

## CULMINATING ACTIVITIES

Instructional Manager's Activities	Learners' Activities
<p><b>A. Review:</b></p> <p><i>Here is a summary to help you remember the important things that we have discussed in this module. Read Let's Sum Up. (Lessons 1 and 2)</i></p> <p><b>B. Post-test</b></p> <p><i>To test if you really understood the cardiovascular system and the diseases related to it, answer the questions in What Have You Learned? on page 36.</i></p> <p><i>Compare your answers with those found in the Answer Key on page 41.</i></p>	<p>Learners will read <i>Let's Sum Up</i> on page 35.</p> <p>Learners will answer <i>What Have You Learned?</i></p>



Office of the Secretary



*My dear NFE A&E Instructional Managers/Facilitators,*

Welcome to the Nonformal Education Accreditation and Equivalency (NFE A&E) Learning Program of the Department of Education, Culture and Sports (DECS). NFE A&E is a new nonformal approach to learning which provides out-of-school youth and adults an alternative way to improve their basic education skills in reading, writing and computing, and acquire an elementary or secondary level certificate. The long term vision of this NFE A&E System is to provide OSY and adults opportunities whereby they can continue to learn on their own throughout their lives so that they can improve their quality of life and the life of their families and participate in national development efforts.

The program is built around a uniquely nonformal curriculum and uses a range of innovative learning strategies designed to break down traditional barriers of time, accessibility and resources to enable the OSY and adult learners to develop their skills and competencies with minimum assistance from you as Instructional Manager/Facilitator. Initially, they will need your direct guidance and supervision in studying the first few modules in the lower elementary level, but gradually you will have to train them towards self-learning. May this facilitator's guide help you in performing your role as a true manager of the learning process. The strategies and activities included in this manual are not prescriptive, rather, they are purely suggestive in nature. As such, this should not limit your creativity to utilize strategies more suited to the interest and capabilities of your learners.

Instructional Manager's Activities	Learners' Activities
<p><i>What causes anemia?</i></p> <p><i>Let's see how well you understood the important points in our lesson.</i></p> <p><i>Answer the questions in Let's Try This. Then, after answering compare your answers with those found in page 38.</i></p> <p><b>C. Generalization</b></p> <p><i>To help you remember the important points discussed in this lesson, read Let's Remember on page 35.</i></p> <p><b>D. Application</b></p> <p><i>Answer the exercises on Let's See What You Have Learned on pages 33-34.</i></p>	<p><i>The causes of anemia include the following:</i></p> <p><i>Loss of blood due to severe bleeding.</i></p> <p><i>Increased destruction of red blood cells.</i></p> <p><i>Improper nutrition.</i></p> <p>Learners will answer <i>Let's Try This.</i></p> <p>Learners will read <i>Let's Remember.</i></p> <p>Learners will answer.</p>

The success or failure of this program greatly depends on you as an Instructional Manager. We hope that with your expertise and creativity, the NFE learners can develop the knowledge and competencies which are essential for them to be able to progress in an ever-changing and increasingly competitive Filipino and global society.

You are our partner in making the Nonformal Education Accreditation and Equivalency (NFE A&E) Learning Program a tremendous success.

*Raul S. Roco*  
 RAUL S. ROCO  
 Secretary

Instructional Manager's Activities	Learners' Activities
<p><i>How can we prevent arteriosclerosis?</i></p>	<p><i>Avoid smoking cigarettes.            Exercise regularly.            Lose weight, if you are overweight.            Learn how to handle stress.            Avoid eating foods rich in cholesterol and fats.            Have a regular checkup with your doctor.</i></p>
<p><i>Answer the exercises in Let's Try This on page 28.</i></p>	<p><i>Learners will answer exercises in Let's Try This.</i></p>
<p><i>Compare your answers with those found in the Answer Key on page 39.</i></p>	<p><i>The learners will compare their answers.</i></p>
<p><i>Continue reading about the other diseases of the cardiovascular system. Read Let's Learn from pages 29 to 32.</i></p>	<p><i>Varicose veins are swollen, knotted and distended veins visible from the skin surface.</i></p>
<p><i>What are varicose veins?</i></p>	<p><i>Standing or sitting motionless for a long period of time.</i></p>
<p><i>What is the cause of varicose veins?</i></p>	<p><i>Low levels of hemoglobin or red blood cells.</i></p>

## Understanding Your Cardiovascular System (Facilitator's Guide)

### A. What Is This Module About

Have you been thinking about how the different systems in your body work? What do you think might happen if they fail to work properly? What about your cardiovascular system? Do you know how it works? In this module you will learn about the different parts of the cardiovascular system—also known as circulatory system—and how this entire system works. You will also learn about the diseases of the cardiovascular system.

This module is divided into two lessons:

Lesson 1 – *The Cardiovascular System*

Lesson 2 – *Diseases of the Cardiovascular System*

### B. What Will Be Learned From This Module

After completing this module, you should be able to:

- ◆ describe the structure and function of the cardiovascular system;
- ◆ illustrate how blood circulates throughout the body;
- ◆ identify some common ailments of the cardiovascular system; and
- ◆ apply proper care of our cardiovascular system in everyday life.

