Dr. Allevable and Regenerobot’s Exploration Adventure

Outdoor Activities

the Heart

Student Pages

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Outdoor Activity

How Important is a Heart Rate, You Ask?

Your body needs physical activity and exercise to stay in shape and healthy. So does your heart! To keep the heart healthy, physical activity is a must! The heart needs exercise to keep its muscles strong. If the heart is healthy it is easily able to pump blood throughout the body. A strong heart is a healthy heart, and hearts become strong by eating right and getting plenty of exercise. A healthy heart is at a much lower risk for heart diseases. According to the American Heart Association, children age 2 and older should participate in at least 30 minutes of enjoyable, moderate-intensity physical activities every day that are developmentally appropriate and varied.

Children ages 6-15 should have a resting heart rate of around 70-100 beats per minute (bpm). A good exercise should put a child’s heart rate at 120 bpm. Recovery time (how long it takes a child at rest to recover to their starting heart rate) is an important measure. The shorter the recovery time, the healthier the child is! It should be between 2-10 minutes.

What Will You Be Doing?

Working in pairs, you will be timing and recording your heart rate before and after physical activity to compare the changes that occur. To increase your heart rates, you will participate in several jump rope or jumping jack exercises.

Instructions

1. Gather all materials.

2. Locate your pulse in either your wrist or your neck. If you have any trouble, ask your teacher for help! Make sure to listen and watch your teacher as he or she runs a stop-watch for 15 seconds. Start counting when they say “Go!” and stop when they say “Stop!”

   In order to calculate your resting heart rate, you will have to count the number of beats you feel in 15 seconds and multiply that number by 4. This will give you your standing heart rate in beats per minute. (Note: You must multiply the number you count in 15 seconds by 4 because four 15-second intervals add up to 60 seconds or 1 minute…beats per minute!)
3. You will then participate in the following physical activity section of the lesson, choosing to complete either jump rope or jumping jack exercises to raise your heart rate:

Exercise #1: (Everyone)- Jump up and down for 20 seconds

**Jump-Roping Students**
- Exercise #2: Single-bounce jumps using the jump rope for 20 seconds
- Exercise #3: Double-bounce jumps using the jump rope for 20 seconds

**Jumping-Jack Students**
- Exercise #2: Single jumping jacks for 20 seconds
- Exercise #3: Try adding another bounce to complete 2 jumps in a row for 20 seconds when you bring your arms and legs back in toward your body!

4. After completing the physical activities, you will check your pulse again, using the same process from Step 2 to calculate your heart rate after physical activity. Work with your teacher to compare the similarities and differences in heart rates before and after completing these exercises.

5. As you rest for 5 minutes to allow your elevated heart rates to return to a resting state, discuss the Reflection Questions listed below with your teacher, partner, and classmates.

**Reflection**
- Why does the heart need physical activity and exercise? What are the benefits?
- What caused your heart rate to increase during this activity?
- What changes were happening inside your heart as your resting heart rate increased?
- Looking at your results, are there differences in boys’ heart rates compared to girls? Why?
- Besides exercise, can you think of any other times when your heart rate increases?
- What new things did you discover?
- What do you think/how do you feel about the heart now?

**Follow-Up**
Get creative by inventing a new type of jump rope trick or new version of the jumping jack! Write directions to describe to classmates how they can perform the new type of physical activity. Then type the directions, decorate your page, and compile a book of new activities with your classmates. Make sure to make a copy for everyone in the class!