

GROW FOODS

LEARNING OBJECTIVES

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

- recall the health benefits derived from the nutrients found in Grow foods.
- discuss fallacies associated with Grow foods.

MATERIALS

Lesson 1

- pad paper
- video: **Module 3 Grow Foods**
- file: **GR09_M03_Lesson 1 Powerpoint**

Lesson 2

- pad paper

Lesson 3

- bond paper (10 sheets per group)
- coloring materials
- file: **GR09_M03_Lesson 3 Powerpoint**

Lesson 4

- brochures (from previous session)

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 powerpoints 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.
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 (eg. *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. Listed below are some nutrients derived from Grow foods and why they are essential to the body.
 - 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. 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. 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. 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. 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. Significant sources of vitamin B: milk products (yogurt, cheese), liver, eggs, meat, poultry, fish
- e. Vitamin E
 - i. Function: antioxidant (a substance that prevents or delays some types of cell damage)
 - ii. Significant animal sources of vitamin E: liver, egg yolks
- g. Vitamin K
 - i. Function: aids in blood clotting
 - ii. Significant animal sources of vitamin K: liver, milk

5. One way to make good nutritional decisions is to be aware of fallacies related to Grow foods. For example:

- a. Fact or myth? Extra protein is needed to tone and build muscles.
 - i. Answer: Myth
 - ii. Explanation: Athletic training, such as weight lifting, builds muscle strength and size. Consuming more protein would not make any difference. Since protein can also provide calories, excess protein can be stored in the body as fat. Therefore, to build muscles a person should consume just enough protein as needed by the body (no need for extra doses) and train regularly.
- b. Fact or myth? Peanuts cause acne.
 - i. Answer: Myth
 - ii. Explanation: Peanuts have no effect on the severity of acne. Anxiety, lack of sleep and hormonal fluctuations of the menstrual cycle are more likely to cause acne flare ups. It is best to consult a dermatologist for proper acne management.
- c. Fact or myth? The quality of protein can be improved by combining different Grow foods in the diet.
 - i. Answer: Fact
 - ii. Explanation: Some sources of protein are said to be of lesser quality than others because they lack some amino acids that are needed for growth and development. A way to enhance protein quality is by pairing one partially-complete protein source with another - for instance, tripe and garbanzos in callos or green peas, cashews and peanuts for snacks.

Lesson 1



LET'S GET STARTED



15 mins

Announce the top three groups from the previous lesson – if you have not done so – before proceeding with the lesson.

1. Inform the class that you will again be reviewing some concepts from lessons in previous years, this time about Grow foods. Tell them that their answers to the first 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. At the back of the page, ask them to create 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 protein and amino acids on adolescent health and development.
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.

NOTE TO TEACHER

Some students may find it difficult to capture all the important points in a video just by watching it once. Each time your class watches a video, allow your students to compare notes to help each other identify points that they missed and add these points to their own notes.



LISTEN & LEARN



15 mins

1. You will need Part 1 of the file **GR09_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 is a review of the types of protein (i.e. complete, partially complete, and incomplete). It also discusses 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 basic concepts related to Grow foods and adolescent health, and which only have a surface understanding.

FACT OR MYTH



15 mins

1. Use Part 2 of the file **GR09_M03_Lesson 1 Powerpoint** for the remainder of the lesson. The powerpoint contains some statements, and your students must judge whether the statement is a fact or a myth.
2. If they think the statement is a FACT, they should wave their right hand. If they think that the statement is a MYTH, they should wave their left hand. (You may use other actions, such as standing versus sitting or moving to opposite sides of the room, to energize your students if needed.)
3. The slides contain these statements:
 - a. Extra protein is needed to tone and build muscles. (*answer: myth*)
 - b. Peanuts cause acne. (*answer: myth*)
 - c. Some protein sources are partial or incomplete, meaning, they do not contain some of the amino acids needed by the body. By pairing such protein sources with other protein sources, you increase the chance of getting the amino acids that you need. (*answer: fact*)
4. Discuss the correct answers to each statement as well as the explanations. The explanations are found at the bottom of the slide as well as in Key Points (at the beginning of this document).
5. After your discussion, ask the students to think about and share their answers to the following questions:
 - a. If you ask your friends in other grade levels, family members and members of our community to state whether these statements are fact or myth, which statements do you think most people would get wrong? Why do you think so?
 - b. When it comes to health information, who are the health experts that determine what is a fact and what is not? How do we know that these health experts are right?
6. Tell the students that they will again conduct a simple investigation throughout the week, similar to what they did in Modules 1 and 2. This time, they will use the statements that you just read (number 3).
7. Throughout the week, each student must again interview five people to ask whether they think the statements are FACT or MYTH. They must count how many said FACT and how many said MYTH for each statement. They should also keep track of how many replied "DO NOT KNOW."
8. Instruct each student to make sure they bring their own tally for the next session.