### C. How Long Will It Take To Finish This Module?

It will take about ten (10) hours to finish this module in learning group sessions. Time allocation, however, may depend on the learners' capability to undertake suggested learning activities.

Instructional Manager's Activities	Learners' Activities
<p>Read the diseases of the cardiovascular system.</p> <p>What is the most common type of this disease?</p> <p>What is arteriosclerosis?</p> <p>What is the cause of this disease?</p> <p>What are the other factors that contribute to this disease?</p> <p>What are examples of strenuous activities?</p> <p>Even exercises such as aerobic dancing, jogging and others may be considered as strenuous activities, especially if they are done without warming up. Remember to warm up before performing exercises and do it regularly so as not to exert too much pressure on your heart.</p>	<p>Arteriosclerosis</p> <p>Hardening of the arteries.</p> <p>Too much deposit of cholesterol in the arteries.</p> <p>Stress, hypertension, strenuous activities and heredity.</p> <p>Here are possible answers:</p> <ul style="list-style-type: none"> <li>– Working in the fields or farming.</li> <li>– Working in the construction area.</li> <li>– Mountain climbing.</li> </ul>

## INTRODUCTORY ACTIVITIES

## LESSON 2

Instructional Manager's Activities	Learners' Activities
<p><b>A. Introduction</b></p> <p>Write on the board the word cardiovascular.</p> <p>Guide the learners in pronouncing this word.</p> <p>Cardiovascular comes from two words—cardio (from Greek <i>Kardio</i>) which means heart, and vascular, which refers to the blood vessels.</p> <p>Read to them the introduction – What Is This Module About. Afterward, ask them this: “What are the Lessons in this module?”</p> <p><b>B. Pre-test</b></p> <p>Ask the learners to answer the pretest on page 2 and answer the items in <i>Let's See What You Already Know</i> to determine how much they already know about the topic.</p> <p>After answering the test, ask them to compare their</p>	<p>Learners will say the word cardiovascular.</p> <p>One learner will answer. He/she may answer this: Lesson 1—Cardiovascular System; Lesson 2 – Diseases of the Cardiovascular System</p> <p>The learners will turn their modules to page 2.</p>

## Diseases of the Cardiovascular System

Instructional Manager's Activities	Learners' Activities
<p><b>A. Preparation</b></p> <p><i>What do you think might happen if we do not take care of our heart, blood and blood vessels?</i></p> <p><i>Does anyone of you suffer from a disease related to the cardiovascular system?</i></p> <p><i>Do you know someone who does?</i></p> <p><i>What do you think are the causes of these diseases?</i></p> <p><b>B. Developmental Activities</b></p> <p>Ask the learners to read the introduction on page 22.</p>	<p>Possible answers: – <i>Our heart, blood and blood vessels will get affected.</i> – <i>We will develop diseases related to the cardiovascular system.</i></p> <p>Answer may vary.</p> <p><i>Yes and no.</i></p> <p>Possible answers: – <i>Eating too much fatty foods.</i> – <i>Lack of exercise.</i> – <i>Being overweight.</i></p> <p>Learners will read the introduction.</p>

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<p><i>Review the main points of your discussion. Answer Let's Review.</i></p> <p><b>D. Generalization</b></p> <p><i>The heart, which is the main organ of the cardiovascular system, pumps the blood to the different parts of the body.</i></p> <p><i>To help you remember more the important points in our lesson, read Let's Remember on page 21.</i></p> <p><b>D. Application</b></p> <p><i>Is the cardiovascular system now clear to you? Answer the exercises in Let's See What You Have Learned pages 19–20.</i></p> <p><i>Compare your answers with the illustration in page 14 and those found in the Answer Key on page 38.</i></p>	<p>Learners will answer <i>Let's Review</i>.</p> <p>Learners will read <i>Let's Remember</i>.</p> <p>Learners will answer <i>Let's See What You Have Learned</i>.</p> <p>Learners will compare their answers.</p>

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<p>answers with those in the <i>Answer Key</i> on page 37.</p> <p>After comparing their answers, ask them this:</p> <p><i>How well did you do? Did any of you get a perfect score? If you got a perfect score, that's very good! However, if you got a score of 7 or lower, this module will help you understand the topic better.</i></p>	<p>The learners will compare their answers.</p>

The Cardiovascular System

Instructional Manager's Activities	Learners' Activities
<p><b>A. Preparation</b></p> <p>Ask the learners:  <i>Do you know where your heart is located?</i></p> <p><i>Place your hand on the right side of your chest.</i></p> <p><i>Can you feel the beating of your heart?</i></p> <p><i>Do you know what is the function of the heart?</i></p> <p><i>We will find out later if your answers are correct.</i></p>	<p>Yes.</p> <p>Learners will place their hands on the right side of their chest.</p> <p>Yes/No.</p> <p>Answers may vary.</p>
<p><b>B. Developmental Activities</b></p> <p><i>So, the heart is a part of the cardiovascular system. What do you think are the other parts of this system?</i></p> <p><i>Turn to page 5 of your modules and do the</i></p>	<p>Learners will give their own answers. Sample answer: blood and blood vessels.</p> <p>Learners will turn to page 5.</p>

