

Teacher's Guide for "Muscle and Bone"

CT State Standards	National Science Standards
<p>C.17 Explain how the human musculo-skeletal system supports the body and allows movement</p>	<p style="text-align: center;"><u>Structure and Function in Living Systems</u></p> <p>The human organism has systems for digestion, respiration, reproduction, circulation, excretion, movement, control, and coordination, for protection from disease. These systems interact with one another.</p>

- I. Vocabulary covered in "Muscle and Bone"
 1. Bones – structures which support the body and form the skeleton
 2. Joint – where two bones meet
 3. Hinge Joint – moves forward and back (elbows and knees)
 4. Ball and Socket Joint – moves in a circle (shoulder)
 5. Pivot Joint – allows rotation side to side (neck)
 6. Gliding Joint – allows bones to glide past each other (wrist)
 7. Tissue - group of cells performing the same function
 8. Skeletal Muscle –muscle which attaches to your bone
 9. Smooth Muscle – muscle which lines your organs
 10. Cardiac Muscle – muscle found in your heart

- II. Understanding the Concepts in "Muscle and Bone"
 - A. The job of the Skeletal System (verse 1 and refrain)
 1. The first verse discusses the jobs of the skeletal system:
 - a. Movement
 - b. Shape and Support
 - c. Protection of organs
 - d. Produces blood cells
 - e. Stores minerals
 2. The second verse discusses types of joints
 - a. A joint is a place where two bones meet
 - b. Hinge joints move forward and back like the knee and elbow
 - c. Ball and socket joint moves in a circle like the hips and shoulders
 - d. Pivot joint which moves side to side such as the neck
 - e. Gliding joint – such as the wrist
 - B. Types of Muscle Tissue (verse 3)
 1. Verse 3 discusses the three types of muscle tissue:
 - a. Skeletal – attached to the bone and responsible for movement
 - b. Smooth muscle – lines your organs
 - c. Cardiac muscle – controls heart beat

Student Worksheet for "Muscle and Bone"

Part I. Fill in the blanks with the correct answer.

1. The place where two bones meet is called a _____
2. This type of joint moves forward and back _____
3. This type of joint moves in a circle _____
4. This type of joint allows for side to side rotation _____
5. This type of muscle is found in the heart only _____
6. This type of muscle attaches to your bones _____
7. This is a group of cells performing the same function _____
8. This type of joint allows bones to glide past each other _____

Part II. Answer the following short answers in complete sentences

1. Discuss the five major jobs of the skeletal system.

2. What are the major differences in the types of joints. Give examples of each type of joint.
