carbohydrates or eating foods that lack some like vitamins, mineral salts or proteins e.g. eating potatoes, cassava, yams, matooke etc. without sauce and or other foods.
   c. When the body lacks the required nutrients due to illnesses like malaria, worm infestation, diarrhoea, vomiting etc.
4. Good nutrition is therefore dependent on;
   a. Eating the right foods, in the right amounts and proportions required by the body.
   b. Good health is important to enable the body eat well and utilise the nutrients in the food eaten.

5. Poor nutrition can lead to:-
   a. Diseases related to feeding and others as well.
   b. Hunger which can make the person weak and not able to work well or study well.

**Topic flow**

<table>
<thead>
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<tr>
<td>Introductory phase</td>
<td>Facilitate a recap on the relationship between nutrition and disease</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td>Development phase</td>
<td>Guide learners to read Figures 44-50 of the Comic book and /or watch animated cartoons</td>
<td>Participate in reading and/or watching cartoons</td>
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<tr>
<td></td>
<td>Guide learners to discuss the meaning of good and bad nutrition</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to give the major causes of poor nutrition and the effect of poor nutrition to the body.</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td>Conclusion and evaluation phase</td>
<td>End by attending to learners’ questions and asking pupils to orally answer some relevant questions</td>
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**Topic 3: The concept of malnutrition**

**Duration: 45 minutes**

**Topic competence**
Explain the meaning and appreciate the problems of malnutrition

**Learning outcomes**
By the end of the topic, a learner should be able to:

1. Define malnutrition.
2. Describe the relationship between malnutrition and ill-health.

**Materials**
- Figure 11 of the teachers’ guide

**Methods/techniques**
- Question and answer
- Demonstration
- Guided discovery

**Activity**
- Discussion on the concept of malnutrition
Key notes

1. a. Malnutrition is poor nutrition. Malnutrition is a condition of the body that develops in a person when he or she does not get the right nutrients in proportions and amounts/quantities to function well and keep healthy.

   b. The type of ill health (malnutrition) one gets depends on which nutrients and how much of the required nutrients are lacking and/or in excess; for how long; at what age and the body’s state of health and functioning.

2. a. Malnutrition affects and is affected by infections and diseases.

   b. Infections and diseases such as measles worsen the nutrition status/malnutrition condition.

   c. Nutrition deficiencies inhibit the body’s ability to protect itself against infections.

   d. Bacterial and other viral infections deplete the body’s resistance ability.

   e. Some diseases with signs like vomiting, diarrhoea and too much sweating cause fluid and other nutrient losses to the body.

   f. Diseases and infections in most cases lead to loss of appetite for food and therefore reduced intake.

Topic flow

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<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on nutrition needs of adolescents</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide learners to give the meaning of adolescents</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to give the meaning of malnutrition with reference to Figure 11 of the teachers’ guide</td>
<td>Participate in the discussion</td>
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<td>Participate in the discussion</td>
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Key Notes

1. There are two major/broad types of malnutrition: the under nutrition which is the malnutrition due to deficiencies of one or more nutrients and overweight/obesity and nutritional related non communicable diseases which is the malnutrition as a result of excess nutrients to the body beyond the required amount. This was previously called overnutrition.

2.a. Undernutrition can be due to:

i). Low intake of carbohydrates and/or proteins. This is referred to as acute/chronic malnutrition which was originally called protein-energy malnutrition comprised of Kwashiorkor when proteins are insufficient and Marasmus when carbohydrates are insufficient (eating little food/starvation). Acute/chronic malnutrition is the commonest and widespread form/type of malnutrition in Uganda and other developing countries.

ii). Deficient supply of vitamins and mineral salts leading to vitamin-mineral deficiencies (VMDs) also referred to as micronutrient deficiencies.

b. Overweight/obesity and nutritional related non communicable diseases result from excess intake of
Persons commonly at risk of acute/chronic malnutrition are children 0-5 years because of their increased need for growth and development. The other persons at risk of PEM are pregnant and breast feeding mother and also because of their increased need for proteins and carbohydrates. The others include all age groups, children, adolescents and adults in situations of advanced food shortage like in famines, disasters and or displacements.

Micronutrient deficiencies are most common among children 0-5 years, women of reproductive age and adolescent girls. Other adults with other forms of sickness like sickle cells are also at risk of micronutrient deficiencies.

Overnutrition is common to all groups of people of all ages.

Generally multiple nutrition deficiencies inhibit the body’s ability to produce antibodies and other mechanisms for protection against infections and or other forms of diseases. As a result undernourished individuals are more susceptible to infections and diseases e.g. measles. Infections and diseases also worsen the nutritional status. The specific characteristics and or effects of each form of malnutrition are elaborated below:

a. Acute/chronic malnutrition include:
   i). Stunted growth and development (physical, mental and intellectual).
   ii). Reduced wound healing ability.
   iii). Hidden or visible body muscle wastage.
   iv). Pot belly appearance.
   v). Patchy skin lesions.
   vi). Loss of colour/pigmentation of skin and hair.
   vii). Very prone to other sicknesses/diseases.
   viii). Death if not well managed.
   ix). Aged appearance.
   x). Apathy/less attention on surroundings.
   xi). Little crying in children.
   xii). Low/reduced activity.
c. Micronutrient deficiencies vary according to the particular mineral salt or vitamin deficient/lacking but in general terms, the effects of micronutrient deficiencies include:

i). Poor mental and physical development

ii). Low immunity to disease and high risk to death

iii). Reduced ability to work, study, play etc.

iv). Low ability to grow

v). Poor skin, vision, socialisation etc.

d. Overweight/obesity and nutritional related non communicable diseases in the body include:

i). Increased organ and body problems such as; high blood pressure due to heart problems

ii). Diabetes

iii). Skin lesions

iv). Restlessness

v). Overweight or Obesity

vi). Increased risk to death

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
<th>Learner’s activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on the meaning of malnutrition and its causes</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Using Figure 11 of the teacher’s guide, facilitate learners to outline and describe the various types of malnutrition</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to identify the persons at risk for each of the types of malnutrition</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to state the effects of each of the types of malnutrition to the body</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
<td>Ask and also answer questions</td>
</tr>
</tbody>
</table>
TOPIC 5: Causes of malnutrition

Duration: 45 minutes

Topic competence
Identify immediate causes of malnutrition, practice and advocate for behaviours that control it.

