

# GLOW FOODS

## LEARNING OBJECTIVES

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

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

## MATERIALS

### Lesson 1

- pad paper
- video: **Module 2 Glow Foods**
- file: **GR09\_M02\_Lesson 1 Powerpoint**

### Lesson 2

- pad paper

### Lesson 3

- *cartolina* (one sheet per group)
- coloring materials
- file: **GR09\_M02\_Lesson 3 Powerpoint**

### Lesson 4

- infographics (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. Glow foods contain many vitamins and minerals that support the nutritional requirements of our rapidly developing bodies and our active lifestyles. The nutrients we get from Glow foods:
  - a. helps to keep our skin clear and hair healthy, so we can always look our best.
  - b. keeps our eyes healthy, to help us when we need to read and study hard.
  - c. helps prevent sickness, like colds and cough, so that we don't miss out on important events with family and friends.
  - d. helps us stay alert and focused, so that we can perform well in school.
  
2. Fruits and vegetables belong to this food group. According to the Pinggang Pinoy® guide, approximately half of our plate should consist of fruits and vegetables.
  
3. We should make our plate as colorful as possible by eating many different colors of fruits and vegetables. This is because specific colors provide specific health benefits:
  - a. RED fruits and vegetables (e.g. apples, tomatoes, watermelons) contain Lycopene that is good for the heart.
  - b. YELLOW and ORANGE fruits (e.g. pineapples, oranges, mangoes) contain vitamin C that boosts one's resistance against sickness.
  - c. YELLOW and ORANGE vegetables (e.g. squash and carrots) contain beta-carotene that promotes healthy skin and good eyesight.
  - d. GREEN vegetables (e.g. *malunggay*, *pechay*, and *kangkong*) contain iron that is found in the blood which helps transport oxygen throughout the body.
  - e. PURPLE/BLUE fruits and vegetables (e.g. eggplant and grapes) contain anthocyanin, an antioxidant that helps reduce risk of cancer and heart disease.
  - f. WHITE fruits and vegetables (e.g. cauliflower, mushrooms, garlic) contain anthoxanthin, an antioxidant that helps reduce risk of some cancers and heart disease.
  
4. Listed below are some nutrients derived from Glow foods and why they are essential to the body.
  - a. Vitamin A
    - i. Function: maintains clear vision, keeps skin smooth, helps in development of bones and teeth, strengthens immunity
    - ii. Significant plant sources of vitamin A: spinach, *malunggay*, *pechay* and other dark leafy greens; broccoli; yellow and deep orange fruits (papaya) and vegetables (squash and carrots)

b. Vitamin C

- i. Function: supports wound healing and strengthens immunity, also an antioxidant (a substance that prevents or delays some types of cell damage)
- ii. Significant plant sources of vitamin C: citrus fruits, bell peppers, melon, tomatoes, papayas, mangoes

c. Vitamin E

- i. Function: antioxidant (a substance that prevents or delays some types of cell damage)
- ii. Significant plant sources of vitamin E: leafy green vegetables

d. Vitamin K

- i. Function: aids in blood clotting
- ii. Significant plant sources of vitamin K: leafy green vegetables

e. 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 plant sources of iron: leafy green vegetables

5. Fruits and vegetables also contain fiber that has even more health benefits. Fiber helps to lower cholesterol, lowers blood sugar levels (beneficial for those who have diabetes) and regulates bowel movement.

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

a. Fact or myth? All children and adolescents should take vitamin and mineral supplements.

- i. Answer: Myth
- ii. Explanation: Although commercial vitamin and mineral supplements contain what we need for good health, food contains even more. Eating a balanced diet that consists of a variety of foods is more likely to supply the necessary nutrients for growth and repair than a vitamin preparation. Excess vitamin intake can actually be detrimental to health.

b. Fact or myth? A person needs stress vitamins when undergoing emotional stress.

- i. Answer: Myth
- ii. Explanation: Emotional stress does not mean you need more nutrients. Claims which state that vitamin supplements relieve stress are misleading. Physical stress that comes with recovery from illness, surgery, or injury, however, may benefit from physician-prescribed supplements.

c. Fact or myth? Organic fruits and vegetables are healthier than conventionally grown produce.

- i. Answer: Myth
- ii. Explanation: The United States Department of Agriculture (USDA) defines organic food as food that is produced by farmers who emphasize the use of renewable resources, and conservation of soil and water, to enhance environmental quality. Fruits and vegetables that are organically produced are free from hormones, herbicides, pesticides, antibiotics and synthetic fertilizers. The USDA has released no statements on organic food being healthier than non-organic food items. Several studies have also reported that there is no evidence to support the common notion that organic has better nutrient quality than non-organic food.

