

## **Assignment Discovery Online Curriculum THE MUSCULOSKELETAL SYSTEM**

### **Curriculum Focus**

Human body

### **Grade Level**

6-8

### **Duration**

Two or three class periods

### **Objectives**

Students will

- Do research on the Web site for the President's Council on Physical Fitness and Sports.
- Give a report based on this research.
- Write an essay on an athlete of their choice using information from library resources and the Internet.

### **Materials**

- Computer with Internet access
- Paper
- Pens, markers

### **Procedures**

1. Tell students that this activity consists of two parts. The first part involves group research at the Web site for the President's Council on Physical Fitness and Sports (PCPFS); the Web site is listed below. Each group will present a report based on this research to the rest of the class.
2. Explain that the second part of the activity involves each student's writing a short essay on an athlete whom the student feels best exemplifies a physically fit human machine. Students might consider how the athlete uses biomechanics to train for a sport, how his or her body type fits the sport, and whether the athlete has ever suffered a strained ligament or other injury that has required rehabilitation. Encourage students to illustrate these reports with a picture or drawing of their athlete performing his or her sport. Students can use library resources to find biographical information and information about their athlete's achievements and the Web sites below.
  - <http://espn.go.com/sportscentury/athletes>: features the top one hundred North American athletes of the 20<sup>th</sup> century, organized by rank, alphabetical order, and sport, and also includes a photo gallery and classic moments.
  - <http://dir.yahoo.com/Recreation/Sports/Althletes>: provides sites on athletes in categories ranging from baseball to wheelchair racers, ice skaters to

surfers, and offers other site listings.

3. Divide the class into two groups. Let students come up with a name for their group if they wish.
4. While one group starts thinking and writing about their chosen athlete, direct the other group to the PCPFS Web site: [www.fitness.gov](http://www.fitness.gov). After students in the first group have had time to browse the home page, have them click on Learn about...The Active Life. Tell them to click on Fast Facts About Sports Nutrition and read the page. Then have them either print out the page and make copies for everyone in the group, or take notes, including facts from each category, such as water, carbohydrates, vitamins and minerals, and calcium. Tell students to devise a plan for their report to the class so that everyone in the group contributes.
5. When the groups have had adequate time to finish the first part of the activity, have them move on to the next part. Direct the second group to [www.fitness.gov](http://www.fitness.gov). Have them click on Tips for...Fit Kids and then click on Fitness Fundamentals: Guidelines for Personal Exercise Programs. Have them read all the Fitness Fundamentals and then focus on a few—such as Knowing the Basics and A Workout Schedule—for their report. Have them print out the report and make copies, if possible, or else take notes, and advise them that everyone in the group must participate in the report.
6. Have each group present its report on at least one aspect of physical fitness to the class. Invite students to ask the group questions about the topic.
7. When all the students have had adequate time to research their athlete and write a report, have them present their essays to the class. Post the reports on a Physical Fitness bulletin board.
8. If time permits, let students read other entries on the PCPFS Web site, and have a class discussion on the importance of physical fitness.

### **Evaluation**

Use the following three-point rubric to evaluate students' work during this lesson.

**3 points:** Students demonstrated proficiency in using the Internet as a research tool; worked cooperatively in their groups to organize and present a report on an aspect of physical fitness and sports to the class; wrote a clear, informative essay about a successful athlete of their choice.

**2 points:** Students demonstrated an understanding of how to use the Internet as a research tool; worked somewhat cooperatively in their groups to organize and present a report on an aspect of physical fitness and sports to the class; wrote an on-grade essay about a successful athlete of their choice.

**1 point:** Students had difficulty using the Internet as a research tool; had trouble working cooperatively in their groups to organize and present a report on an aspect of physical fitness and sports to the class; wrote a less than coherent essay on a successful athlete of their choice.

## **Vocabulary**

### **biomechanics**

**Definition:** The mechanics of biological and especially muscular activity (as in locomotion or exercise)

**Context:** Many modern-day athletes work with trainers who are specialists in biomechanics.

### **inertia**

**Definition:** The tendency of a body to maintain its state of rest or uniform motion unless acted upon by an external force

**Context:** To be physically fit, we have to overcome inertia and get active.

### **ligament**

**Definition:** A tough band of tissue connecting the articular extremities of bones, or joints, or supporting an organ in place

**Context:** Athletes often suffer painful pulled ligaments.

### **rehabilitate**

**Definition:** To restore or bring to a condition of health or useful and constructive activity

**Context:** People who undergo arthroscopic or other knee surgery must work hard to rehabilitate their knees.

### **tendon**

**Definition:** A tough cord or band of dense, white, fibrous connective tissue that unites a muscle with some other part, such as a bone, and transmits the force that the muscle exerts

**Context:** Humans and other animals store and recover energy in tendons and muscles.

## **Academic Standards**

This lesson plan addresses the following national standards:

- Science in Personal and Social Perspectives: Personal health

## **Credit**

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