Learning outcomes
By the end of the topic, a learner should be able to

1. Identify the two “direct” causes of malnutrition.
2. Describe each of the causes of malnutrition.

Materials
• Figures 11 of the teacher’s guide
• Pupils

Methods/techniques
• Question and answer
• Demonstration
• Guided discovery

Activity:
• Discussion on the causes of malnutrition

Key Notes

1. The two direct/immediate causes of malnutrition are:
   a. Poor dietary intake of foods to meet body needs.
   b. Poor/ill health condition of the body that affects nutrient absorption and utilisation in the body.

2.a. Poor dietary practices/feeding patterns: These include:
   a. Eating diets that provide too little food/not enough/inadequate food to supply energy and other nutrients required by the body.
   b. Eating unbalanced diets that supply; too little of a particular nutrient and/or eating more food, especially those that are rich in energy more than the body requirements.
   c. Malnutrition may also be caused by ill health due to:
      i. Ill health causing inability to eat enough food.
      ii. The body’s reduced capacity to absorb nutrients from the foods eaten.
      iii. Loss of nutrients from the body such as in the case of worm infestation and malaria fever.
      iv. More rapid utilisation of nutrients.
v. Poor body functioning due to poor/inadequate physical exercise, resulting into storage of some nutrients in the body, especially of carbohydrates and fats.

**TOPIC 6: Socio-economic consequences of malnutrition**

**Duration:** 45 minutes

**Topic competence**
Discuss the socio-economic consequences of malnutrition.

**Learning outcomes**
By the end of the topic, a learner should be able to:

1. Discuss the consequences of malnutrition on education
2. Discuss the consequences of malnutrition on the socio-economic wellbeing of an individual and society

**Materials**
- Figure 11 of the teachers’ guide

**Methods/techniques**
- Question and answer

**Activity**
- Discussing the socio-economic consequences of malnutrition.

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
<th>Learner’s activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory phase</td>
<td>Facilitate a recap on the concept of malnutrition</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td>Development phase</td>
<td>Using Figure 11 of the teacher’s guide, facilitate learners to mention the two “direct” causes of malnutrition</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Using Figure 11 of the teacher’s guide, facilitate learners to describe the causes of malnutrition</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td>Conclusion and evaluation phase</td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
<td>Ask and also answer questions</td>
</tr>
</tbody>
</table>
Key Notes

1. Malnutrition leads to poor brain development and functioning resulting in delayed enrollment, low concentration in class and poor performance leading to increased chances to repeat classes and dropping out of school.

- Due to diseases that come as a result of poor nutritional status, one becomes absent from school most of the time leading to poor performance and finally dropping out of school.

- Due to persistent hunger, one develops bad temper and other bad behaviour like stealing, accepting food gifts in exchange for sex and many others.

2. Managing and treating malnourished individuals is costly to individuals and society and some malnourished individuals even die.

- Most malnourished children attain low levels of education, affecting their ability and opportunities to get good jobs, thus lowering their earning potential in future.

- Also, most malnourished children grow into adults who are weak in the brain and/or physically leading to low productivity hence leading to poverty of both the individual and society.

Instructional flow

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Introductory phase</td>
<td>Facilitate a recap on the causes of malnutrition</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td>Development phase</td>
<td>Using Figure 11 of the teacher’s guide, facilitate a discussion on the educational consequences of malnutrition</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Using Figure 11 of the teacher’s guide, facilitate a discussion on the consequences of malnutrition on the socio-economic wellbeing of an individual and society</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td>Conclusion and evaluation phase</td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
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</tr>
</tbody>
</table>
Key Notes

Malnutrition can be controlled through;

1. Eating balanced diets
2. Overcoming food misinformation and peer pressure against or for particular foods
3. Improving food availability through increased food production and improved income
4. Observing proper health practices and hygiene

Topic flow

<table>
<thead>
<tr>
<th>Step</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Introductory phase</td>
<td>Facilitate a recap on the types of malnutrition</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td>Development phase</td>
<td>Using Figure 11 of the teacher’s guide, facilitate pupils to mention ways of controlling malnutrition among themselves, their families and communities</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td>Conclusion and evaluation phase</td>
<td>End by attending to pupils’ questions and asking pupils to orally answer some relevant questions</td>
<td>Ask and also answer questions</td>
</tr>
</tbody>
</table>
**TOPIC 1: Introduction to food safety**

**Duration:** 60 minutes

**Topic competence**

Appreciate, practice and advocate for consumption of safe food.

**Learning outcomes**

By the end of the topic, a learner should be able to:

1. Define food safety
2. Identify categories of unsafe foods
3. Describe how to identify unsafe foods
4. Outline problems caused by eating unsafe foods

**Materials**

- Real spoilt foods
- Figure 12 of the teacher’s guide
Ways of identifying unsafe foods include:

- When the food is not wholesome for those expected or has dirt.
- When the food has stayed beyond its shelf life for processed foods (check expiry dates).
- When the storage container (tin/bottle/cup) of a processed food is swollen, has rust and/or is not intact.
- When the food is known to be poisonous e.g. poisonous mushrooms, bitter cassava etc.
- When foods have been sprayed with pesticides. These have to be washed thoroughly before eating.
- When foods have changed colour, smell (bad odour), taste, texture or has any other growth on them.

Eating unsafe foods or drinks leads to food and/or waterborne diseases causing problems such as diarrhea, vomiting and malnutrition that may even lead to death.
### Topic flow

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
<th>Learner’s activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on environmental hygiene and sanitation.</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Using Figure 12 of the teacher’s guide, facilitate learners to define unsafe foods.</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to identify categories of unsafe foods.</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to describe how to identify unsafe foods</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to outline problems associated with eating unsafe foods</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
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</tr>
</tbody>
</table>

### TOPIC 2: Food contamination and preservation

**Duration: 60 minutes**

**Topic competence**

Appreciate, practice and advocate for the prevention of food contamination and consumption of safe food

**Learning outcomes**

By the end of the topic, a learner should be able to:

1. State the linkage between prevention of food contamination and consumption of safe foods and the need for it
2. Outline ways by which foods get contaminated
3. Explain why it is not safe to pack school lunch in a polythene bag
4. Discuss ways of protecting/preventing food contamination
5. Develop a checklist of practices required for ensuring consumption of safe foods.

**Materials**

- Real foods
- Figure 12, 13, 14, 15 and 16 of the teacher’s guide
Methods/techniques

- Question and answer
- Guided discovery

Activities

- Demonstrations

Key Notes

1. When food is contaminated, it becomes unsafe to eat. Prevention of food contamination is therefore an important precaution for the consumption of safe food. Activities or practices that prevent food contamination enable consumption of safe foods hence protecting people against diseases illnesses that lead to malnutrition and even death.

