

GLOW FOODS

LEARNING OBJECTIVES

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

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

MATERIALS

Lesson 1

- video: **Module 2 Glow Foods**
- file: **GR06_M02_Lesson 1 Powerpoint**
- pad paper

Lesson 2

- pad paper
- bond paper (one sheet per small group of three or four students)
- coloring materials

Lesson 3

- *cartolina* (one sheet per large group of seven or eight students)
- coloring materials

Lesson 4

- Glow Foods Poll results (from previous lesson)

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. Glow foods contain many vitamins and minerals that our bodies need to make our skin, eyes and hair healthy. These vitamins and minerals also help our bodies to prevent sickness, like colds and cough.
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 common micronutrient deficiencies among children and adolescents. Eating the right amount of Glow foods in each meal can help address these deficiencies:

a. 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 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. Signs and symptoms of deficiency: weak resistance to infectious diseases, poor wound healing, bleeding gums and loosened teeth
- iii. 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. Signs and symptoms of deficiency: vitamin E deficiency is uncommon but deficiency can cause a type of anemia
- iii. Significant plant sources of vitamin E: leafy green vegetables

d. Vitamin K

- i. Function: aids in blood clotting
- ii. Signs and symptoms of deficiency: hemorrhage (excessive bleeding)
- iii. Significant plant sources of vitamin K: leafy green vegetables

e. Iron (iron deficiency anemia)

- i. Function: 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 plant sources of iron: leafy green vegetables

5. We should do our part to promote healthier eating habits among family members, friends and others in our community.

Lesson 1



LET'S GET STARTED



10 Mins.

1. Ask the students to write down in their Health notebook all the Glow foods they ate in the past week. Have them identify the colors of the fruits and vegetables they wrote down.
2. Do a quick survey of how many students ate only one color, two colors, three colors, etc. Remind the students that our goal for each day is to eat many different colors of fruits and vegetables.
3. After finding out how many different colors of fruits and vegetables your students ate in the past week, ask them to discuss their answers to these questions with a seatmate.
 - a. Why is it important to eat a variety of colors of fruits and vegetables?
 - b. What happens to our bodies when we fail to include a variety of fruits and vegetables in our diet?
4. Give your students a few minutes to discuss, before directing their attention to the next activity.



WATCH & LEARN



15 Mins.

1. You will play the video for this lesson, **Module 2 Glow Foods**. Before playing the video, instruct your students to find a partner and bring out a sheet of pad paper. Remind them to place both their names on top of the paper.
2. They are to make three columns on their sheet of paper. For column 1, place the heading COLOR. For column 2, place the heading BENEFITS. For column 3, place the heading EXAMPLES.
3. Instruct the students to fill out this table with their partner as they watch the video. For each color mentioned in the video, they should write down benefits to the body of fruits and vegetables of that color in column 2. In column 3, they should write down as many fruits and vegetables of that color as they can think of, aside from the examples provided in the video.
4. After watching the video, ask them to work with their partners to answer the following questions on the back of the paper:
 - a. Why is it important to eat a variety of colors of fruits and vegetables?
 - b. What happens to our bodies when we fail to include a variety of fruits and vegetables in our diet?
5. After working in pairs, allow your students some time to compare their answers with another pair of students. While comparing answers, they should look for colors, benefits and examples in the other pair's paper that they were not able to include in their own. They can add those to their own papers.
6. Ask the students to submit their papers. This activity is meant to help students identify gaps in their content knowledge, and at the same time, it will help you gauge which students may need additional support with the basic principles.



LISTEN & LEARN



25 Mins.

1. You will need the file **GR06_M02_Lesson 1 Powerpoint** for 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 lesson summarizes some vitamin and micronutrient deficiencies that are common among children and adolescents.
3. As you go through each slide, make sure the students take down notes as they will need this information for the following lesson.
4. After showing all the slides, give students 3-4 minutes to compare their notes with their seatmates' notes. While comparing notes, they should look for key points in their seatmates' notes that they were not able to include in their own notes. They can add the points that they missed to their own notes.

Lesson 2



LET'S GET STARTED



15 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 5-point quiz about Glow 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 quiz they answered to the student who created it. Each student will now check the answers of their classmates.
7. Collect each paper. After class, review each student's output to assess which students may need additional support with the basic principles or if any students have misconceptions about the lesson.



