

## Life Sciences, Design a Healthy Workout



### Objectives:

1. The students will engage in an Internet-based inquiry to develop an understanding of the characteristics of healthy exercise programs.
2. The students will apply what they have learned to develop a healthy workout.
3. The students will construct posters and utilize them to present their healthy workout programs to their classmates.

### Science Standards (Aligned with Activity):

This activity is aligned with U.S. national science standards regarding the teaching of inquiry skills. Reference is made to:

#### Content Standard A

As a result of activities in grades 5-8, all students should develop:

- Abilities necessary to do scientific inquiry
- Understanding about scientific inquiry

This activity is aligned with U.S. national science education standards for science content in the areas of science in personal and social perspectives. Reference is made to:

#### Content Standard F

As a result of activities in grades 5-8, all students should develop understanding of:

- Personal health
- Populations, resources, and environments
- Natural hazards
- Risks and benefits
- Science and technology in society

### Description/What to do in the Classroom:

- Students will utilize the Internet to investigate the benefits of exercise on human health. Students will research the attributes of different exercise programs.
- Students will use the Tryscience web site to develop their understanding of topics related to the project goals.
- Each student will apply what he or she has learned during their inquiry to design a healthy workout program.
- Students will construct informational posters in the classroom that display their workout programs and the health benefits of those exercise regimens. Students will then present their programs to the class and describe their inquiry process to their classmates.

## Things to Consider/Science Behind it:

To successfully complete the objectives of this activity, the student needs to conduct research and develop an understanding of the health benefits of exercise. Students will develop an understanding of the effects of physical activity on vital organs such as the heart and lungs, as well as muscles, bones and skin. Students will gain transferable research skills as a result of this inquiry.

Students should be directed to consider different variables when researching the characteristics of a healthy workout. Variables might include the following:

- Participants (men, women, athletes, seniors)
- Diet of program (low fat, vegetarian, low sodium)
- Benefits of the program (fitness, health)
- Duration of the workout (15, 30, 45 minutes)
- Schedule (daily, once a week)
- Equipment (free weights, fitness machines, step)
- Type of exercise (aerobics, walking, cycling)
- Instruction (video, personal trainer, group)
- Safety (maximum heart rate, duration)

This Internet based activity can be done in the classroom and will have the students explore many existing educational web sites with content related to this topic. The students will take advantage of Tryscience.org features to develop their understanding of life science, human biology and personal health.

## Integration of Tryscience.org Features:

This inquiry utilizes four features of the Tryscience web site ([www.tryscience.org](http://www.tryscience.org)) to facilitate development of student understanding.

### Titles of Tryscience.org Experiments:

#### • "Lung Capacity"

[www.tryscience.org/experiments/experiments\\_lung\\_athome.html](http://www.tryscience.org/experiments/experiments_lung_athome.html)

This experiment engages students in a hands-on project to construct scientific measuring equipment that can be used to gather pertinent data. After students have made their own spirometers, the teacher may wish to direct the students to use the devices as one method for measuring fitness gains that result from the exercise programs they develop.

#### • "Seafood Surgery"

[www.tryscience.org/experiments/experiments\\_surgery\\_online.html](http://www.tryscience.org/experiments/experiments_surgery_online.html)

This experiment offers students an additional hands-on investigation that allows them to view first-hand the organs vital to life processes that can be impacted by exercise. Students learn

to identify the different organs (lungs, skin, heart, stomach, etc.) and the locations of these vital organs in marine creatures.

- **"Save Your Skin"**

[www.tryscience.org/experiments/experiments\\_sunscreen\\_online.html](http://www.tryscience.org/experiments/experiments_sunscreen_online.html)

This experiment affords students the opportunity to learn the science behind sunscreen. It helps promote awareness of the very real dangers of sun exposure on the human body. Teachers can encourage students to incorporate what they learn during the activity into their exercise programs.

### **Titles of Tryscience.org Adventures:**

- **"Extreme Challenge" (Training)**

[www.tryscience.org/tsadv/world/home.html](http://www.tryscience.org/tsadv/world/home.html)

1. Mountain Biking
2. Kayaking
3. Snowboarding
4. Rock Climbing

These training exercises and outdoor adventure challenges can help the students develop awareness for the inherent health benefits of outdoor exercise programs. Students learning about the different training regimens presented by these challenges will not only learn some pertinent aspects of health training, but they will develop a real excitement for the prospect of making exercise programs that are as fun and captivating as they are beneficial for the participants. People who enjoy their exercise routines tend to engage in the activities frequently.

### **Materials Needed for This Inquiry:**

- Computer with Internet access
- Tryscience web site ([www.tryscience.org](http://www.tryscience.org)) and basic supplies as outlined in the experiments utilized
- Materials for students to construct posters in the classroom for their presentations