

# GROW FOODS

## LEARNING OBJECTIVES

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

- discuss the consequences of inadequate intake of Grow foods on adolescent health.
- recall specific portions of Grow foods that meet the nutritional requirements of adolescents.

## MATERIALS

### Lesson 1

- pad paper
- video: **Module 3 Grow Foods**
- file: **GR08\_M03\_Lesson 1 Powerpoint**

### Lesson 2

- Symptom Tracker (from previous module)
- markers

### Lesson 3 and 4

- art materials to form a scrapbook (per group)

## 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.
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 (e.g. 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 – contains very little amino acids needed by the body (e.g. gelatin). These cannot support neither life nor growth.
4. Listed below are common health effects of inadequate intake of Grow foods among children and adolescents. Eating the right amount of Grow foods in each meal can help prevent these health concerns:

- a. stunted growth
- b. poor wound healing
- c. brittle hair and nails
- d. poor muscle development
- e. weak immunity

5. Other 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 (e.g. oyster, crab), beef, milk and dairy products (e.g. 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 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
  - iii. Significant animal sources of vitamin K: liver, milk

6. The following can guide adolescents on the proper portion of Grow food to eat with each meal:

- a. Males (any of the following):
  - i. 2 pieces of medium variety of fish (e.g. *galunggong*)
  - ii. 2 slices of large variety of fish (e.g. *bangus*)
  - iii. 2 pieces of small chicken leg
  - iv. 2 servings of lean meat (30g)
  - v. 2 pieces of tokwa, 6x6x2 cm
  - vi. 1 piece of small chicken egg and 1 piece of any food item mentioned above
- b. Females (any of the following):
  - i. 1 piece medium variety of fish (e.g. *galunggong*)
  - ii. 1 slice of large variety of fish (e.g. *bangus*)
  - iii. 1 piece chicken leg
  - iv. 1 serving of lean meat, 30g (e.g. chicken, pork, beef)
  - v. 1 piece of tokwa, 6x6x2 cm
  - vi. 1 piece of small chicken egg

# Lesson 1



## LET'S GET STARTED



15 Mins.

Announce the top three groups from the previous lesson and review the class's tally of points - if you have not done so - before proceeding with the lesson.

1. Ask the students to bring out a sheet of pad paper. Ask them to create three columns with the following headings:
  - a. What I Know
  - b. What I Recalled
  - c. What I Learned
2. 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 Grow foods on adolescent health and development.
3. 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**, inform them that their task is the same as what they did in previous modules:
  - 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



20 Mins.

1. You will need the file **GR08\_M03\_Lesson 1 Powerpoint** for the remainder of this 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 three types of protein sources: complete, partially complete, and incomplete proteins.
3. This presentation also discusses the common health effects of an inadequate intake of Grow foods, along with some nutrients found in Grow foods. The presentation teaches students about the signs and symptoms of deficiencies associated with these nutrients, some of which were also discussed in the previous module.
4. 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.



## WHAT DO I KNOW?



40 Mins.

1. Instruct your students to go back to the information that they were able to recall on their own, before they listened to the video and the lecture. Ask them the following questions and allow them to share their thoughts with their seatmate:
  - a. Were you able to recall all the important, basic principles?
  - b. Why do you think you were able to remember this information on your own?
  - c. Have you been able to apply this knowledge to your day-to-day eating habits?
2. After giving students time to discuss, ask them to now reflect on the information that they were not able to recall on their own. Ask them the following questions and allow them to share their thoughts with their seatmate:
  - a. Which of this information is relevant to you, and will be easy for you to remember from this point onwards?
  - b. Which of this information can you start applying to your day-to-day eating habits?
  - c. Which of this information is important for other people to know about as well?
3. Collect each student's output and review each after class. You may use this to assess 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. You must return these papers in the following session.

## LET'S WRAP THIS UP

Call on some students to share their thoughts to the questions you asked earlier (number 2) with the rest of the class.

## Lesson 2

---



## SYMPTOM TRACKER - PART 2

1. Return each student's output from the previous lesson. Instruct them to take out any other notes they have from Lesson 1, then join their usual groupmates.
2. Return each group's manila paper from Lesson 2 of Module 2.
3. Remind your students that this manila paper is just a draft of the table that they will finalize at the end of the program. They will continue to add more information to this table after each lecture, so it is alright if their tables are not entirely neat as they add new information.
4. Instruct the students to go through their notes from the last lecture, and add any new signs and symptoms they learned about. Some signs and symptoms may have been mentioned again, but with different sources. They can add these to existing line items (see examples):

		Nutrient Sources		
		Glow	Grow	Go
Signs and Symptoms	Related Nutrient Deficiencies			
Night blindness	Vitamin A	spinach, <i>malunggay</i> , <i>pechay</i> , broccoli	fortified milk, cheese, eggs, liver	
Weak resistance to infectious diseases	Vitamin A	spinach, <i>malunggay</i> , <i>pechay</i> , broccoli	fortified milk, cheese, eggs, liver	
	Vitamin C	citrus fruits, bell peppers, melon, tomatoes, papayas, mangoes		
Pale skin	Iron	leafy green vegetables	red meats, liver, fish, poultry, shellfish, eggs, legumes	

5. Allow the students to continue working in groups as you go around the class to ensure they are filling up the table properly. Collect their manila papers at the end of the session, as these will be used again in the next module.

## LET'S WRAP THIS UP

Call on some students to share one new thing they learned today.



Before dismissing the class, inform your students that in the next session, each group will work on their third scrapbook. Each group should again bring scissors, coloring materials, magazines, colored paper and other art materials.

## Lesson 3



### GROW FOODS SCRAPBOOK – PART 1

1. Instruct the class to return to their groupings from the previous lesson and to bring their art materials with them.
2. Their task for the day is to design a scrapbook that summarizes all the facts and concepts discussed in the previous two sessions.
3. Their scrapbook can contain photos, drawings, symbols, stickers and other artistic elements. With these artistic elements, they should include essays, quotes, slogans, poems or song lyrics that deliver the messages they want to convey.

4. Their scrapbook must:

- communicate the importance of getting protein from a variety of sources every day
- discuss the proper portions of Grow food that adolescents should eat with each meal, along with the consequences of inadequate intake on adolescent health
- present the information in such a way that it is easy to understand
- persuade its viewers to include a variety of protein sources in their diet

## Lesson 4

---



### GROW FOODS SCRAPBOOK – PART 2

Give each group more time to complete their scrapbook. Before the end of the session, have each group present their output.

After all the presentations, 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.