

GROW FOODS

LEARNING OBJECTIVES

By the end of this module, students should be able to:

- demonstrate a thorough understanding of the benefits of eating Grow foods from different sources in the right proportions.
- advocate for healthier eating habits within the community by encouraging others to eat Grow foods from different sources in the right proportions each day.

MATERIALS

Lesson 1

- Exemplary outputs created in Module 1
- pad paper
- video: **Module 3 Grow Foods**
- file: **GR10_MO3_Lesson 1 Powerpoint**

Lesson 2

- pad paper
- Meal Tracker

Lesson 3

- Meal Tracker

Lesson 4

- materials chosen by students

REMINDERS

Letters to the Parents

Each module comes with a letter to parents explaining the key points that our students are learning in class. The letter also encourages parents to model healthy nutrition habits at home. We hope that through these circulars, parents will become involved in their child's learning process. Please remember to photocopy and distribute the corresponding parent circular at the start of each module. These letters can be found in the folder marked 'Letters to Parents.'

Rubrics

Many of the activities in these modules serve as formative assessments for you to gauge each student's progress. You may use the PDF file named 'Rubrics' as a guide for grading major outputs and performance tasks.



MODULE OVERVIEW

Dear Teacher,

This Module Overview is a summary of the key learning points that we want our students to understand and master by the end of this module. These key learning points are presented in the video presentation and powerpoint that accompany this module. The supplementary activities further reinforce these key points.

KEY POINTS

1. Grow foods provide our bodies with protein. Protein is made of different building blocks called amino acids. Our body needs amino acids, especially during this period when our bones and muscles are rapidly growing and developing. These amino acids also help wounds and injuries heal, which is particularly important for those who have active lifestyles, like athletes and working students.
2. According to the Pinggang Pinoy® guide, approximately one-fourth of our plate should consist of proteins. There are many different sources of protein:
 - a. meat - pork, beef, chicken
 - b. seafood and fish
 - c. eggs
 - d. plant sources - *tokwa*, nuts, beans, legumes
 - e. milk and dairy products (eg. yoghurt and cheese)
3. It is important that we get our protein from all of these different sources, and not just one or two, because different sources have different kinds of amino acids and additional nutrients such as vitamins and minerals. Eating different sources of protein raises your chances of getting all the amino acids that your body needs.
 - a. Complete proteins - contain all the amino acids needed by the body (e.g. egg, meat, fish, poultry, milk). These promote growth and development, and maintain life.
 - b. Partially complete proteins - contain some, but not all, amino acids needed by the body (e.g. legumes and nuts). These maintain life but not growth and development.
 - c. Incomplete proteins - contain very little amino acids needed by the body (e.g. suman, bread, gelatin). These cannot support neither life nor growth.
4. Some nutrient deficiencies associated with a lack of Grow foods are:
 - a. Iron (iron deficiency anemia)
 - i. Function: Iron is found in the blood which helps transport oxygen. Low iron results in low hemoglobin concentration in the blood. Hemoglobin is the component in blood that carries oxygen throughout the body for energy metabolism.
 - ii. Signs and symptoms of deficiency: fatigue, weakness, pale skin, poor cognitive performance, impaired work performance and weak resistance to infectious diseases
 - iii. Significant animal sources of iron: red meats, liver, fish, poultry, shellfish, eggs, legumes

b. Zinc (zinc deficiency)

- i. Function: normal taste, wound healing, sperm production, strengthens immunity and secondary sexual maturation
- ii. Signs and symptoms: stunted growth, delayed maturation of sexual organs, weak resistance to infectious diseases, hair loss, eye and skin lesions, and poor appetite. Chronic zinc deficiency may cause damage to the central nervous system and brain, and may lead to poor motor development and cognitive performance.
- iii. Significant animal sources of zinc: seafood (oyster and crab), beef, milk and dairy products (yoghurt, cheese), whole grain

c. Iodine (iodine deficiency disorder)