2. Foods including drinks get contaminated through:
   a. Germs and other substances that are dangerous to the body reaching and getting into food.
   b. Germs multiplying into foods to a dangerous level.

3. Polythene bags contain chemicals that get into the food. Food in the polythene bag can easily attract house flies and germs.

4. Food contamination can be prevented by observing cleanliness of body, of food and the environment as elaborated below:
   a. Cleanliness of the body (personal hygiene): This involves washing hands with soap and clean running water before and after handling food and after visiting the toilet; keeping finger nails short and clean and maintaining cleanliness of clothes (all wears).

   b. Food hygiene involves:
      i. Selection/purchase of fresh foods.
      ii. Separating/not mixing raw and cooked foods when storing.
      iii. Using proper clean equipment in food preparation, service and storage.
      iv. Cooking food thoroughly.
      v. Keeping the kitchen, food store, utensil racks etc. clean.
      vi. Not eating left over, spoilt/stale foods.
      vii. Using safe water and clean covered containers to collect and store food.
      viii. Keep utensils from domestic animals like pigs, dogs, cats and birds like chicken and ducks.

   c. Environmental hygiene: this involves
      i. Disposing of human wastes in latrines/toilets.
      ii. Regular cleaning of latrines/toilets.
      iii. Keeping the compound and living house/room clean with enough fresh air.
      iv. Keeping off household pests and vectors.
      v. Keeping animal faeces away from home or school environment.
      vi. Putting all rubbish in a bin with a fitting lid and emptying it regularly to prevent flies.
      vii. Preventing toxins (like aflatoxins) by drying foods well.
vii. Following instructions when applying agricultural pesticides and chemicals. Do not put water or food in a pesticide container.

viii. Thoroughly washing all fruits and vegetables before eating.

Develop a list with pupils of observed good practices required for ensuring consumption of safe foods at school and home.

**Topic flow**

<table>
<thead>
<tr>
<th>Step</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on meaning of unsafe food, categories, identification and problems associated with eating unsafe food</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide learners to relate prevention of food contamination and consumption of safe foods and the need for it</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Using Figure 12, facilitate learners to outline ways by which foods get contaminated</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to describe ways of protecting/preventing food contamination with reference to Figure 13, 14, 15 and 16 of the teacher’s guide</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to develop a list of observed good practices required for ensuring consumption of safe foods at school and home</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
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</table>

*Figure 13: Granaries are traditional storage facilities in homes that keep cereals and grains safe*

*Figure 14: Sun drying is a popular form of preserving fish*
Figure 15: Different methods of preserving food

- **Heat treatment**

- **Cold storage**

- **Preservation by Common salt**

Figure 16: School children are advised to keep all utensils clean and stored in clean places.

- Wash all utensils with clean water and leave them on a clean dish rack to dry.
- Keep utensils away from flies, rats, and cockroaches.
- Keep utensils away from domestic animals like pigs, cats and dogs and birds like chickens and ducks.
- Keep all food safely stored away.
- Eat food while it is still hot.
- Wash your hands with soap before feeding infants and children.
- Cover all cooked food including baby’s food and drinks like milk, porridge and juices to avoid contaminating the food e.g. by flies and cockroaches.
- Wash all fruits and vegetables with clean water before eating to remove dirt and avoid diseases.
- Use a cup and spoon to feed the baby six months and above. Do not use a bottle.
- Drink boiled or treated water.
- Keep water drawing and storage containers clean and covered.
Summary of the contents

**Topic 1:** Safe water chain

**Topic 2:** Personal Hygiene

**Topic 3:** Faecal-oral routes and disease prevention through hand washing.

**Topic 4:** Environmental Hygiene and Sanitation

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**Theme 5:**

**Sanitation and Hygiene**

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**Topic 1: Safe water chain**

**Duration:** 45 minutes

**Topic competence**

Appreciate, practice and advocate for drinking safe water and keeping it safe

**Learning outcomes**

By the end of the Topic, a learner should be able to:

1. Give the meaning of safe water chain
2. List the major sources of water and give examples for each
3. Identify safe water sources
4. Differentiate between safe and contaminated water
5. Outline ways by which drinking water may be contaminated
6. Discuss ways of protecting/preventing drinking water from getting contaminated
7. Explain the importance of drinking safe water

**Materials**

- Figure 17 in the teachers’ guide

**Methods/techniques**

- Question and answer
- Demonstration
- Guided discovery
- Field excursion
**Activities:**
- Guided discussion

**Key Notes**

1. Safe water chain is the process of making sure that water remains safe from the source, during collection, transportation, storage and at consumption.

2. Major sources of water are two and they include:
   - Surface water such as streams, rivers, lakes and dams.
   - Ground water that includes treated piped water, protected water sources such as borehole, protected wells or protected spring.

3. Safe water is pure water that does not contain harmful substances. Safe water is clean, pure and free from contamination. Safe water is clear, colourless, with no smell (odourless) with minimum minerals for good health. On the other hand, contaminated water is water with impurities, germs and other substances in it.

4. Water gets contaminated:
   - When any materials get into it such as dead animals and plants or their parts.
   - Due to silt and mud carried by rain water into an open water source.
   - Dissolved dust from the air in the case of rain water.
d. Animal faeces and urine including those of human beings.

e. Using dirty hands to draw water from a storage container.

f. Using dirty containers to carry or store water.

g. Due to chemicals from factories.

h. Due to domestic or industrial sewage getting into the water.

5. Ways of protecting drinking water from contamination include:

a. Preventing animals from getting close to water sources.

b. Filtering the water.

c. Boiling the water.

d. Storing the water in a clean container covered with a well fitting lid/cover.

e. Hands and fingers should not be dipped into drinking water.

f. Getting water for drinking using clean cups.

6. To prevent illnesses that come from drinking unboiled water like typhoid, cholera, etc.

| Topic flow |
|---|---|---|
| **Step** | **Teacher’s activities** | **Learner’s activities** |
| **Introductory phase** | Facilitate a recap on the control of malnutrition | Participate in the recap |
| **Development phase** | Guide learners to give the meaning of a safe water chain with reference to Figure 17 of the teachers’ guide | Engage in the discussion |
| | Facilitate learners to list the sources of water in their communities and identify the safe sources of water | Participate in the discussion |
| | Guide learners to differentiate between safe and contaminated water and then mention ways by which drinking water may be contaminated. | Participate in the discussion |
| | Facilitate learners to explain the importance of drinking safe water | Participate in the discussion |
| **Conclusion and evaluation phase** | End by attending to learners’ questions and asking learners to orally answer some relevant questions | Ask and also answer questions |
TOPIC 2: Personal hygiene

Duration: 60 minutes

Topic competence

Appreciate, practice and advocate for drinking safe water and keeping it safe.

