

# Project Heart

## Activities for the Classroom

### Project Heart Logo

By clicking the Project Heart logo on any of the pages, you return to the *Project Heart* homepage.

### Lesson Plans

For grades K–6.

### Multimedia

*Watch* is a section containing graphics and multimedia anatomy resources that teachers can use to augment both Project Heart and other related lesson plans. Click on the icons to see a Flash animation for each topic. PDF graphics are also available for download.

*Listen* is a collection of heart sounds, both normal and abnormal, you may find useful, from teaching young children to count their heart rate (pulse) to explaining the intricacies of heart anatomy. A graphic and text explanation is also provided for each sound.

*Play* is a section for kids to go deeper into the curriculum on their own or in groups. Content includes puzzles, fun animations about the Project Heart mascot Cool-E the robot, career spotlight stories, coloring sheets, and experiments.

*Learn* is useful for students and educators with online quizzes, a virtual microscope, fun facts presentations, and a toolbox of useful health information.

**What's New** provides up-to-date information about the Project Heart website. Check *What's New* for the latest additions, lesson plan updates, and additional multimedia resources.

**Feedback** provides you with an opportunity to request information, make comments, and submit new lesson plan ideas. Contributors are acknowledged as members of the Project Heart team.

## INSTRUCTIONAL GUIDE

*Project Heart: Activities for the Classroom* comprises TEKS and NHES-based, web-accessible, comprehensive curriculum for grades K through 6. Lesson plans are vertically aligned to prepare students for the next grade level. Project Heart focuses on teaching students the basics of the cardiovascular system and cardiovascular health.

### Rationale

The Texas Heart Institute is a nonprofit organization dedicated to reducing the devastating toll of cardiovascular disease through innovative and progressive programs in research, education, and improved patient care.

### Intended Audience

This curriculum is designed for elementary school teachers and others who are dedicated to teaching students how to make heart-healthy life choices. Elementary health, science and physical education teachers may find the information particularly helpful.

### Subject Matter

Project Heart assists you in teaching:

- Basic anatomy of the cardiovascular system
- Smart nutritional choices for a healthy heart
- The importance of exercise in maintaining a strong heart

### Lesson Plans

A complete “heart-smart” curriculum is included for grades K through 6. Each curriculum contains 3 lessons: anatomy, nutrition, and exercise. Emphasis is placed on learning these concepts in a fun and interesting way. Each lesson plan includes goals, instructional objectives, background information, a materials list, lesson procedures/activities, guided practice, independent practice, extension activities, assessment, and closure.

### Instructional Plan

Each lesson included in Project Heart is intended to build upon the one that came before it, and each grade level builds upon the lessons and skills of the previous grade. Teachers may find the classroom activity masters helpful for constructing customized lesson plans. A complete list of classroom activity masters is available with each grade’s curriculum.

### Call for Project Heart Lesson Plans

To keep this site current and as a useful resource for teachers, the Texas Heart Institute encourages all teachers to submit “heart smart” lesson plans to the Project Heart website. Submitted lesson plans will be evaluated for TEKS and NHES requirements by other teachers, edited by our in-house medical editor, and posted on the *Project Heart: Activities for the Classroom* website. Teachers and school districts that help in the planning and development of Project Heart curriculum will be listed as contributors in the Project Heart section of the Texas Heart Institute website.

# Project Heart

## Activities for the Classroom

## INSTRUCTIONAL GUIDE

### Kindergarten Curriculum

#### Goals

Students will

1. Describe the location of the heart and its general function.
2. Understand the importance of making healthy food choices for a healthy heart.
3. Recognize the role that physical activity and exercise play in keeping the body and heart strong and healthy.

#### Instructional objectives

Students will be able to

1. Identify the size and general location of the heart.
2. Identify the heart as a muscle.
3. Describe, in general terms, the heart's basic function, which is to pump blood through the body.
4. Discuss the connection between what we eat and a healthy body and heart.
5. Discriminate between healthy foods or "heart-smart choices," and "junk food."
6. Plan a healthy meal or snack.
7. Explain that exercise keeps the heart strong and healthy.
8. Identify activities that are good for the heart.

#### TEKS Addressed

Chapter 115.2, B 1(b-c), B 3(b), B 4(b);  
Chapter 116.2, B 3(a, e), B 4(a-b).

#### NHES Addressed

1.2.1, 1.2.2, 2.2.1, 4.2.1, 5.2.1, 6.2.1, 7.2.1, 7.2.2, 8.2.1, 8.2.2.

