



Human Body Systems

Virtual Learning

9-12th PLTW[®] HBS

PLTW[®] 4.2.2 Building a Better Body

April 9, 2020



Human Body Systems

9-12th PLTW HBS
Lesson: April 9, 2020

Objective/Learning Target:

Students will be able to explain what the skeletal muscle structure and attachment to bones indicate about function, as well as describe the muscles of the chest. (*Reference: PLTW[®] 4.2.2 Building a Better Body*)



Human Body Systems

Let's Get Started / Warm Up Activities:

Watch Videos:

- [Range of Motion Explanation](#)
- [Easiest Ways to Remember Movement Terms](#)

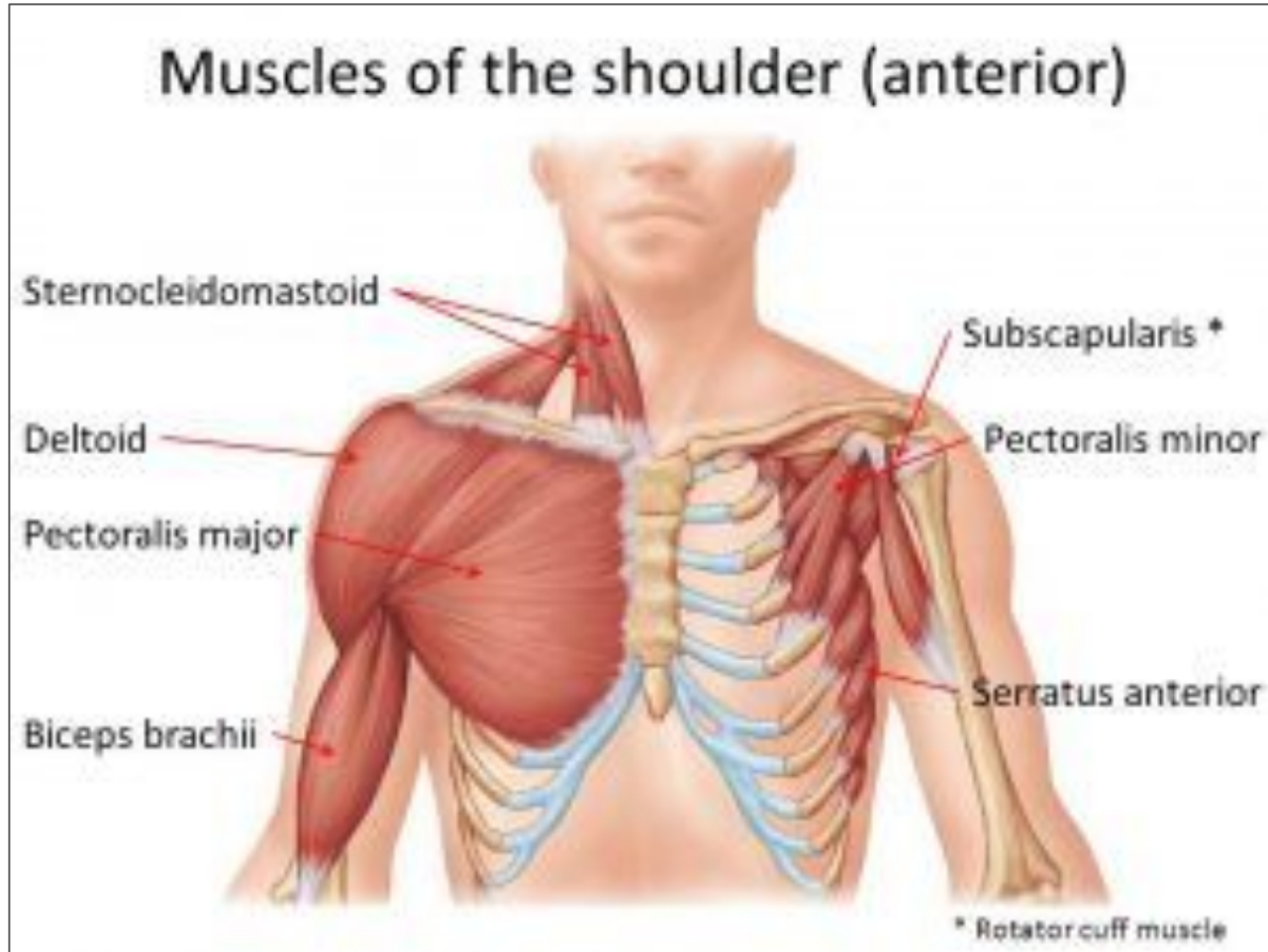
Lesson/Activity:

Watch Video: [What are the Four Pectoral Muscles?](#)

Activity #1: Using the video above as a reference, complete the following:

- In your notebook or on a piece of paper, draw a rough sketch of a human body.
- Draw the four chest muscles on your body diagram and label each muscle. Make sure to include muscle striations. You may draw the rib bones as well as other bones to help you in placing your muscles on your diagram.
- By each term on your diagram, label the points of origin and insertion of each of the muscles.
 - Intercostals
 - Serratus Anterior
 - Pectoralis Minor
 - Pectoralis Major (three major pieces or “heads” of this muscle)

Activity #1 Answer:



Lesson/Activity continued:

Watch Video: [3D Anatomy: Muscles Used for Forced Inspiration Breathing](#)

Activity #2: Watch the 3D animation above. On your piece of paper or in your notebook, write a 3-5 sentence summary of of muscles used for forced inspiration (inhalation) and forced expiration (exhalation) breathing. Make sure to specifically list the muscle and action in your summary.

Website: [4.2.2 Building a Better Body Flashcards](#)

Activity #3: Practice your knowledge using the flashcards in the above link.

Practice:

Watch Video: [List of Exercises: Chest Muscles](#)

Practice:

- Watch the video above that provides tips of exercises that can strengthen and shape the chest muscles.
- Pick three of the exercises in the video. For each exercise, identify which muscles are being used, and explain how these muscles are being strengthened or shape by the exercise.
 - Parallel bar dips
 - Incline bench press
 - Decline dumbbell bench press
 - Decline dumbbell flyes
 - Dumbbell pullover
 - Cable flyes / Cable crossover
 - Low-Incline barbell bench press
 - Seated machine chest press

Additional Practice and/or Resources:

Go to these websites:

[Healthline: Chest Wall Pain](#)

As a health professional, you will have patients that will come to you complaining of chest pain. Is it a heart attack? Is it some other disease? Read over this website document about chest wall pain.

[The Lungs and Breathing](#)

During breathing, the contraction and relaxation of muscles acts to change the volume of the thoracic cavity – thereby altering the volume of the lungs, and changing the pressure inside the lungs. Read the website to learn more!

[Muscles of the Thoracic Wall: 3D Anatomy Tutorial](#)

Use this website as a reference.