Instructional Manager's Activities	Learners' Activities
<p><i>your right hand with your palm facing upward.</i></p> <p><i>Slowly bend your arm with your hand moving towards your shoulder. See how the muscles in your arm bunch up and tighten. This is contraction. Then return your arm to its original position. Now the muscles in your arms are relaxed.</i></p> <p>To learn more about the flow of blood from the heart to the rest of your body, continue reading the succeeding discussions.</p> <p><i>Do the activity in Let's Try This. Read the directions carefully.</i></p> <p><i>Compare your work with your co-learners or you may approach me if you want to.</i></p> <p><i>Prepare a bigger copy of this illustration so that you can trace the flow of blood in the pulmonary and systemic circuit right in front of the learners.</i></p>	<p>Learners will read the succeeding discussions.</p> <p>Learners will do the activity in <i>Let's Try This</i>.</p> <p>Learners will either compare their work with their co-learners or consult the facilitator/ Instructional Manager.</p>

Instructional Manager's Activities	Learners' Activities
<p><i>What is circulation?</i></p> <p><i>How does blood flow in our body?</i></p> <p><i>The flow of blood is similar to how Ernest brings his passengers from Crossing to Riverside. But how does the heart distribute blood? Read Let's Learn from pages 12 to 14.</i></p> <p><i>What are the two stages that the heart goes through?</i></p> <p><i>When we say that the heart contracts, it becomes smaller. This is how it pumps the blood to other parts of the body. Muscles have the capability to contract and we know that the heart is a muscular organ. We also have muscles in our arms. Lift</i></p>	<p><i>Circulation describes the flow of a thing starting from and returning to the same place.</i></p> <p><i>It starts from the heart then flows to the different parts of the body and back to the heart again.</i></p> <p>Learners will read Let's Learn from pages 12 to 14.</p> <p><i>Relaxation and contraction.</i></p> <p>Learners will follow the instructions of the Facilitator/ Instructional Manager.</p>

Instructional Manager's Activities	Learners' Activities
<p><i>activity in Let's Study and Analyze.</i></p> <p><i>Did you get all the correct answers?</i></p> <p><i>Read Let's Think About This? Reflect on your answers to the questions and then proceed with Let's Read on page 6.</i></p> <p><i>What does the cardiovascular system do?</i></p> <p><i>What is the other name for cardiovascular system?</i></p> <p><i>What is the main organ of this system?</i></p> <p><i>What does the heart do?</i></p> <p><i>What are the four chambers of the heart?</i></p> <p><i>The left atrium and right atrium are located in the upper part of the heart, while the left and right ventricles can be found in</i></p>	<p>Learners will answer yes and no.</p> <p>Learners will read Let's Think About This and then, Let's Read page 6.</p> <p><i>It distributes or circulates blood, which contains oxygen and nutrients, to the different parts of the body.</i></p> <p>Circulatory system</p> <p>The heart.</p> <p><i>It pumps blood to every part of the body.</i></p> <p><i>Left atrium, right atrium, left ventricle, right ventricle.</i></p>



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<p>the lower part of the heart. (It will be better if you have a drawing of the heart posted in the room. It should be similar to the drawing in the module.)</p> <p>What do we sometimes call the blood?</p> <p>Why do we call blood the "river of life?"</p> <p>Nutrients are digested food that the cells in our body needs in order to live.</p> <p>What are the three kinds of blood vessels?</p> <p>What is the smallest among them?</p> <p>What is the function of the capillaries?</p> <p>What is the function of the arteries?</p>	<p>The river of life.</p> <p>Because it nourishes the cells in our body with oxygen and nutrients.</p> <p>Arteries, capillaries and veins.</p> <p>The capillaries.</p> <p>This is where the blood transfers nourishment and oxygen to the cells and removes carbon dioxide and other wastes.</p> <p>The arteries carry blood away from the heart.</p>

Instructional Manager's Activities	Learners' Activities
<p>How about the veins?</p> <p>Let's see if you really understood what you have read.</p> <p>Do the exercises in Let's Review on page 10.</p> <p>Read the directions carefully.</p> <p>Guide them in answering the exercises. Make sure that they follow the instructions correctly.</p> <p>Compare your answers with those in the Answer Key on page 37.</p> <p>Read the directions for the activity Let's Try This on page 11 carefully.</p> <p>Compare your answer with those found in the Answer Key on page 38.</p> <p>Read Let's Think About This.</p>	<p>The veins carry blood back to the heart.</p> <p>Learners will do the exercises in Let's Review on page 10.</p> <p>Learners will read the directions carefully.</p> <p>Learners will compare their answers with those in the Answer Key.</p> <p>Learners will do the activity in Let's Try This on page 11.</p> <p>Learners will compare their answer with those in the Answer Key.</p>