

Health

4.NPA.3.1

Explain how nutrition and fitness affect cardiovascular health.

4.NPA.3.2

Summarize the association between caloric intake and expenditure to prevent obesity.

Materials Needed:

- Materials for balancing stations
- 2-4 tennis balls per group
- 2 rulers per group
- Small “balance beam” taped to floor
- Colored dots placed in pattern
- Access to computer/ projector for PowerPoint
- Power Point presentation for this lesson
- Computers for students or copies of, “Your Heart and Circulatory System”
<https://kidshealth.org/en/teens/heart.html?ref=search>
- Paper, colored pencils, highlighters for taking notes
- Blood cells- made from paper for obstacle course
- Stopwatch
- Drawing paper and art supplies for each group
- Appendix 1 –poem duplicated and divided -1 verse per group

Focus:

Divide students into small groups to travel through 4 different balancing stations. Set up different stations around the room with a different balancing activity. Some examples:

1. How long can you balance one ball on top of another ball? (2 tennis balls)
2. Can you balance a ruler or meter stick on your finger?
3. Can you jump from one spot to the next spot on one foot without putting another foot down?
4. Can you walk along a narrow straight line with arms by your side? or arms straight out?

As a class discuss which activities were easier? More difficult?

Even though all of us are different sizes and shapes, we ALL need to maintain a balance in our lives to be healthy. Sometimes it is easier than other times, but our bodies need a balance of all kinds of food for energy. We also need a balance of all kinds of exercise to be healthy. When we eat too much of any one kind of food or if we get no exercise and watch too much TV, we are out of balance. Our bodies have a hard time working just like some of you had a hard time balancing one ball on top of another.

Statement of Objectives:

Our lesson focuses on the importance of eating a balanced diet and getting plenty of exercise, which helps keep our cardiovascular system healthy. We don't want to eat too much and not exercise because then we weigh too much. We don't want to eat too little and exercise lots because then we don't weigh enough. We need BALANCE!

Teacher Input:

Use the Power Point presentation for instruction along with the article, "Your Heart and Circulatory System" <https://kidshealth.org/en/teens/heart.html?ref=search>

Students will participate by drawing diagrams, discussing, answering questions, making lists, and taking pulse.

PowerPoint notes:

1. Introduction
2. The heart is a strong muscle about the size of your fist. The heart sends blood all around your body. It is like 2 pumps. One side of the heart receives blood from the body and sends it to the lungs. The left side of the heart gets blood from the lungs and sends it out to all the parts of the body. Your heart does this 100,000 times a day! Make a fist, squeeze it, then release it to simulate pumping action. Activity: For 1 minute, ask students to squeeze and release their fist about 75 times.
3. Students should draw a heart diagram. Label the 4 parts as you describe them. The heart has 4 chambers. The two on top are ATRIA (1 is ATRIUM) They fill with blood coming from the body and lungs. The two chambers on bottom are VENTRICLES. This blood is sent out to the body and lungs. The SEPTUM separates the left side from the right side. 4 different VALVES open and shut to keep blood going in the right direction.
4. Arteries carry blood away from the heart. Veins carry blood back to the heart. ACTIVITY: After analyzing the chart, divide the class into the 4 chambers to simulate the heart and blood circulating. (obstacle course) See if a volunteer (blood cell) can complete the course in 1 minute. Use red circle and blue circle to pass along the route following through the doors (valves) correctly and around the whole classroom (Body).
5. Find your pulse either on your wrist or on the side of your neck. Ask students to count for 1 minute. Record that number as the resting heart rate. Exercise (jump in place) for 30 seconds; immediately count again for 1 minute and record that number. Rest 1 minute and take pulse again. Exercise for 1 minute, count and record. Rest 1 minute, count and record. Exercise for 2 minutes, count for 1 minute, record. Rest for 1 minute. Then count for 1 minute, and record. How fast did your heart rate return to the resting heart rate?
6. We can avoid cardiovascular problems by exercising for strength: working our muscles to make them stronger burns calories and helps our bones too. Discuss/ demonstrate and try exercises pictured as well as push-ups, sit-ups, etc.
7. Endurance activities get your heart rate up and make you sweat! (biking, swimming, jumping rope, jumping jacks)
8. Flexibility- Stretching, yoga, exercise ball activities, cool down
9. Review and discuss the MYPLATE healthy eating.
10. 1 in 3 children are considered obese-3 times the number of children than in the 1960's. Spending too much time in front of electronics means kids are not moving and typically

eating more. Being overweight can cause blood cholesterol problems, which lead to heart attacks and strokes. Eating too many fried and fatty foods leads to plaque build up in your blood vessels. Eating more calories than you burn adds weight gain that contributes to high blood pressure and diabetes.

11. Review HEALTHY habits: all the types of exercise, all the food groups and the amount of sleep a 4th grader should get 9 - 11 hours/night according to the Sleep Foundation).
12. A balanced life-style leads to a healthy body. It's the only one you will have!

Assessment:

Use the following poem as a way to check comprehension and facts from the lesson. Divide the class into 6 groups. Give a stanza to each group. The group is to illustrate the stanza with any and all facts they learned today about the topic. When all groups are finished, each group should read their stanza and explain what they learned.

Closure:

4th graders, you have worked so well on this lesson. You have learned how the cardiovascular system works and how important exercise and diet are to a healthy heart.

Cardiovascular Health

Your heart is a special muscle
That works all night and all day.
It's responsible for circulation;
It sends blood on its "merry way."

The blood carries oxygen and food
So every cell and organ can survive.
Without that life-giving force,
We simply could not stay alive.

The vessels are made up of arteries
And capillaries and veins.
This "transportation system"
Is more important than boats and planes.

To keep this system healthy,
We must work to do our part.
Eating foods low in fat and sugar
Help us keep a hard-working heart.

The vessels need to be clear
Of sticky and gummy plaque
So that more blood is pumped with each beat.
Here is how we avoid a heart attack:

Staying away from tobacco is a "no-brainer,"
Eating our veggies and fruits is keen,
Exercising 60 minutes each day,
And only eating protein that is lean.