Lesson 2

TEST ME!



25 mins

1. Instruct each student to bring out a sheet of pad paper. Without looking at their notes, they should list at least ten facts about Pinggang Pinoy®, Glow foods, Grow foods, and adolescent health that they can recall from recent lessons.
2. After each student has written down at least ten statements, tell the students to exchange papers. They must go through their classmate's list of statements and identify whether they AGREE or DISAGREE with the statements written. Instruct them to write the words AGREE or DISAGREE after the statement.
3. Ask the students to exchange papers with a second person. They should not return the paper to its original owner, but pass it on to someone else. The second person must also identify whether they agree or disagree with the written statements. They will also write AGREE or DISAGREE after each statement.
4. Instruct the students to return the papers to the original owner. Ask the students to give examples of statements where they did not agree unanimously (i.e. one person disagreed and another person agreed). Ask the rest of the class whether they agree or disagree with the statements, and allow some students to explain their answers until the rest of the class comes to a consensus about those statements.
5. 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.
6. Return these papers to their owners before Module 5, as students will be referring to these for their culminating project. They can keep these papers in their Health.

FACT OR MYTH



35 mins

1. Instruct the students to return to their groups from the previous module. They will again combine their results from the Fact or Myth assignment by adding the total number of respondents that answered Fact, Myth, or "DO NOT KNOW" for each statement.
2. Ask one representative from each group to go to the board and write down the combined results for their group:

	Number who answered FACT	Number who answered MYTH	Number who answered DO NOT KNOW
Statement 1			
Statement 2			
Statement 3			

3. After all the representatives have written their results on the board, merge the results further by adding ALL the numbers reported by each group for each statement.
4. Discuss the correct answers to each statement as well as the explanations. The explanations for these can be found in Key Points (at the beginning of this document).
5. Ask your students to reflect on these statements and the results of their survey by discussing the following. They should take down notes of their responses to each question, as these notes will be helpful for the following session.
 - a. Which statements had the most incorrect responses among the group's respondents?
 - b. Which statements were commonly assumed to be true when, in fact, they were myths? Why do you think those respondents assumed the statements were true?

- c. Which of the statements got the most “DO NOT KNOW” responses?
- d. If we were to educate our friends, family members and the members of our community about these myths, what would we tell them?

Lesson 3



LET'S GET STARTED



10 mins

1. Instruct your students to join their groups (of seven to eight members) from the previous lesson.
2. Ask them to think about the concepts that you have been discussing in the past weeks, and to identify concepts that have changed their way of thinking or their perception towards Glow and Grow foods.
3. Call on one person per group to complete these phrases:
“Before, I used to think that...
But now, I know that...”

FACT OR MYTH BROCHURE



50 mins

1. Distribute several sheets of bond paper and some coloring materials to each group.
2. Tell the students that they will be making “Fact or Myth” brochures about the myths discussed in the previous class:
 - a. Extra protein is needed to tone and build muscles. (*answer: myth*)
 - b. Peanuts cause acne. (*answer: myth*)
 - c. Some protein sources are partial or incomplete, meaning, they do not contain some of the amino acids needed by the body. By pairing such protein sources with other protein sources, you increase the chance of getting the amino acids that you need. (*answer: fact*)
3. Through their brochures, the group must educate others about these common fallacies and provide accurate explanations behind these erroneous assumptions. You can use the file **GR09_M03_Lesson 3 Powerpoint** to review the statements and the explanation for each.
4. Tell your students that their outputs will be included in the culminating activity and will be seen by others in the school community, so they should make sure their brochures are persuasive.

Lesson 4

Give students more time to work on their brochures, if needed. When all groups are done, ask each group to share their brochures with the rest of the class.

Before the session ends, announce the top three outputs and their corresponding points. You may also announce the winners at the start of the next session if you need more time to decide on the top three outputs, or if you want to involve other teachers in selecting the best output.