Learning outcomes

By the end of the topic, a learner should be able to:

1. Define hygiene and personal hygiene
2. Give examples of personal hygiene practices
3. Discuss the benefits of personal hygiene
4. Outline school health activities that are related to personal hygiene.

Materials

- Clean water
- A piece of soap
- Tooth paste
- New tooth brushes
- Comb

Methods/techniques

- Question and answer
- Demonstration
- Guided discovery

Activity

- Discussing school parade activities

Key Notes

1. Hygiene is the practice, behaviour or activities of keeping clean. It involves the body, equipment, food, infrastructure such as the kitchen, bathroom, toilet/latrine and the entire environment including the compound, road and all other general surroundings. Personal hygiene is the care one takes to keep clean, healthy and happy.

2. a. Personal hygiene practices involve all the care activities we do to our bodies to keep well and happy. These include; the skin, hands and fingers, feet, hair, teeth, face, clothing for putting on, sleeping/covering etc.

   b. The skin needs bathing/showering daily using water and soap and even more than once depending on body activities. Individual parts of the body should be cleaned well and dried using a towel.
### c. Hands and fingers need thorough cleaning with soap and running water before and after touching/eating food; after visiting the toilet. The nails need to be trimmed and maintained clean. Never bite finger nails to avoid transferring germs into your mouth.

### d. Feet need to be washed as one bathes but also whenever they get dirty. Also, protect the feet by wearing shoes with clean stockings for the case of closed shoes.

### e. Hair needs to be washed regularly with water and soap. It should be kept well managed and well combed.

### f. Teeth have to cleaned at best after every meal or at worst daily and especially before sleep to remove any foods that might have got stuck onto the gums and/or teeth. Avoid too hot or too cold foods so as not to destroy the teeth.

### g. All clothing should be washed, dried in sunlight and ironed.

3. Personal hygiene protects a person from keeping germs that may cause diseases to him/her or others he/she gets in contact with.

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<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on safe water chain</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide learners to derive the meaning of personal hygiene</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to name personal hygiene practices they carry out.</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to mention the benefits of personal hygiene</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to outline school health activities that are related to personal hygiene.</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
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</tr>
</tbody>
</table>
**TOPIC 3: Faecal-oral routes and disease prevention through hand washing**

**Duration:** 90 minutes

**Topic competence**

1. Appreciate, uphold and advocate for hygienic practices including hand washing in the control of diseases transmitted through faecal-oral routes.

**Learning outcomes**

By the end of the topic, a learner should be able to:

1. Give the meaning of faecal-oral route
2. State the linkage between faeces and water borne diseases
3. Define the four “Fs” and explain how faeces get into the mouth
4. Explain the importance of using latrines in breaking/preventing faecal-oral route diseases
5. Describe how to prevent food contamination and diseases transmitted through faecal-oral route through hand washing
6. State other benefits of hand washing
7. State what a Tippy tap is, where it should be located and how it is used

**Materials**

- Figure 18, 19, and 20 of the teachers’ guide

**Methods/techniques**

- Question and answer
- Demonstration
- Guided discovery

**Activity**

- Discussing the importance of hand washing in preventing the faecal-oral route of disease transmission.

**Key Notes**

1. Faecal-oral route is the passage through which faeces can get into the body through the mouth.
2. Diseases that are waterborne are caused by gems carried in faeces. Waterborne diseases are therefore faecal related.
3. The four “Fs” are faeces, flies, fingers and food. Faeces get into the mouth as per the figure below.
4. Using latrines is one of the most important ways and means of breaking the faecal-oral routes because it ensures that faeces are kept away from flies, hands and entry into water. Cooked and ready to eat food should be protected by serving cooked food hot and covering it to prevent flies from getting into it and contaminating it.

5. Washing hands after visiting the latrine, before touching/preparing food or eating it kills germs in the hands and prevents food contamination and diseases arising from faecal-oral contamination.

6. The other benefits of hand washing are to observe personal hygiene, feel fresh, clean and smart.

7. Tippy tap is a quick and easy way of providing water for washing hands after toilet/pit latrine use. Tippy taps should be located next to the toilet/pit latrine, filled with water regularly and kept in good working condition all the time.
### Topic flow

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<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on personal hygiene</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide learners to give the meaning of faecal-oral route and derive the link between faeces and water borne diseases</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to define the four “Fs” and explain how faeces get into the mouth</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to explain the importance of using latrines in breaking/preventing Faecal-oral route diseases.</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Using Figures 18 and 19, facilitate learners to describe how to prevent food contamination and diseases transmitted through Faecal-oral route through hand washing</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Using Figure 18 and 19, guide learners to state other benefits of hand washing.</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Using Figure 20, guide learners to state what a Tippy tap is, where it should be located and how it should be maintained</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
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- **Figure 19:** School children are encouraged to wash their hands with soap and running water to protect them from diseases such as diarrhea, typhoid, cholera, and dysentery. School children are encouraged to wash their hands with soap and running water, school children are encouraged to construct and use tippy taps for washing hands.
1. Find a place where to put the washing facility. This should be near a latrine or kitchen.

2. Dig two holes 3ft (90cm) apart in the ground for fixing the 5ft long sticks.

3. In each of the holes, place the 5ft stick. The sticks should face each other.

4. Put 4 feet long stick through the jerrycan handle.

5. Place the stick between the two sticks.

6. Tie the rope on the top handle of the jerrycan.

7. At the rope end, tie the 1ft Stick. Use the stick as a handle to get water.

8. Fill the jerrycan with clean water.

9. The tippy tap is all set for hand washing. Step on the 1 foot stick to tilt the jerrycan and have water flow.

Figure 20: Schoolchildren are encouraged to construct and use tippy taps for washing hands
**Topic 4: Environmental hygiene and sanitation**

**Duration:** 90 minutes

**Topic competence**

Practice and advocate for safe disposal of wastes and the keeping of their environment clean both at home, in school and any other dwellings and/or surroundings.

