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| **Activity 4.2.2: Building a Better Body**  |

Introduction

Ready to make a change and get fit, Jim Strong decides to join a gym. He has been working out on his own for a few weeks, but he is not seeing the results he had anticipated. Now he is coming to you, a personal trainer, for advice. You sit down to discuss a training plan with Jim and you quickly see that he has some major misconceptions about muscle anatomy. Jim is a busy man and he wants to get the most out of a quick workout. He only wants to work in one exercise to tone and build his chest. “It’s one big muscle, right? Shouldn’t one exercise do the trick?” Your job is going to be tougher than you thought.

In this activity, you will explore the anatomy of the human chest and build this series of muscles on your Maniken®. Your finished product will help you show Jim the structure of the chest as well as explain how each muscle component controls a different motion (and thus requires a variety of different toning exercises). Each muscle has a set of unique attachments on the body and this structure directly links the muscle to the action it controls. Demonstrate the action of each muscle and show Jim why one exercise is never going to get him the results he desires. Once you learn the function of each muscle of the chest, research and suggest exercises that will target the areas Jim is looking to tone.

Equipment

* Anatomy in Clay® Maniken®
* Myologik™  muscle atlas
* Computer with Internet access
* Laboratory journal
* Terra cotta clay
* Wire tool or wooden knife
* Clay gun and extruder
* Pencil
* Muscular system graphic organizer

Procedure

1. Refer to the muscle rules you learned in the previous lesson as you work with the clay.
2. Follow your teacher’s instructions to build the muscles of the chest. You will work from the deepest muscles of the chest outward.
3. When you have completed each step of the building process, turn to the group behind you and make sure they have the correct placement. But remember, the muscles you build do not have to look identical. As long as the muscle is correctly attached, it does not matter if you use more or less clay or if you have shaped the muscle differently. Remember, you are creating a unique person. Natural muscle tone is different for all humans.
4. For each muscle you build on your Maniken®, write down the following in your lab notebook:
* Name of the muscle
* Location of the origin and the insertion of the muscle
* The action of the muscle
* A sport or activity that utilizes this muscle
1. Sketch the muscles you have built on your muscular system graphic organizer. Reference the muscle atlases or anatomical drawings on the Internet for ideas on how to draw the muscles. You do not need to be a medical illustrator. Draw the muscle in a way that makes sense to you.
2. Number each muscle. Next to the number, write the name of the muscle and briefly describe the action of the muscle. Alternatively, you can create a key on a separate sheet of paper.
3. Use the Internet to investigate exercises that will strengthen and tone specific muscles of the chest. Take notes in your laboratory journal.
4. Answer the conclusion questions.

Conclusion

1. Look at your Maniken®. Explain to your client why you need multiple exercises to effectively build and tone the muscles of the chest.

There are different muscles and regions on the test that have different functions. You need multiple exercises for the chest in order for it to work effectively.

1. Think about the action of the muscles you have built. Describe at least two exercises that will strengthen the muscles of the chest. Make sure to note the specific muscles that are targeted in each exercise. Add information about these exercises to your lab notebook.

Push Ups work the pectorals and bench presses also work the pectorals.

1. Explain how the structure and function of one of the muscles of the chest relates to some of muscle rules you learned in Activity 4.2.1.

The function of the Pectoralis Major is to bring the humerus across the chest. A flye movement is the best example of this action. The Pectoralis Minor serves to move the shoulder area forward. This can be seen by shrugging your shoulder forward.

1. Explain how the muscles pectoralis major and serratus anterior show two different ways in which muscles are named.

The muscles pectoralis major and serratus anterior show two different ways in which muscles are named they named by location and muscle association; Pectoralis major: Clavicular head, and Sternocostal head. Serratus anterior: Rib area.

1. Are the muscles of pectoralis major adductors or abductors? Explain.
2. Take a look at the temporalis, one of the face muscles you built in Unit One. Using what you have learned about muscles and their attachments, describe the origin and the insertion of this muscle. How is this structure linked to the function?