WHY GLOW?



20 Mins.

1. Instruct the students to return to their original groupings (i.e. the grouping that consisted of three or four students) from Lesson 2 of the previous module.
2. Distribute one sheet of bond paper per small group and coloring materials. Tell the students that their task is to create a brochure designed to convince people why they must eat a variety of colors of fruits and vegetables everyday.

3. Their brochure must:
 - a. provide information about the health benefits of each color.
 - b. provide information about the nutrients associated with fruits and vegetables and the related signs and symptoms of micronutrient deficiencies discussed in the previous session.
 - c. convince people to eat a wide variety of fruits and vegetables each day.
4. They can use their notes from the previous lessons to come up with compelling reasons for eating a variety of fruits and vegetables each day. For instance:
 - a. Students can use the benefits of each color to convince people of the importance of including every color in their diet.
 - b. They can refer to the effects of micronutrient deficiencies to convince people to increase the number of colors in their diet.
5. Ask some groups to share their brochures and demonstrate how they would use it to try and convince someone of the importance of eating a variety of Glow foods at every meal.



GLOW FOODS POLL – PART 1



5 Mins.

Before dismissing the class, tell the students that each group will again conduct a survey among their friends, family members and others in their community.

1. They must ask at least ten individuals the following questions:
 - a. What health benefits do our bodies get from eating:
 - i. RED fruits and vegetables?
 - ii. YELLOW and ORANGE fruits?
 - iii. YELLOW and ORANGE vegetables?
 - iv. PURPLE and BLUE fruits and vegetables?
 - v. WHITE fruits and vegetables?
 - b. What micronutrients do we get from fruits and vegetables?
 - c. What fruits and vegetables do you like the most?
 - d. What fruits and vegetables do you like the least?
2. Each group must record their interviewees' responses to the survey. They should tally:
 - a. how many gave the correct answer for each color in question (a).
 - b. the different micronutrients that interviewees are able to name for question (b).
 - c. which fruits and vegetables are most liked.
 - d. which fruits and vegetables are least liked.
3. After asking the survey questions, each group must show their brochure to their interviewee and share the information in the brochure. (If possible, they should also take pictures for documentation purposes. Instruct the students to print out and keep these pictures, as they will be included in the culminating activity.)
4. Students should bring the results of this survey to class the following session.

Lesson 3



GLOW FOODS POLL – PART 2

1. Instruct your students to join their group members in their larger grouping (i.e. the groups of seven to eight members). They will once again combine the results from their survey, and present their data using tables and graphs. For example, from among those interviewed, they can present:
 - a. a tally of how many people knew the benefits of eating fruits and vegetables, and how many did not. Call on a few students to share with the rest of the class what struck them the most about the data they collected.
 - b. a list of the top five micronutrients available in Glow foods that interviewees are able to name for question (b).
 - c. a frequency distribution or bar graph of the fruits and vegetables that were most liked.
 - d. a frequency distribution or bar graph of the fruits and vegetables that were least liked.
5. After combining their data and planning out how they will present it, distribute a sheet of *cartolina* and some coloring materials to each group on which to place their tables, graphs, tallies and charts.

LET'S WRAP THIS UP

Lesson 4

GLOW FOODS POLL – PRESENTATION

1. For this session, give the students more time to finish their Glow Foods Poll results. When all groups are done, ask the groups to share their results with the rest of the class.
2. Guide them to reflect on the implications of their data. For instance, you may ask them the following:
 - a. What health benefits related to Glow foods do many people already know about? What health benefits do people need more information on?
 - b. Which fruits and vegetables are popular among friends, family and community members? Which are not?
 - c. What nutrients are contained in the fruits and vegetables that are not popular among friends, family and community? How can we encourage friends, family and community members to consume more of these unpopular fruits and vegetables? (Guide the students to realize that they can use information about micronutrient deficiencies to try and encourage others to eat more of these unpopular fruits and vegetables.)
3. Remind the students that at the end of the program, they will review all their data to come up with a campaign to convince more people to develop healthier eating habits. In order for their campaign to be persuasive, it should be based on the data that they gather in the past two weeks and in the remaining weeks of the program.