**Learning outcomes**

By the end of the topic, a learner should be able to

1. Give the meaning and importance of sanitation
2. Describe the linkage between sanitation and nutrition status
3. Outline the major components of proper sanitation
4. Differentiate between solid and liquid refuse and give examples of each
5. Describe the methods/ways of disposal of refuse at home or school
6. Outline the control of household pests
7. Explain other methods of keeping home/school surroundings clean
Materials:

- Bins
- Rakes
- Hand gloves
- Slashers.
- Brooms
- Dry banana leaves
- Match box
- Rack
- Figures 21, 22 and 23 of the teachers’ guide

Methods/techniques

- Question and answer
- Guided discovery

Activities:

- Clean a market place
- Separate organic and inorganic wastes.

Key Notes

1. Sanitation is the protection of people’s health by getting rid of garbage/trash or rubbish and keeping the environment clean. Sanitation is the application of the principles of hygiene. It helps in preventing diseases and improving health.

2. A clean organized environment prevents occurrence of diseases, keeps people comfortable and adds beauty to the surroundings in which we live. Diseases disrupt and negatively affect the nutrition status of persons affected no matter how well they feed.

3. Proper sanitation involves

   i). Protecting water sources and preventing/safeguarding them against contamination, most especially drinking water.

   ii). Maintaining fresh air/avoiding pollution or interference of any type.

   iii). Proper disposal of refuse; both solid and liquid.

   iv). Control of pests and other disease/germ carrying insects and animals.

   v). Maintenance of the compound.

   vi). Good drainage system.

4. Solid refuse includes wastes such as spoiled food, dead plants, flowers, leaves, peelings, scrapings, human and other animal faeces/droppings. It also include waste such as broken glass, tins, plastic, dust and metals of all types. Liquid refuse includes water from bathing facilities, sinks, washing up of utensils, scrubbing the floor, washing clothes and rain or storms.
5.a. Methods of disposal of solid wastes/refuse include

i). Burning: This is for those that do not rot like rags, polythene.

ii). Burying: it is important to bury broken plates, cups and buckets because they could collect rain water that would form a breeding place for mosquitoes.

iii). Compositing: This involves keeping the wastes in a pit, keeping them until rotten and then digging them out for use as manure.

iv). Use as animal food: scrapes of food, peelings etc. could feed dogs, chicken, pigs etc.

v) Storing in a covered dustbin and collected by rubbish collectors for any of the above (a-d).

b. Methods of liquid waste disposal include:

i) Draining all stagnant water around the house/drainage/gutters.

ii) Sprinkling in the compound water used for washing clothes.

6. Destroying and controlling pests should be done by preventing entry/keeping them away through:

i) Proper care and cleaning of the compound, kitchen, store, latrine etc.

ii) Letting into the house light and fresh air by opening doors and windows.

iii) Avoiding dampness (dampness and dirt attract pests).

iv) Regular cleaning and disinfection of food storage places and dark portions of the house.

v) Proper storage of food.

vi) Disposal of refuse as soon as possible to avoid piling including immediate removal of spilt food on floor or table.

7. Other methods of keeping the school/home compound clean include:

a. Daily sweeping.

b. Keeping the grass low.

c. Having a separate house for animals.
### Topic flow

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
<th>Learner’s activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on faecal-oral routes and disease prevention through hand washing</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide learners to give the meaning and importance of sanitation</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to describe the linkage between sanitation and nutrition status</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to outline components of proper sanitation with reference to Figure 21 and 22 of the teachers’ guide</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to differentiate between solid and liquid refuse and give examples of each</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to describe the methods/ways of disposal of refuse at home or school with reference to Figure 23 of the teachers’ guide</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to outline the control of household pests</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to explain other methods of keeping home/school surroundings clean</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
<td>Ask and also answer questions</td>
</tr>
</tbody>
</table>
**TOPIC 1: Health interventions supporting nutrition**

Duration: 60 minutes

**Topic competence**

Appreciate and participate in health interventions for promoting good nutrition in schools.

**Learning outcomes**

By the end of the topic, a learner should be able to:

1. State health interventions implemented in schools that promote good nutrition
2. Explain the role of each intervention in promoting good nutrition

**Requirements**

- Nearby health centre/visiting health professional during deworming and nutrient supplementation days in schools
- Two or more instructors

**Methods/techniques**

- Question and answer
- Field excursion (where possible)
- Guided discovery

**Activity**

- A discussion with health professionals
TOPIC 2: Play and simulation

Key notes

1. Deworming, vitamin A supplementation, iron supplementation, folic acid supplementation and engaging in physical activities.

2. Vitamin A supplementation boosts the ability of the body to prevent diseases.
   - Iron and folic acid supplementation are to prevent anaemia in vulnerable groups like pregnant women and children.
   - Physical activity is important in the growth and development of young people and prevention of excessive weight gain with its associated problems like diabetes, high blood pressure, heart failure and stroke.

Instructional flow

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
<th>Learner’s activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory phase</td>
<td>Facilitate a recap on keeping food safe</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td>Development phase</td>
<td>Guide learners to relate nutrients to state health interventions implemented in schools that promote good nutrition</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to explain the role of each intervention in promoting good nutrition</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td>Conclusion and evaluation phase</td>
<td>End by attending to learners’ questions and asking learners to orally answer some relevant questions</td>
<td>Ask and also answer questions</td>
</tr>
</tbody>
</table>

Duration: 1 day

Topic competence

Appreciate the role of play and simulation in early childhood development

Learning outcomes

4. Participate in various games
Materials

- Pupils
- Running track
- Food pictures for colouring
- Puzzles for filling
- Bottles for filling with water
- Ropes for tug of war
- Dolls
- Sacks
- Puzzles
- Figure 26, 27, 28 and 29 of the teachers’ guide and respective IEC. materials

Methods/techniques

- Question and answer
- Demonstration
- Guided discovery
- Play

Activities

- Pupils participate in physical exercises
- Pupils participate in colouring pictures of foods and filling puzzles

Key notes

Ensure each child plays at least a game.

