



Bones and Muscles

OVERVIEW

This program will introduce students in grades 3-5 about how our bones and muscles work in our bodies. This will be done through a series of activities and discussion. Students will learn where bones and muscles are located in our bodies and why they are so important. This program provides the opportunity for students to participate in unique activities aimed to capture the students' attention and create an understanding that will stay with them for life.

GRADE LEVEL: 3,4,5

SUBJECT AREAS: Health, Physical Education

* See end of outline for complete list of DOE Content Standards and Benchmarks.

OBJECTIVES:

1. To introduce students to different body parts and how they work.
2. To encourage students to begin to think about why taking care of your body is important to their overall health.

ESTIMATED TIME: 45 minutes to 1 hour

MATERIALS NEEDED*

- 1) scissors, tape, paper, books
- 2) fasteners (see muscle handout)
- 3)

EVALUATION

1. Students should be able to tell where bones located within the body.
2. Students should be able to explain basic functions of muscles and bones.

LESSON OUTLINE:

I. Welcome and Introduction

- 1) Today we will talk about our bones and muscles and why it's important to keep our bones and muscles healthy by exercising and eating right. We will then create our own bones and muscles.

II. Suggested Discussion Items

- 1) Question: What do our muscles and bones do in our bodies? [Answer: keep our bodies upright and moving. Without bones and muscles we'd just be a big puddle of organs, skin and hair!]
- 2) Question: Can you point to a bone or muscle in your body? [Answer: arms and leg muscles (encourage kids to flex muscles and feel their muscles). Point out that the heart is also a muscle, inside the body. Point to bones in the foot, hand, legs, and arms]
- 3) Question: How do they work? [Answer: bones are strong. Muscles are attached to bones and help them move. Our brain tells our muscles what to do and the muscles make the bones move. Think about marching in place. The brain is telling the muscles to move the bones up and down in your legs. Its very important to move your bones and muscles every day.]

Discussion about Bones

- 1) Question: Can anyone guess how many bones most people have in their bodies? [Answer: 206 bones]
- 2) What is the largest bone in the body? [Answer: The thighbone, also called the femur]
- 3) What is the smallest bone? [Answer: the bones in your ear.]
- 4) What do bones do? [Answer: they hold up the body and they protect our important organs (guts!) Without bones and muscles you could not do anything. Running, lifting and even standing up would be completely impossible.]
- 5) Can you name the bones that protect your head? [Answer: skull. Encourage kids to feel their head.]
- 6) Can you name the bones that protect your heart and lungs? [Answer: ribs. Encourage kids to feel their ribs.]
- 7) Question: What is a skeleton? [Answer: The skeleton is all the bones in the body, connected together. Its the body's frame.]
- 8) Question: How can we keep our bones healthy? [Answer: eat healthy food that has good nutrients to build up our bones.]

Discussion about Muscles

- 1) Question: What do our muscles do? [Answer: Muscles move our bodies. Muscles are attached to our bones and make the bones move. Muscles work by contracting (getting shorter), and the relaxing (getting longer). When you use your muscles to pick something up you are contracting your muscle. When you let it go, you relax your muscle.]
- 2) Question: Can anyone guess how many muscles we have in our bodies? [Answer: more than 600]
- 3) Question: Why do we have so many? [Answer: muscles are not only in our arms and legs. Muscles are found all over our bodies and come in many different shapes and sizes.]

- 4) There are different kinds of muscles in our body. We have muscles that move when we tell them to move, and we have muscles that move even if we aren't telling them to move. There are muscles in your stomach that move to help digest food. We don't tell them to move, they just do it! There are muscles in your arm that you tell to pick up something and put it down.
- 5) Question: What can we do to strengthen and keep our muscles healthy?
[Answer: Exercise!!!]
- 6) Question: What are some fun activities to help strengthen your muscles?
 - o Heart – running, jumping rope
 - o Arm and back muscles – pull-ups, push-ups
 - o Abdominal muscles – sit-ups
 - o Leg muscles – running, jumping

V. Activity

- 1) Making a Paper Bone
 - o Follow the instructions on the handout
- 2) Identifying your muscles
 - o Follow the instructions on the handout
- 3) Alternative Activity if time is short:
 - a. Have students move in various ways and identify what muscles and bones are used in those movements (i.e. go on tippy toes and feel the calf muscles contract and leg bones; pick up a book and hold it a while until the biceps begin to fatigue).

VI. Evaluation and Reflection

- 1) Evaluation Discussion Questions
 - o What do bones do?
 - o **What do muscles do?**
- 2) Evaluation hand out included for optional use

DOE Content Standards

HEALTH

Standard 1: CORE CONCEPTS: Understand concepts related to health promotion and disease prevention

PHYSICAL EDUCATION

Standard 3: ACTIVE LIFESTYLE: Participate regularly in physical activity

Standard 4: PHYSICAL FITNESS: Know ways to achieve and maintain a health-enhancing level of physical fitness