- i. Function: component in thyroid hormones which help regulate growth, development and metabolism
- ii. Signs and symptoms: enlargement of the thyroid gland (goiter), mental and physical retardation among infants and children
- iii. Significant sources of iodine: iodized salt, seafood, dairy products

d. Vitamin A

- i. Function: maintains clear vision, keeps skin smooth, helps in development of bones and teeth, strengthens immunity
- ii. Signs and symptoms of deficiency: night blindness (slow recovery of vision after flashes of bright light at night or inability to see in dim light), weak resistance to infectious diseases
- iii. Significant animal sources of vitamin A: fortified milk, cheese, eggs, liver

e. Vitamin B (B1, B2, B3, B6 and B12)

- i. Function: helps in energy metabolism
- ii. Signs and symptoms of deficiency: swollen tongue, irritated or inflamed corners of the mouth, fatigue, weakness, poor appetite
- iii. Significant sources of vitamin B: milk products (yogurt, cheese), liver, eggs, meat, poultry, fish

f. Vitamin E

- i. Function: antioxidant (a substance that prevents or delays some types of cell damage)
- ii. Signs and symptoms of deficiency: vitamin E deficiency is uncommon but deficiency can cause a type of anemia
- iii. Significant animal sources of vitamin E: liver, egg yolks

g. Vitamin K

- i. Function: aids in blood clotting
- ii. Signs and symptoms of deficiency: hemorrhage (excessive bleeding)
- iii. Significant animal sources of vitamin K: liver, milk

5. We should do our part to promote healthier eating habits among family members, friends and others in our community. Encourage others to eat proteins from different sources in the right proportions each day.

Lesson 1



LET'S GET STARTED



20 mins

Before this class, choose two exemplary outputs created in Module 1 by any of the groups from all the sections you teach. Ask permission from that group if you may share their output with other sections.

1. Begin this lesson by sharing these exemplars and explaining why you think they are effective campaign materials. These exemplars should:
 - a. show clear evidence of students' accurate understanding of the related nutrition concepts.
 - b. be properly anchored on the group's findings from Module 1 about their community's nutrition knowledge and habits.
2. Be sure to preserve these materials and return them to their owners as soon as all the other groups have seen them.
3. Once again remind your students that all the campaign materials and merchandise they create should be kept in their group box, and that all of these will be showcased at the end of the program.

LET'S GLOW!



10 mins

1. Students will be asked to recall what they already know about Grow foods from previous year's lessons. Inform them that their answers to this activity will not be graded and that this exercise is meant only to check what they can recall.
2. Instruct your students to take out a sheet of pad paper and to divide the paper into three columns with the following headings:
 - a. What I Know
 - b. What I Recalled
 - c. What I Learned
3. In the first column, have them list down as many facts as they can about Grow foods. Ask them to also include what they know about the importance of getting protein from a variety of sources.
4. After giving them a few minutes to write items in the first column, tell them that they will watch a video and listen to a lecture, and their task is to compare what they already know (items in column 1) with the facts and concepts that they will encounter in the video and lecture.



WATCH & LEARN



15 mins

1. Before playing the video for this lesson, **Module 3 Grow Foods**, instruct the students to do the following while they watch:
 - a. In column 2, list down facts and concepts that they already knew but remembered with the help of the video or the lecture. (These are facts and concepts that are not new to them, but forgot to include in column 1.)
 - b. In column 3, list down facts and concepts that they are **LEARNING FOR THE FIRST TIME**. (These are facts and concepts that they don't recall ever hearing about before.)
2. After watching the video, give students a few minutes to compare their answers with their seatmates' answers. They should look for facts and concepts in their seatmates' lists that they were not able to include in columns 2 and 3. They can add those facts and concepts to their own paper under columns 2 and 3.



LISTEN & LEARN



15 mins

1. You will use the file **GR10_M03_Lesson 1 Powerpoint** for this part of the lesson. Open the PDF file, and at the top menu bar, select VIEW > Enter Full Screen. This places one page of the PDF file on the computer screen, and you can scroll up or scroll down to go through each page like a powerpoint slide.
2. This presentation discusses three types of protein sources. This presentation also reviews some nutrients derived from Grow foods, and why they are essential to the body.
3. Similarly, have your students list down facts and concepts that they already knew in column 2, and those that they are LEARNING FOR THE FIRST TIME in column 3. Give them a few minutes to compare their answers with their seatmates' answers to identify more facts and concepts that can be added.
4. Collect each student's output and review each after class. You may use this as a way of assessing which of your students have a thorough understanding of the concepts related to Grow foods and adolescent health, and which only have a surface understanding.