Topic flow

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
<th>Learner’s activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory phase</td>
<td>Facilitate a recap on health interventions in schools supporting nutrition</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td>Development phase</td>
<td>Facilitate a competition of learners in any five sporting activities below and filling the puzzles in figure 27 of the teachers’ guide.</td>
<td>Participate in the competition</td>
</tr>
<tr>
<td></td>
<td>1. Filling food based word puzzles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Colouring of pictures of foods</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Skipping a rope</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Tap game</td>
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<tr>
<td></td>
<td>5. Bicycling</td>
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<tr>
<td></td>
<td>6. Jogging or running</td>
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<tr>
<td></td>
<td>7. Swimming</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. Dance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Football</td>
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<tr>
<td></td>
<td>10. Badminton</td>
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<tr>
<td></td>
<td>11. Volleyball</td>
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<tr>
<td></td>
<td>12. Skating</td>
<td></td>
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<tr>
<td></td>
<td>13. tennis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14. Bouncing the ball</td>
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<tr>
<td></td>
<td>15. Hide and seek</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16. Nobbling (kwepena)</td>
<td></td>
</tr>
</tbody>
</table>
17. Balance objects with different parts of the body
18. Measuring/estimating distances (duulu)
19. Step on the shadow
20. Throw the ball into space and catch
21. Grid games
22. Javeline
23. Jumps
24. Cat and rat chase
25. Stacking things together
26. Swinging
27. Rolling things
28. Imitational games
29. Arm tug of war
30. Chase, catch and squat
31. Throwing the ball
32. Sack race
33. Bottle race
34. Fill bottles (water, sand)
35. Word search (Figure 26 of the teachers’ guide)
36. Crossword puzzle (Figure 27 of the teachers’ guide)
37. Colouring maize (Figure 28 of the teachers’ guide)
38. Colouring a pumpkin (Figure 29 of the teachers’ guide)

---

**Conclusion and evaluation phase**

<table>
<thead>
<tr>
<th>Ask relevant questions</th>
<th>Ask and also answer questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the end of the day, award gifts to best performers if possible.</td>
<td>Participate in the award ceremony</td>
</tr>
</tbody>
</table>
Figure 26: Word search puzzles
Figure 27: Crossword puzzles
Figure 28: Colouring maize
Figure 29: Colouring a pumpkin
**TOPIC 3: Agricultural interventions supporting nutrition**

**Duration: Continuous**

**Topic competence**

A learner appreciates the purpose of growing a variety of plants and rearing a variety of animals for nutritional purposes.

**Learning outcomes**

By the end of the topic:

1. A learner explains the importance of growing nutritious crops and rearing of small animals both at school and home

2. Practice good agronomic practices as he/she grows foods and rears small animals to improve their dietary intake

**Materials/requirements:**

- Championing Nutrition, Maria & Moses, Comic book (Figures 35 to 39 on page 15 and figures 61 to 64 on page 21) and/or animated cartoons.
- Schools farm/garden

*Figure 30: School children at Lukodi Primary School, Gulu attending to a school garden of orange fleshy sweetpotatoes*
**Topic flow**

<table>
<thead>
<tr>
<th>Step</th>
<th>Teachers’ activities</th>
<th>Learners’ activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on the role of physical activities in their growth and development</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide a discussion on comic captions 35, 36, 37, 38, 39 on page 15 and captions 61, 62, 63, 64 on page 21 of the comic book or watch relevant clips from the animated cartoons as well as Figure 30 of the teachers’ guide. Emphasize the role of pupils and parents in starting school gardens and animal projects.</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Take learners to the school farm/garden/agricultural unit. Introduce them to what is to be learnt and give them the necessary instructions and procedure. Assign pupils plots and animal cages.</td>
<td>Grow crops and rear animals</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>Progressively assess and guide them on agronomic/rearing practices overtime. Always intervene where necessary and finally allow learners to consume their produce when they are ready and leave some for exhibition to parents on school open day.</td>
<td>Participate in the conclusion and evaluation exercise</td>
</tr>
</tbody>
</table>

**Methods/techniques**

- Question and answer
- Demonstration
- Guided discovery

**Activities**

- Growing crops
- Rearing small animals

**Key Notes**

1. Growing a variety of nutritious crops and rearing a variety of small animals provides cheap sources of safe, sufficient, nutritious food to meet their dietary needs and food preferences.

2. Practice good agronomic practices like; weeding, crop rotation, pest control, etc.
**TOPIC 4: Community involvement in school nutrition activities**

*Figure 31: A community member serving porridge to learners*

**Duration:** 1 day

**Expected learner’s competences**

A learner appreciates the role played by interlinkages between the school and community to improve school food and nutrition.

**Topic objectives**

By the end of the topic:

1. The community should realise the role they should play in contributing to school nutrition.

2. A learner identifies several roles played by the communities in ensuring adequate school nutrition.

**Materials**

- Championing Nutrition, Maria & Moses, Comic book (Figure 65 to Figure 69) and/or animated cartoons.
- Figure 31 of the teachers’ guide

**Methods/techniques**

- Question and answer
- Demonstration
- Guided discovery

**Activity:**

- Exhibition of school gardens and farms
Key Notes

- The community can support the school to ensure optimal nutrition for the pupils through several ways including but not limited to:
  1. Providing raw foods.
  2. Providing labour in the school garden and/or kitchen.
  3. Providing land for growing crops and rearing animals.

**Topic flow**

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on agricultural interventions in schools supporting nutrition</td>
<td>Facilitate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide a discussion on comic captions 65, 66, 67 on page 22 and captions 68, 69 on page 23 of the comic book or relevant clips in the animated cartoons as well as Figure 31 of the teachers’ guide.</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Prepare learners prior to the school open day on all activities that are to be presented</td>
<td>Participate in school open day preparation activities</td>
</tr>
<tr>
<td></td>
<td>On the very day guide the learners as they make their presentations</td>
<td>Present a play on Maria and Moses (Champions of Nutrition), folk song (about food taboos) and demonstrations about different activities such as health, sanitation and nutrition to guests. Also do farm exhibitions</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>Close the topic by involving guests in rewarding of best participants of the day.</td>
<td>Best participants receive gifts</td>
</tr>
</tbody>
</table>
**TOPIC 5: Nutrition Education**

**Duration:** 40 minutes

**Topic competence**
A learner appreciates the role of nutrition education in improving his/her nutrition status and academic performance.

**Learning outcomes**
By the end of the topic, a learner mentions the benefits of nutrition education to himself/herself, parents and school.

**Materials**
- Manila papers and markers.

**Methods/techniques**
- Question and answer

**Activity:**
- Discussing the benefits of nutrition education to learners, parents and school.

**Key notes**

Nutrition education is important to:

- **Learners** because it improves their physical health and academic achievement.
- **Parents** because it makes their kids more interested in eating healthy foods.
- **Schools** because it improves learners scores in tests and examination.

**Topic flow**

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
<th>Learner’s activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on community involvement in school nutrition activities</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide pupils to mention the benefits of nutrition education to themselves, their parents and school.</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions, asking learners to orally answer some relevant questions.</td>
<td>Ask and also answer questions.</td>
</tr>
</tbody>
</table>
TOPIC 1: Food beliefs and taboos

Duration: 60 minutes

Topic competence

Identify, dispel and advocate against harmful food beliefs and taboos in their families, school and community.