- d. Fact or Myth: Vitamin and mineral supplements can make you fat.
- Answer: Myth
  - Explanation: A person gains weight when his calorie intake is consistently higher than the amount of calories he or she burns, such as in the case of a person with a sedentary (i.e. inactive) lifestyle. Vitamins and minerals do not contain calories. Deficiency in some vitamins and minerals such as vitamin B1, vitamin B12 and zinc, however, can negatively impact one's appetite and thus, supplements may help to return one's appetite to its normal state.
- e. Fact or myth: Antioxidants prevent cell damage which can result to sickness.
- Answer: Fact
  - Explanation: Free radicals are molecules that can come from radiation, smoking and other pollutants. Excessive free radicals in the body can lead to cell damage, which in turn leads to diseases including cancer, diabetes, heart disease and cataracts. It can also lead to premature aging. Antioxidants are compounds that prevent cells from being destroyed by free radicals. Vitamins with antioxidant benefits include vitamin A, vitamin C and vitamin E.
- f. Fact or myth: Supplements can make you grow taller.
- Answer: Myth
  - Explanation: A person's height potential is primarily based on genetics. However, a person can maximize this height potential through adequate nutrition coupled with sufficient sleep. Our bones are mainly composed of minerals such as calcium, phosphorus and magnesium, so getting all of these nutrients from milk and dairy products can help you reach your height potential. Zinc is also important, because it makes the bones stronger, while protein keeps the minerals together. Sufficient sleep is important because the hormone to induce growth is highly produced during this period. Generally, it is recommended that individuals get at least eight hours of sleep every night.

## Lesson 1



LET'S GET STARTED

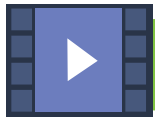


15 mins

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

- Inform the class that you will again be reviewing some concepts that they may recall from lessons in previous years, this time about Glow 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.
- 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:
  - What I Know
  - What I Recalled
  - What I Learned

- In the first column, have them list down as many facts as they can about Glow foods. Ask them to also include what they know about the importance of fruits and vegetables for adolescent health and development.
- 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

- Before playing the video for this lesson, **Module 2 Glow Foods**, instruct the students to do the following while they watch:
  - 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.)
  - 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.)
- 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

- You will need Part 1 of the file **GR09\_M02\_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.
- This presentation is a review of some nutrients derived from Glow foods, and why they are essential to the body.
- 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.
- 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 Glow foods and adolescent health, and which only have a surface understanding.

## FACT OR MYTH



15 mins

- Use Part 2 of the file **GR09\_M02\_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. All children and adolescents should take vitamin and mineral supplements. (*answer: myth*)
  - b. A person needs stress vitamins when undergoing emotional stress. (*answer: myth*)
  - c. Organic fruits and vegetables are healthier than conventionally grown produce. (*answer: myth*)
  - d. Vitamin and mineral supplements can make you fat. (*answer: myth*)
  - e. Antioxidants prevent cell damage which can result in sickness. (*answer: fact*)
  - f. Supplements can make you grow taller. (*answer: myth*)
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, where do you think people get a lot of their information? (possible answers: internet, TV commercials, advertisements) Are these information sources always reliable?
6. Tell the students that they will again conduct a simple investigation throughout the week, similar to what they did in Module 1. 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.

## NOTE TO TEACHER

As you read these statements, make sure that all students are familiar with terms such as:

- organic produce
- antioxidant
- emotional stress
- vitamin or mineral supplements
- growth supplements

## Lesson 2

### TEST ME!



25 mins

1. Students may work with a partner or in groups of three for this activity. Instruct each pair or group to bring out a sheet of pad paper. They should write "Created by" at the top of the page, followed by their names.
2. Challenge your students to come up with a list of ten statements (related to any of the concepts discussed in the first two modules) that are completely FALSE. Their statements should be crafted in a way that changing one or two words will make the statement TRUE.
3. After coming up with ten statements, instruct the groups to exchange papers.
4. Have each pair or group write "Answered by" on the list that they receive, followed by their names.
5. They should now identify the word or words that would make each statement true. Once done, they should return their paper to its owners, who will then check the answers.
6. 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.
7. 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 portfolio.

# 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			
Statement 4			
Statement 5			
Statement 6			

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 explanations for each statement. 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 complete this sentence: “It is important to learn about health and food myths because \_\_\_\_\_.”
3. Call on one person per group to share their group’s sentence.

# FACT OR MYTH INFOGRAPHIC



50 mins

1. Distribute one sheet of *cartolina* and some coloring materials to each group.
2. Tell the students that they will be making a “Fact or Myth” infographic that should feature one of the myths discussed in the previous class. You may either assign these myths to specific groups, or allow the groups to choose which they would like to feature in their infographic:
  - a. All children and adolescents should take vitamin and mineral supplements. (*answer: myth*)
  - b. A person needs stress vitamins when undergoing emotional stress. (*answer: myth*)
  - c. Organic fruits and vegetables are healthier than conventionally grown produce. (*answer: myth*)
  - d. Vitamin and mineral supplements can make you fat. (*answer: myth*)
  - e. Antioxidants prevent cell damage which can result in sickness. (*answer: fact*)
  - f. Supplements can make you grow taller. (*answer: myth*)
3. Through this infographic, the group must educate others about these common fallacies and provide accurate explanations behind these erroneous assumptions. You can use the file **GR09\_M02\_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 infographics have an impact on their viewers.

## Lesson 4

---

Give students more time to work on their infographics, if needed. When all groups are done, post the infographics on the walls of your classroom and allow your students to go around and look at the other groups’ outputs.

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.