Lesson 2



LET'S GET STARTED



20 mins

1. Start the class by sharing some of your observations about the class's outputs from the previous lesson. For example, which Grow foods concepts were frequently listed in the "What I Know" and "What I Recalled" columns? Were there any concepts that students often listed under "What I Learned"?
2. Ask your students to reflect on why some concepts are easier to remember than others.

WHAT DO YOU KNOW ABOUT GROW?



25 mins

1. Ask the students to bring out one sheet of pad paper, and to write "Created by" at the top of the page. Beside "Created by" they should write their name.
2. On the second line, ask them to write "Answered by".
3. Start the lesson by challenging the students to construct their own 10-point quiz about Grow foods. Their quiz can include any fact or concept that they recall from the previous lesson.
4. Their quiz can have multiple choice, fill-in-the-blanks, or true-or-false questions. Make sure they work independently as they construct their quizzes, as this will also help you gauge what each student is able to recall from previous lessons.
5. After a few minutes, instruct the students to exchange papers with their seatmates. On the paper they receive, they should write their name beside "Answered by". Give the class a few more minutes to answer their classmate's quiz.
6. When all are done, instruct the students to return the quizzes to the student who created it. Each student will now check the answers of their classmates.
7. Collect and review each paper to again assess which students may need additional support with the basic principles or if any students have misconceptions about the lesson.



LET'S DISCUSS

 20 mins

1. In the remaining time, ask the students to reflect on the following, and to share their answers with one or two other students:
 - a. What, so far, has been the most significant learning for you throughout this program with regard to your community's knowledge and awareness of basic nutrition concepts?
 - b. What, for you, is the most critical message that needs to be shared with the members of your community in order for them to develop better nutrition habits?
2. Ask for a few volunteers to share their answers with the rest of the class.



Before dismissing the class, instruct the students to bring out another copy of a Meal Tracker. Instruct them to resume tracking their meals throughout the week. They should label this as Week 2

Lesson 3



LET'S GET STARTED

 10 mins

Ask students to bring out their Meal Trackers from the previous week and share their answers to the following with three or four classmates:

1. Compare your meals for Weeks 1 and 2. Are there any improvements in the quality of your meals (e.g. improved proportions; better variety of Go, Grow and Glow foods, etc.)?
2. If there were no significant improvements, why do you think there are no improvements in your meal choices?
3. What can you do to improve what you eat and make your meals more like a Pinggang Pinoy*?

CAMPAIGN FOR GLOW

 35 mins

1. In the remaining time, tell your students to brainstorm more ideas for campaign materials and merchandise that they will produce, this time related to Grow foods.
2. They should again refer to the notes of their data gathering from Module 1, and look at their interviewees' responses that are related to Grow foods. Ask them the following questions, which may help them identify key messages for their campaign materials and merchandise:
 - a. What are the common / typical responses of your interviewees when asked what they know about Grow foods?
 - b. What concepts did your interviewees appear to lack knowledge about? What concepts do they need more information on?
 - c. Describe their eating habits when it comes to proteins. Are they following proper nutrition guidelines?
 - d. What can we say to convince our community members to improve the quality and quantity of Grow foods in their diet?
3. Remind the class that they can come up with banners, posters, brochures, flyers, and giveaways containing campaign slogans. Their materials and merchandise must increase their community's knowledge on Grow foods while addressing misconceptions and nutrition habits that need to be changed.

4. Allow them to decide what supplies they will need, and who will be responsible for bringing those supplies in the next class session. Before dismissing the class, go around to each group to make sure that each member of the group is clear on his or her assigned supplies.

Lesson 4

The entire class session will be used for creating campaign materials and merchandise related to Grow foods. As each group works on their campaign materials, go around and ask each group how their materials and merchandise are connected to the information they gathered from their community.

Before dismissing the class, allow some groups to share what they have produced. At the end of the session, each group may place their finished products in their group's box. You may look through their boxes after class to assess each group's outputs.