Learning outcomes

By the end of the topic, a learner should be able to:

1. Give the definitions of food beliefs, taboos and fallacies
2. Cite examples of food beliefs and taboos
3. Explore causes of food beliefs and taboos
4. Describe how to distinguish correct/accurate information about food from that which is harmless, misleading and dangerous to health
5. Discuss the harmful effects of fallacies and/or wrong claims for or against particular foods
6. Use nutrition knowledge to dispel fallacious claims about particular food, make informed food choices and advocate/share correct information on a food belief and or taboo.

Materials

• Plain charts or other similar materials
• Markers
• Cello tape.
• Figures 32,33 and 34 of the teacher’s guide

Methods/techniques

• Story telling
• Question and answer
• Group discussion
Activity:
- Group discussions

Key notes

1. Food belief is a preconceived attribute for or against a particular food. A food taboo is a prohibition against a particular or specific food. A fallacy is the incorrect/unsubstantiated claim or attribute either in favour or against a particular food.

2. Examples of food beliefs include:
   a) Exaggerated claim about food or diet that it cures a particular disease or diseases or performs a particular function in the body such as changing sexes, darkens hair etc. Some food beliefs are correct, such as breast milk being the best food for babies.
   b) Examples of food taboos like; chicken should not be eaten by women because it will make them deliver fat babies, men are not supposed to eat egg plants because it is food for females, muslims are not supposed to eat pork.

3. Causes of food beliefs and taboos;
   a) Availability or unavailability of particular foods.
   b) Religious reasons
   c) Cultural attributions
   d) Technological influences
   e) Social reasons

Figure 32: Some tribes in Africa don’t eat insects such as grasshoppers

Figure 33: Quail eggs are claimed to heal certain diseases
f) Economics/social class  
g) Health reasons  
h) Media advertisements  
i) Family and peers

4. One can base on the following to distinguish between correct/accurate information about food from that which is harmless, misleading and dangerous to health.

a) Any claims about food should be based on scientific or sound nutrition facts. Nutrition information must be based on facts about nutrients and their sources. It is the nutrients and not the food that does the work.

b) No single food except breast milk for the baby during its first six months of life, contains all the nutrients the body requires for good health.

c) For nutrients to perform their role well in the body, all of them must be provided in the right amount for the body’s requirements e.g. carbohydrates and fats will provide energy well only when there adequate supply of mineral salts, vitamins and proteins. For proteins to be used for growth, the body must have sufficient energy from carbohydrates. Vitamins and mineral salts will play their protective role well when there is sufficient energy and proteins for body building processes.

5. Harmful effects of fallacies and/or wrong claims for or against particular foods include:

Figure 34: In some areas, men do not eat vegetables claiming that they are food for women and children
### Topic flow

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
<th>Learner’s activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on nutrition education.</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Guide learners to define food beliefs, taboos and fallacies</td>
<td>Engage in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to list examples of food beliefs and taboos in their communities with reference to Figures 32, 33 and 34 of the teacher’s guide</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to explain the causes of food beliefs and taboos in their communities.</td>
<td>Participate in the discussion.</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to describe how to distinguish correct/accurate information about food from that which is harmless, misleading and dangerous to health.</td>
<td>Participate in the discussion.</td>
</tr>
<tr>
<td></td>
<td>Guide learners to explain the harmful effects of fallacies and/or wrong claims for or against particular foods.</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End by attending to learners’ questions, asking learners to orally answer some relevant questions and continue to support learners to demystify food taboos and faulty food beliefs in their communities.</td>
<td>Ask and also answer questions.</td>
</tr>
</tbody>
</table>

---

**a)** Food beliefs and taboos hinder or exaggerate consumption of foods. They compromise consumption of a balanced diet, lead to the development of poor food habits and malnutrition.

**b)** Food beliefs and taboos can also lead to unrealistic expenditure of money and constrain development of family and community property.

**c)** It can also lead to exploitation of the sick, adolescents who crave for figure and other groups of people in need of specific solutions to various needs of life.

**d)** In infants, young children and adolescents; food beliefs and taboos can interfere with their growth and development and in pregnant mothers it can result into giving birth to unhealthy babies.

---

6. Pupils should be supported to be role models in demystifying food taboos and faulty food beliefs and to tell others about foods and diets.
TOPIC 2: Junk foods

Duration: 45 minutes

Topic competence

Appreciates the dangers of eating junk foods, advocates and practices reduced consumption of such foods.

Learning outcomes

By the end of the topic, a learner should be able to:

1. Give the meaning of junk foods
2. Identify examples of junk foods being sold
3. Mention the dangers of consuming junk foods

Materials:

- Figure 35, 36 and 37 of the teachers’ guide

Methods/techniques

- Question and answer
- Guided discovery

Activities:

- Analysing pictures
- Discuss dangers of eating junk foods

Key notes

1. Junk food is unhealthful food that is high in calories from sugar or fat, with little dietary fiber, protein, vitamins, mineral salts or other important forms of nutritional value.

2. Examples of junk food include rolex, chips and chicken, pizza, mandazi, chaps, pork, kebabs
as well as processed drinks like soda, sugar sweetened juices and sweets.

3. Junk foods are highly linked to weight gain, high blood pressure, stroke and some cancers.

4. Over consumption of junk foods without cleaning the teeth leads to tooth decay.

**Topic flow**

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</thead>
<tbody>
<tr>
<td>Introductory phase</td>
<td>Facilitate a recap on community involvement in school nutrition</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td>Development phase</td>
<td>Ask the learners what they would like to eat, given chance (all their options should be written on the board.)</td>
<td>Answer</td>
</tr>
<tr>
<td></td>
<td>Facilitate a discussion on Figures 35, 36 and 37 of the teachers’ guide and inform the pupils that:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Junk food is unhealthy food that is high in energy e.g. rolex, chips, chicken, pizza.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Junk foods are highly linked to obesity, diabetes and diseases of the heart and blood vessels</td>
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</tr>
<tr>
<td></td>
<td>Participate in the discussion</td>
<td></td>
</tr>
<tr>
<td>Conclusion and evaluation phase</td>
<td>End the topic by asking the learners relevant questions</td>
<td>Answer the questions</td>
</tr>
</tbody>
</table>

**Figure 36: Rolex**

**Figure 37: Chips and chicken**
Topic 3: Sedentary life style

Duration: 60 minutes

Topic competences

Appreciates the danger of sedentary life style to the health of an individual and avoids a sedentary lifestyle.

