

## Science Lesson Plan 3

### What Happens When You Move? A Look at Cardiovascular Health

**Quick summary:** Students will learn how physical activity benefits their heart-health.

**How long will it take:** 45 minutes

**What do I need:** Student worksheet (Page 6 in *Worksheet Booklet* in zip file)

#### How does it work:

The teacher will provide a basic overview of the heart:

The heart is made up of a special type of muscle called cardiac muscle that is not found anywhere else in your body. Although your heart is only about the size of your fist, it is responsible for pumping blood all over your body. The blood transports oxygen and other important nutrients, wastes, proteins and chemicals. Because the work of the heart is so vital, if our heart is not healthy our bodies will be in serious trouble! The diseases of the heart and vascular system (blood vessels) are the number one cause of death among Americans today. Many of the cardiac diseases may start as small problems called risk factors but they can snowball over time and lead to major problems for our hearts.

There are two types of risk factors for heart disease: controllable and uncontrollable. There are some risk factors for heart disease that we can't do anything to control such as: gender, age and our family health history or genetics. However, there are other risk factors that we can control such as: not smoking, eating a healthy diet, and getting 60 minutes of physical activity every day. If we strive to control our risk factors, our cardiac system will become healthier.

#### Activity:

Ask questions and present information on the effects of physical activity on heart rate:

- Your resting heart rate is the number of times your heart beats in a minute when you are not active.
- Your resting heart rate tells you how fit you are. The more fit your body is, the less effort and fewer beats per minute it takes your heart to pump blood to your body at rest.
- For children ages 6-15, the normal resting heart rate is 70-100 beats per minute.
- Note: Resting heart rates for children and adolescents are typically faster than adults' because they have smaller bodies.

- Measure your resting heart rate by finding your carotid or radial pulse.
  - Locate the Carotid Pulse: Place your index and middle fingers of your right hand directly under your right ear (or left hand - left ear). Next slide your fingers down until they are directly under your jawbone, pressing lightly.
  - Locate the Radial Pulse: Place your index and middle fingers over the outside of your opposite wrist, just below the base of your thumb.
- Count the number of beats you feel in 10 seconds. Multiply that number by six to calculate the average number of heart beats per minute. (To simplify the math, count the number of beats for 6 seconds and add a zero to obtain the heart beats per minute). Record the results.
- What do you think happens to your heart rate during physical activity?
  - March in place for 1 minute. Take your heart rate for 10 seconds, multiply the number by six, and record.
  - Do jumping jacks for 1 minute and then take your heart rate for 10 seconds, multiply the number by six, and record.
- What happens to your body when the heart rate increases?
- Why is it important to participate in physical activity every day for 60 minutes?

Have students discuss the following questions with a partner:

**Discussion questions:**

1. Bad health habits such as poor diet, lack of physical activity and smoking often start early in life. What role, if any, can schools play in helping students learn healthy habits?
2. What can you do to help your friends develop healthy habits?
3. How does what you learned about the importance of your heart health and the risk factors influence how you feel about some of your habits?
4. Think about your health today (how much physical activity do you participate in daily, what you eat, etc.) What healthy habits do you currently have that you think you should continue as you grow older?
5. What habits would you like to change now to live healthier?

**REINFORCE** the content in this lesson with Active Homework Break #17, "What Happens When You Move?" on page 22.

**Worksheet for Science Lesson Plan**

**What Happens When You Move? A Look at Cardiovascular Health**

Student Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Partner: \_\_\_\_\_

Students discuss the following questions with a partner:

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**1.** Bad health habits such as poor diet, lack of physical activity, and smoking often start early in life. What role, if any, can schools play in helping students learn healthy habits?

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**2.** List at least three things you can do to help your friends develop healthy habits.

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**3.** How does what you learned about the importance of your heart health and the risk factors of heart health influence how you feel about some of your habits?

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**4.** Think about your health today (how much physical activity do you participate in daily, what you eat, etc.). What healthy habits do you currently have that you think you should continue as you grow older?

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**5.** List two habits you would like to change now to live healthier.