



How Physical Activity Makes You Healthier

Lesson Plan

Subject Area: Science

Grade Level: Grades 6-8

Lesson Summary:

Students learn about the benefits of being physically active for at least 60 minutes a day. Students develop their understanding of the relationship between physical activity and health and create a model to explain the effects of physical activity resulting from exercise.

Lesson Duration: One class period (45 minutes)

Essential Questions:

- What are the health benefits of physical activity?
- What is the relationship between physical activity and health?

Objectives:

Students will:

- Describe health benefits of physical activity
- Infer relationship between physical exercise and health benefits
- Create a simple feedback model to explain physiological changes resulting from exercise

Standards:

National Physical Education Learning Standards:

- Standard 3: The physically literate individual demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.
 - S3.M1.6 Describes how being physically active leads to a healthy body.
- Standard 4: The physically literate individual exhibits responsible personal and social behavior that respects self and others.
 - S4.M1.8 Accepts responsibility for improving one's own levels of physical activity and fitness.
- Standard 5: The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.
 - S5.M2.8 Analyzes the empowering consequences of being physically active.

Next Generation Science Standards

- MS-LS1-3 Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.
- MS-LS1-7 Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.
- MS-LS1-8. Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.

ELA Common Core State Standards

- RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
- SL.6.5 Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.

- WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

Math Common Core State Standards

- MP.2 Reason abstractly and quantitatively

Materials

- **The Most Important Hour of Your Day** Reading Passage
- **How Physical Activity Makes You Healthier** Worksheet
- Computer with Internet access

Procedure:

ENGAGE

1. Ask students to write down on a scale of 1 to 5 how important good health is to them, where 1 is not at all important and 5 is very important.
2. Ask students to write on a scale of 1 to 5 how much they enjoy physical activity, where 1 is do not enjoy at all and 5 is enjoy very much.
3. Ask students to subtract the second number from the first.
4. Ask students to think about the result of the subtraction. For example, a number less than zero could indicate that good health is important but the student may not enjoy physical activity.
5. Ask students to think about the health benefits of physical activity. Ask guiding questions such as the following:
 - What is the effect of physical activity on mental wellness? On emotional wellness?
 - Can physical activity help you learn better in school?
 - How does physical activity make you healthier?
 - If you participate in physical activity how much longer might you live?
6. Explain to students that they will learn about the health benefits of being physically active for at least 60 minutes a day.

EXPLORE

1. Explain to students that their task is to conduct research to learn the health benefits of physical activity.
2. Present to students the guiding question, "How does physical activity benefit health?"
3. Students read the **Reading Passage: The Most Important Hour of Your Day**, including the information on the effects of physical activity on lowering health risks and other benefits (Fun Factitos).
4. Students individually complete the worksheet **How Physical Activity Makes You Healthier**.
5. Students work in pairs or small groups to compare and review their responses in their worksheets
6. Use an interactive whiteboard or online collaboration tool to organize and summarize student responses.

EXPLAIN

1. Review the guiding question, "How does physical activity benefit health?"
2. Students work in their pairs or groups to develop answers to the guiding question. Ensure groups focus on explaining the connection between physical activity and health benefits.
3. Lead a class discussion of the core idea that physical activity benefits health. Emphasize that physical activity lowers health risks and provides health benefits.

4. Encourage groups to consider ways to improve the investigation based on scientific inquiry.
5. Each group creates a visual graphic organizer (e.g., concept map, slide presentation, research poster) to present their findings. To reduce overlap, allow each group to choose (or assign) a specific health benefit such as reduced risk of heart disease, boost of mental wellness or prolonging optimal health for their presentation.
6. Groups present their graphic organizers and explanations of their chosen health benefit which results from physical activity.

ELABORATE

1. To expand on ideas encountered earlier, students work in small groups to investigate the basis of physiological changes during physical activity. Provide students the following concepts:
 - Energy conversion
 - Energy flow
 - Food energy
 - Chemical energy
 - Thermal energy
 - Work energy
2. Challenge students to discover the connection between these concepts. Groups can research online to develop a model of energy transformation. If needed, ask a guiding question such as, "How is energy in food converted to work energy that is needed to perform physical activity?"
3. Students create a concept map to explain their model. If time allows, advanced students can include the idea of negative feedback loops to explain physiological changes resulting from physical activity.

EVALUATE

1. Each student works individually to write an investigative report based on the activity and their explanations.
2. Students work in groups for double-blind peer review of reports. Provide each student a random number. Keep a list of each student's number. Students write their assigned numbers on their reports, but not their names.
3. Write all the numbers on a slip of paper. Each group pulls out a slip and reviews the paper that corresponds to that number. After completing their review, the group pulls out another slip and reviews the paper again.
4. Each group completes the information on the **NSTA Peer Review Sheet**.
5. Based on your key of student numbers, return the feedback to individual students.
6. Continue until all student papers are reviewed.
7. Students revise reports based on feedback then submit for evaluation. Ensure that the reports do answer each of the lesson questions.

Additional Resources

- **American Heart Association: Life's Simple 7 for Kids** www.heart.org/LS7forKids
 - [Focus on Hey Kids, Run, Walk and Play Every Day](#)
- **American Heart Association: Physical activity improves quality of life**
 - http://www.heart.org/HEARTORG/GettingHealthy/PhysicalActivity/StartWalking/Physical-activity-improves-quality-of-life_UCM_307977_Article.jsp-.VnBDkt-rRMM
- **NSTA: Peer-review sheet used by students during the double-blind peer review**
 - <https://www.nsta.org/highschool/connections/200911PeerReviewSheet.pdf>

FOLLOW-UP

- Working with a partner, students complete the "Follow Up!" responses in the **How Physical Activity Makes You Healthier** worksheet.

The Most Important Hour of Your Day

It's a fact: physical activity helps to keep you healthy. But sometimes, physical activity can seem like hard work! But did you know that with at least 60 minutes a day of physical activity you can experience most of the health benefits? And it's worth it. Here are four important benefits of physical activity.

1. *Did you know that physical activity boosts mental wellness?* Participating in regular physical activity can relieve anxiety and depression. You may not only notice a "feel good sensation" immediately following your physical activity, but most people also note an improvement in general well-being as physical activity becomes a part of their daily routine.
2. *Did you know you could learn better in school if you participate in physical activity?* Research shows that students who are regularly physically active tend to do better on academic tests and in class.
3. *Did you know that physical activity can make you healthier?* Physical activity can help lower the risk of heart disease, overweight and obesity, and type 2 diabetes.
4. *Did you know physical activity may prolong your optimal health?* Regular physical activity helps the body stay strong and function well. One study suggests that people who are physically active and at a healthy weight live on average about seven years longer than those who are not active and are obese.

Adapted from [Does Physical Activity Really Make You Healthier?](#)

How Physical Activity Makes You Healthier

Student Name: _____

Regular, moderate-intensity physical activity can lower your health risks of:	Physical activity offers these other benefits:
What benefits would you like to experience from physical activity?	How do you include physical activity in your daily schedule?

Follow Up!

1. Did you include physical activity in your daily schedule? Yes / No
2. Describe any health benefits you experienced from including physical activity in your daily schedule.
