

What Happens When I Exercise?

Physical Education, Health & Science Lesson for Grades 4-6

***May is National
Physical Fitness Month***

Goals:

Students will learn about what happens to the respiratory and circulatory systems when they engage in physical activity.

Objectives:

1. Students will research the parts and functions of the respiratory and circulatory systems.
2. Students will conduct an experiment on the immediate effects of physical activity on the above named systems.

Preparation & Materials:

- Teachers should preview all Websites and activities.
- Teachers should be familiar with the QuickMind paths throughout and at the end of the lesson plan.
- Split your class into 2 groups. (1 for each system being studied.)
- Copies of the lab data sheet for each student. (Click here to download.)
- Watches or clocks with minute hands.
- Jump Ropes

Lesson:

Introduction

Check for prior knowledge and understanding by asking the class:

- How do you feel after PE class?
- What changes in your body do you notice when you are participating in sports?
 - o Is it hard to catch your breath sometimes? Why do you think this happens?
 - o Have you ever felt your heart beat get faster? If so, when has it happened?

Explain to students that you will be splitting them into 2 groups to study the impact of physical activity on our circulatory and respiratory systems.

From the teacher interface click on:

Curriculum Activities>Science>Body Explorer

Briefly show students the 2 systems they will be studying.

Assign each student group a system, and have them learn about each section of that system in the Body Explorer.



- Hint: If students want to print this information, there are a few options:
 - o You can print a diagram of an entire system with or without hints. Without hints means it will print with information about this system, but the diagram of the system or part of the system will not have ID tags for each part of the system.

To further student understanding assign each student the following for their system:

Curriculum Activities>Science> Wonders of Life Science>My Body Series

- My Heart and Blood >What is the heart's work?
- My Living Bellows>How do inhaling and exhaling work?

Main Activity

Now that your students have learned about the system they will be studying they will be taking part in a class experiment to see the impact of physical activity on the system their group has been assigned.

In a gym, large enclosed area, playground or field, pass out jump ropes to students. (If jump ropes are not available, students can run laps around the gym, playground, or do jumping jacks during the following experiment.)

Students will need the experiment data sheet, a pencil and a clock or watch with a minute hand to record their findings during the experiment.

Students will exercise for 2, 6, 10 and 15 minute intervals, and write down their observations. (Give students a 5 minutes break in between the last 3 intervals.)

Guiding Questions for Lab Observations:

- How does your body feel after 2 minutes of exercise?
- What seems to be happening to your heart?
- How (if at all) has your breathing changed during this experiment?

Encourage students to be detailed and specific in their observations.

Follow-Up Activities:

Once students have filled out their data sheet and completed the experiment have them discuss their findings with those in their group.

- Did members of the group experience similar reactions to their respiratory or circulatory systems?
- What changes over time, did people see in their body's reaction to exercise?

Once each group has had a chance to meet, open the discussion up to the whole class and have each group report their findings to the other.

Possible discussion questions include:

- What is different about one group's finding from the other, what is similar?
- What changes could you feel, what changes could you see in others? (Face red, sweating, out of breath, etc.)
- What do you think is happening to your body while you exercise?
- How might these two systems be working together?

Online resources for more information:

Reference Center>Yellow Pages>QuickMind Yellow Pages>Science>Human Body

- Kid's Health –visit the My Body section for information about our parts and systems written just for kids.
- Virtual Body – this dynamic Website can teach students about the heart through animations and tutorials in both English and Spanish.

Supplemental Activities/Homework:

- Curriculum Activities>Science>Science Supplemental Activities
 - o Life Science>My Heart & Blood/My Living Bellows

Assessment/Evaluation



To prepare for an assessment on the impact of physical activity on the respiratory and circulatory systems, students should review the Wonders of Life Science movies and click on the “my bar” to access the pdf file as a study guide.

Curriculum Activities>Science> Wonders of Life Science>My Body Series

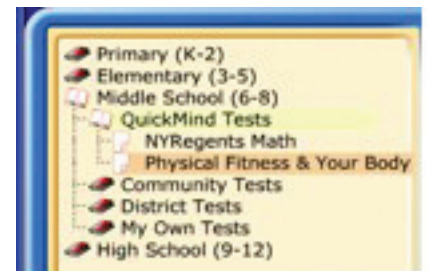
- My Heart and Blood >What is the heart’s work?
- My Living Bellows>How do inhaling and exhaling work?

Within the Test and Quiz Generator, there is a test that we created to correspond with this lesson.

To access and assign this test click:

Project Generator>Test & Quiz>Existing Test tab>Middle School>QuickMind Tests.

From within our test and quiz generator you can preview, edit and assign this test to your students.



QuickMind Path Sheet:

Curriculum Activities>Science>Body Explorer

Curriculum Activities>Science> Wonders of Life Science>My Body Series

- My Heart and Blood >What is the heart’s work?
- My Living Bellows>How do inhaling and exhaling work?

Reference Center>Yellow Pages>QuickMind Yellow Pages>Science>Human Body

Curriculum Activities>Science>Science Supplemental Activities

- o Life Science>My Heart & Blood/My Living Bellows

Project Generator> Test & Quiz> Existing Test tab>Middle School> QuickMind Tests



Physical Fitness Experiment

Student Data Recording Sheet

Name: _____ Group: _____ Date: _____

Minutes of Activity	Type of Physical Activity (What did you do?)	Observations (How do you feel? Be as specific as possible.)
2		
6*		
10*		

* Don't forget to take a 5 minute break between each session of activity!