### Grade 1 Curriculum

#### Goals

Students will

1. Describe the location of the heart and its general function.
2. Understand the importance of making healthy food choices for a healthy heart.
3. Recognize the role that physical activity and exercise play in keeping the body and heart strong and healthy.

#### Instructional objectives

Students will be able to

1. Identify the size and general location of the heart.
2. Identify the heart as a muscle.
3. Describe, in general terms, the heart's basic function, which is to pump blood through the body.

4. Discuss the connection between what we eat and a healthy body and heart.
5. Discriminate between healthy foods, or "heart-smart choices," and "junk food."
6. Plan a healthy meal or snack.
7. Explain that exercise keeps the heart strong and healthy.
8. Identify activities that are good for the heart.

#### TEKS Addressed

Chapter 115.3, B 1(a), B 3(c), B 4(b), B 8(a);  
Chapter 116.3, B 3(a), B 4(a-b, d-e).

#### NHES Addressed

1.2.1, 1.2.2, 2.2.1, 2.2.2, 4.2.1, 4.2.2, 5.2.1, 6.2.1, 6.2.2, 7.2.1, 7.2.2, 8.2.1.

### Grade 2 Curriculum

#### Goals

Students will

1. Understand the basic function of the heart and identify its main parts.
2. Understand that personal health decisions and behaviors affect their health.
3. Recognize that the body needs foods from all the food groups to receive the nutrients it needs to grow and stay healthy.
4. Understand the relationship between physical activity and a healthy heart.

#### Instructional objectives

Students will be able to

1. Identify the heart in relation to other major structures in the body, including the lungs, brain, and stomach.
2. Identify the basic physical characteristics of the heart.
3. Identify the main parts of the heart.
4. Identify the basic food groups.
5. Discriminate healthy food choices from unhealthy food choices.
6. Describe the effects of eating too much fat and sugar.
7. Describe the long-term effects of daily physical activity on the heart.
8. Set personal goals for daily participation in physical activities that increase the heart rate.

#### TEKS Addressed

Chapter 115.4, B 1(c-d, g), B 3(b), B 5(c), B 7(a), B 11(c);

# Project Heart

## Activities for the Classroom

# INSTRUCTIONAL GUIDE

Chapter 116.4, B 3(a), B 4(a-d).

### NHES Addressed

1.2.1, 1.2.2, 2.2.3, 5.2.1, 6.2.1, 7.2.1, 7.2.2, 8.2.1.

### Grade 3 Curriculum

#### Goals

Students will

1. Understand the basic function of the heart and identify its main parts.
2. Understand that personal health decisions and behaviors affect their health.
3. Recognize that the body needs foods from all food groups to receive the nutrients it needs to grow and stay healthy.
4. Understand the relationship between physical activity and a healthy heart.

#### Instructional objectives

Students will be able to

1. Identify the heart in relation to other major structures in the body, including the lungs, brain, and stomach.
2. Identify the basic physical characteristics of the heart.
3. Identify the main parts of the heart.
4. Identify the basic food groups.
5. Discriminate healthy food choices from unhealthy food choices.
6. Describe the effects of eating too much fat and sugar.
7. Recognize that the size of food portions depends on the age and activity level of a person.
8. Describe the long-term effects of daily physical activity on the heart.
9. Distinguish between aerobic and anaerobic exercises.
10. Set personal goals for daily participation in physical activities that increase the heart rate.

#### TEKS Addressed

Chapter 115.5, B 1(c-d), B 4(b-c), B 6(d), B 7(a), B 11(b-c, f);  
Chapter 116.5, B 3(a, e), B 4(a-c).

#### NHES Addressed

1.5.1, 1.5.2, 2.5.5, 3.5.2, 4.5.1, 4.5.4, 5.5.1, 5.5.3, 5.5.4, 5.5.5,  
5.5.6, 6.5.1, 6.5.2, 7.5.1, 7.5.2, 7.5.3, 8.5.1.

### Grade 4 Curriculum

#### Goals

Students will

1. Understand the basic function of the heart.
2. Identify good and bad health behaviors and explain how they affect the heart.
3. Understand the roles carbohydrates, protein, fat, and water play in maintaining a healthy body.
4. Understand how food provides fuel (energy) to the body, how much fuel the body needs, how the fuel is used, and what happens to unused fuel.
5. Understand the relationship between life-long physical activity and a healthy heart.