Learning outcomes

By the end of the topic, learners should be able to:

1. Give the meaning of a sedentary lifestyle
2. Identify examples of sedentary lifestyles
3. Describe the effects of sedentary lifestyle on nutritional status of individuals

Materials

- Playground if available

Methods/techniques

- Question and answer
- Demonstration
- Guided discovery

Activity

- Physical exercises

Key notes:

1. A sedentary lifestyle is a type of lifestyle involving little or no physical activity.

2. A person living a sedentary lifestyle is often sitting or lying down while engaged in an activity like reading, socialising, watching television, playing video games, or using a mobile phone/computer for much of the day.

3. Sedentary lifestyle is highly linked to obesity and development of diabetes, high blood pressure, stroke and some cancers.

Topic flow

<table>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introductory phase</td>
<td>Facilitate a recap on the effects of junk foods on nutritional status</td>
</tr>
<tr>
<td>1.</td>
<td>Development phase</td>
<td>Engage learners in deriving the meaning of sedentary lifestyle and giving examples of sedentary lifestyles</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td>Facilitate learners in deriving the effects of sedentary lifestyles</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td>Guide learners through moderately intense physical activity for a minimum of 30 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Make a permanent physical activity plan with the pupils for sharing with the school administration</td>
</tr>
<tr>
<td></td>
<td>Conclusion and evaluation phase</td>
<td>End the topic by asking the learners relevant questions</td>
</tr>
</tbody>
</table>

Duration: 60 minutes

Topic competences

Appreciates the danger of sedentary life style to the health of an individual and avoids a sedentary lifestyle.

Learning outcomes

By the end of the topic, learners should be able to:

1. Give the meaning of a sedentary lifestyle
2. Identify examples of sedentary lifestyles
3. Describe the effects of sedentary lifestyle on nutritional status of individuals

Materials

- Playground if available

Methods/techniques

- Question and answer
- Demonstration
- Guided discovery

Activity

- Physical exercises

Key notes:

1. A sedentary lifestyle is a type of lifestyle involving little or no physical activity.

2. A person living a sedentary lifestyle is often sitting or lying down while engaged in an activity like reading, socialising, watching television, playing video games, or using a mobile phone/computer for much of the day.

3. Sedentary lifestyle is highly linked to obesity and development of diabetes, high blood pressure, stroke and some cancers.

Topic flow

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher's activities</th>
<th>Learner's activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introductory phase</td>
<td>Facilitate a recap on the effects of junk foods on nutritional status</td>
</tr>
<tr>
<td>1.</td>
<td>Development phase</td>
<td>Engage learners in deriving the meaning of sedentary lifestyle and giving examples of sedentary lifestyles</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td>Facilitate learners in deriving the effects of sedentary lifestyles</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td>Guide learners through moderately intense physical activity for a minimum of 30 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Make a permanent physical activity plan with the pupils for sharing with the school administration</td>
</tr>
<tr>
<td></td>
<td>Conclusion and evaluation phase</td>
<td>End the topic by asking the learners relevant questions</td>
</tr>
</tbody>
</table>
**Topic 4: Other social norms that affect nutritional status**

**Duration: 45 minutes**

**Topic competences**
Appreciates the dangers of drinking alcohol tobacco smoking as well as gender based violence and advocates for reduced alcoholism and tobacco consumption and gender based violence in his/her school and community.

**Learning outcomes**
By the end of the topic, pupils should be able to:

1. List the forms of alcohol in their community
2. Mention different ways in which tobacco is consumed in their community
3. State the dangers of excessive smoking and alcoholism to individuals and their families

**Materials**
- Championing Nutrition, Maria & Moses, Comic book (Page 15 and 16) and/or animated cartoons

**Methods/techniques**
- Question and answer
- Guided discovery

**Activities:**
- Analysing pictures

**Key notes:**

1. The different forms of alcohol in Uganda include but not limited to: beer, waragi, tonto, malwa, kwete etc.

2. Tobacco is consumed in the following ways:
   a. Cigarette smoking.
   b. Tobacco sniffing.
   c. Tobacco chewing.
   d. Pipe smoking.

3. Tobacco use is highly linked to cancers especially lung cancer in both the smoker and other members who indirectly inhale the smoke. It is also linked to poverty due to money being wasted in buying tobacco products. Poverty leads to poor food intake in homes headed by smokers leading to malnutrition.

Similarly alcohol destroys body organs like the liver, the pancreas and the brain. It is highly linked to mouth and oesophagus cancers. It is also linked to poverty leading to poor dietary intake and malnutrition in households headed by drunkards.

4. Gender-based violence (GBV) is any act that results in, or is likely to result in physical, sexual or psychological harm or suffering against someone (man/boy or woman/girl) based on gender-role expectations and stereotypes

5. Girls and or boys experience:
- Abusive language from teachers and peers
- Verbal abuse related to puberty
- Bullying and teasing
- Emotional manipulation and exploitation
- Hitting, slapping, caning, punching, shaking, choking, painful body postures, excessive exercise drills
- School chores that negatively impact student’s learning or health
- Labour as punishment or for grades
- Rape (unwanted and unconsent sex)
- Any unwanted act, gesture, language, behaviour of a sexual nature
- Aiming sexually explicit language at a child
- Indecent touching and exposure
- Exposing pornographic material to children
- Asking for sexual favours in return for better grades or help with school work

### Topic flow

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher’s activities</th>
<th>Learner’s activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory phase</strong></td>
<td>Facilitate a recap on the effect of sedentary lifestyles on nutrition status</td>
<td>Participate in the recap</td>
</tr>
<tr>
<td><strong>Development phase</strong></td>
<td>Facilitate a discussion on comic captions on pages 15 and 16 of the comic book or relevant animated cartoons</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Guide learners to list the forms of alcohol in their communities and mention the different ways in which tobacco is consumed</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to state the dangers of excessive smoking to individuals and their families</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate a discussion on the dangers of alcoholism to individuals and their families</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td></td>
<td>Facilitate learners to define gender based violence and mention the forms in which it manifests in school and community</td>
<td>Participate in the discussion</td>
</tr>
<tr>
<td><strong>Conclusion and evaluation phase</strong></td>
<td>End the topic by asking the learners relevant questions</td>
<td>Answer the questions</td>
</tr>
</tbody>
</table>
References

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DEVELOPMENT INITIATIVE FOR NORTHERN UGANDA (DINU)

EUROPEAN UNION

UNICEF