#### Instructional objectives

Students will be able to

1. Identify the blood vessels of the heart.
2. Describe the basic function of the coronary arteries.
3. Discuss how the coronary arteries help to keep the heart healthy.
4. Differentiate between carbohydrates, protein, and fat.
5. Determine a healthy balance of carbohydrates, protein, and fat in the diet.
6. Explain what foods provide fuel for the body.
7. Explain why water is necessary to the body.
8. List the types of exercise that develop endurance, strength, and flexibility.
9. Understand how aerobic exercise helps the heart.
10. Set personal goals for exercising to increase their physical fitness.
11. Design their own fitness plan.

#### TEKS Addressed

Chapter 115.6, B 1(a-d, f), B 2(a-b), B 3(a-b), B 5(a);  
Chapter 116.6, B 3(a-b, f), B 4(a, c, e-f).

#### NHES Addressed

1.5.1, 1.5.2, 5.5.1, 5.5.3, 5.5.4, 5.5.5, 5.5.6, 7.5.1, 7.5.2, 7.5.3,  
8.5.1, 8.5.2.

### Grade 5 Curriculum

#### Goals

Students will

1. Understand the basic function of the heart's conduction

# Project Heart

## Activities for the Classroom

## INSTRUCTIONAL GUIDE

system.

2. Identify good and bad health behaviors and explain how they affect the heart.
3. Understand the role vitamins and minerals have in maintaining a healthy body.
4. Understand the benefits from involvement in daily physical activity and factors that affect physical performance.

### Instructional objectives

Students will be able to

1. Identify the sinoatrial (SA) node.
2. Identify the atrioventricular (AV) node.
3. Identify the bundle of His.
4. Describe the basic function of the conduction system of the heart.
5. Discuss how the conduction system relates to a healthy heart.
6. Differentiate between vitamins and minerals.
7. Understand the function of each type of vitamin and mineral.
8. Choose vitamin- and mineral-rich foods.
9. Relate ways that aerobic exercise strengthens and improves the efficiency of the heart and lungs.
10. Self-monitor the heart rate during exercise.
11. Define the principles of frequency, intensity, and time and describe how to incorporate these principles to improve fitness.

### TEKS Addressed

Chapter 115.7, B 1(a-f), B 2(a), B 3(a-b), B 4(a), B 5(c), B 9(d-e);  
Chapter 116.7, B 3(b), B 4(a-f).

### NHES Addressed

1.5.1, 1.5.2, 5.5.1, 5.5.3, 5.5.4, 5.5.5, 5.5.6, 7.5.1, 7.5.2, 7.5.3, 8.5.1, 8.5.2.

### Grade 6 Curriculum

#### Goals

Students will

1. Understand the basic anatomy and functions of the cardiovascular system.
2. Understand the function of the blood within the

circulatory system.

3. Identify parts of the cardiovascular system according to the levels of organization scheme.
4. Understand the importance of healthy food choices in maintaining a healthy body.
5. Understand the benefits from involvement in daily physical activity and factors that affect physical performance.

### Instructional objectives

Students will be able to

1. Describe the basic functions of the circulatory system.
2. Describe the basic functions of the cardiovascular system.
3. Describe the anatomy and function of the blood.
4. Trace the path of a blood cell through the body with particular focus on the cardiovascular system.
5. Discuss how the cardiovascular system relates to health.
6. Differentiate between healthy and unhealthy eating habits.
7. Explain the importance of a long-term healthy eating plan.
8. Choose healthy foods.
9. Describe selected long-term benefits of regular physical activity.
10. Classify activities as being aerobic or anaerobic.
11. Describe the effects of aerobic exercise on the heart and overall health.

### TEKS Addressed

Chapter 115.22, B 1(a-b, f), B 2(a), B 4(b), B 6(b), B 7(b), B 11(d);  
Chapter 116.22, B 3(a), B 4(a-c, f).

### NHES Addressed

1.8.1, 1.8.2, 1.8.2, 1.8.3, 1.8.7, 1.8.9, 2.8.1, 2.8.2, 2.8.4, 3.8.2, 4.8.1, 5.8.1, 5.8.2, 5.8.4, 5.8.6, 5.8.7, 6.8.1, 6.8.2, 6.8.3, 6.8.4, 7.8.1, 7.8.2, 7.8.3, 8.8.1, 8.8.2, 8.8.3.

### Plan for Assessment and Evaluation

Assessment varies with grade level and activity. Some lessons require an observational check list and a rubric to assess student understanding of the lesson goals, while others require observation and evaluation of the worksheets and activities to assess content mastery.